

PREVENTING CRIME: WHAT WORKS, WHAT DOESN'T, WHAT'S PROMISING¹

A REPORT TO THE UNITED STATES CONGRESS

Prepared for the National Institute of Justice

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NOTES

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PREVENTING CRIME: AN OVERVIEW

by Lawrence W. Sherman

Mandate. In 1996 Congress required the Attorney General to provide a "comprehensive evaluation of the effectiveness" of over \$3 Billion annually in Department of Justice grants to assist State and local law enforcement and communities in preventing crime. Congress required that the research for the evaluation be "independent in nature," and "employ rigorous and scientifically recognized standards and methodologies." It also called for the evaluation to give special emphasis to "factors that relate to juvenile crime and the effect of these programs on youth violence," including "risk factors in the community, schools, and family environments that contribute to juvenile violence." The Assistant Attorney General for the Office of Justice Programs asked the National Institute of Justice to commission an independent review of the relevant scientific literature, which exceeds 500 program impact evaluations.

Primary Conclusion. This Report found that some prevention programs work, some do not, some are promising, and some have not been tested adequately. Given the evidence of promising and effective programs, the Report finds that **the effectiveness of Department of Justice funding depends heavily on whether it is directed to the urban neighborhoods where youth violence is highly concentrated.** Substantial reductions in national rates of serious crime can only be achieved by prevention in areas of concentrated poverty, where the majority of all homicides in the nation occur, and where homicide rates are 20 times the national average.

Primary Recommendation. Because the specific methods for preventing crime in areas of concentrated poverty are not well-developed and tested, the Congress can make most effective use of DOJ local assistance funding by providing better guidance about what works. A much larger part of the national crime prevention portfolio must be invested in rigorous testing of innovative programs, in order to identify the active ingredients of locally successful programs that can be recommended for adoption in similar high-crime urban settings nation-wide.

SECONDARY CONCLUSIONS. The Report also reaches several secondary conclusions:

o Institutional Settings. Most crime prevention results from informal and formal practices and programs located in seven institutional settings. These institutions appear to be "interdependent" at the local level, in that events in one of these institution can affect events in others that in turn can affect the local crime rate. These are the seven institutions identified in Chapter Two:

* Communities

- * Families
- * Schools
- * Labor Markets
- * Places (specific premises)
- * Police
- * Criminal Justice

o Effective Crime Prevention in High-Violence Neighborhoods May Require Interventions in Many Local Institutions Simultaneously. The interdependency of these local institutions suggests a great need for rigorous testing of programs that simultaneously invest in communities, families, schools, labor markets, place security, police and criminal justice. Operation Weed and Seed provides the best current example of that approach, but receives a tiny fraction of DOJ funding.

o Crime Prevention Defined. Crime prevention is defined not by intentions or methods, but by results. There is scientific evidence, for example, that both schools and prisons can help prevent crime. Crime prevention programs are neither "hard" nor "soft" by definition; the central question is whether any program or institutional practice results in fewer criminal events than would otherwise occur. Chapter Two presents this analysis.

o The Effectiveness of Federal Funding Programs. The likely impact of federal funding on crime and its risk factors, especially youth violence, can only be assessed using scientifically recognized standards in the context of what is known about each of the seven institutions. Chapter One presents the scientific basis for this conclusion. Each of the chapters on the seven institutional settings concludes with an analysis of the implications of the scientific findings for the likely effectiveness of the Department of Justice Programs.

o What Works in Each Institution. The available evidence does support some conclusions about what works, what doesn't, and what's promising in each of the seven institutional settings for crime prevention. These conclusions are reported at the end of each of Chapters 3-9. In order to reach these conclusions, however, the Report uses a relatively low threshold of the strength of scientific evidence. This threshold is **far lower than ideal** for informing Congressional decisions about billions of dollars in annual appropriations, and reflect the limitations of the available evidence.

o Stronger Evaluations. The number and strength of available evaluations is insufficient for providing adequate guidance to the national effort to reduce serious crime. This knowledge gap can only be filled by Congressional restructuring of the DOJ programs to provide adequate scientific controls for careful testing of program effectiveness. DOJ officials currently lack the authority and funding for strong evaluations of efforts to reduce serious violence.

o Statutory Evaluation Plan. In order to provide the Department of Justice with the necessary scientific tools for program evaluations, the statutory plan for evaluating crime prevention requires substantial revision. Scientifically recognized standards for program evaluations require strong controls over the allocation of program funding, in close coordination with the collection of relevant data on the content and outcomes of the programs. The current statutory plan does not permit the necessary level of either scientific controls on program operations or coordination with data collection. Funds available for data collection have also been grossly inadequate in relation to scientific standards for measurement of program impact.

Chapter Ten presents a statutory plan for accomplishing the Congressional mandate to evaluate with these elements:

- 1. Earmark ten percent of all DOJ funding of local assistance for crime prevention (as defined in this Report) for operational program funds to be controlled by a central evaluation office within OJP.**
- 2. Authorize the central evaluation office to distribute the ten percent "evaluated program" funds on the sole criteria of producing rigorous scientific impact evaluations, the results of which can be generalized to other locations nationwide.** Allocating these funds for field testing purposes simply adds to the total funding for which any local jurisdiction is eligible. Thus the "evaluated program" funding becomes an additional incentive to cooperate with the scientific evaluation plan on a totally voluntary basis.
- 3. Set aside an additional ten percent of all DOJ funding of local assistance for crime prevention to support the conduct**

of scientific evaluations by the central evaluation office. This recommendation makes clear the true expense of using rigorous scientific methods to evaluate program impact. Victimization interviews, offender self-reported offending, systematic observation of high crime locations, observations of citizen-police interaction, and other methods can all cost as much or more than the program being evaluated.

DEPARTMENT OF JUSTICE FUNDING FOR LOCAL CRIME PREVENTION

Chapter One describes the basic structure and mechanisms for Department of Justice FY 1996 funding of State and local governments and communities for assistance in crime prevention. The two major categories are \$1.4 billion in funding of local police by the Office for Community-Oriented Policing Services (COPS), and \$1.8 billion in local crime prevention assistance funding of a wide range of institutions by the Office for Justice Programs (OJP).¹ This review examines both the relatively small funding for **discretionary** grants by DOJ, many of which are determined by Congressional "earmarks" to particular grantees and programs, and **formula** grants, which are distributed to State or local governments based on statutory criteria such as population size or violent crimes.

These are the principal OJP offices administering both types of grants: the Bureau of Justice Assistance administers the \$503 million Local Law Enforcement Block Grants, the \$475 million Byrne Formula Grants, and the \$32 Million in Byrne Discretionary Grants; the Office of Juvenile Justice and Delinquency Prevention administers the \$70 Million Juvenile Justice Formula Grants, and the \$69 Million Competitive Grants; the Violence Against Women Grants Office administers the \$130 Million STOP Violence Against Women Formula Grants and \$28 Million in Discretionary Grants To Encourage Arrests; Corrections Program Office administers a \$405 Million Formula Grants for prison construction and a \$27 Million Grants Program for substance abuse treatment of prison inmates; the Drug Courts Program Office funds \$15 Million (from LLEBG) to local drug courts. The Executive Office of Weed and Seed administers the \$28 Million (from Byrne) Federal component of the Weed and Seed Program in selected high-crime inner-city areas.

SCIENTIFIC STANDARDS FOR PROGRAM EVALUATIONS

The Omnibus Crime Control and Safe Streets Act of 1968 defines an "evaluation" as "the administration and conduct of studies and analyses to determine the impact and value of a project or program in accomplishing the statutory objectives of this chapter."² By this definition, an evaluation cannot be only a description of the implementation process, or "monitoring" or "auditing" the expenditure of the funds. Such studies can be very useful for many purposes, including learning how to implement programs. But they cannot show whether a program has succeeded in causing less crime, and if so by what magnitude. Nor can the results be easily generalized.

The scientific standards for inferring causation have been clearly established and have been used in other Reports to the Congress to evaluate the strength of evidence included in each program evaluation. With some variations in each setting, the authors of the present Report use an adapted version of scoring system employed in the 1995 National Structured Evaluation by the Center for Substance Abuse Prevention. The system is used to rate available evaluations on a "scientific methods score" of 1 through 5. The scores generally reflect the level of confidence we can place in the evaluation's conclusions about cause and effect. Chapter Two describes the specific procedures followed in the application of this 1-5 rating system, as well as its limitations.

Deciding What Works

The scientific methods scores reflect only the strength of **evidence** about program effects on crime, and not the strength of the **effects** themselves. Due to the general weakness of the available evidence, the Report does not employ a standard method of rating programs according to the magnitude of their effect size. It focuses on the prior question of whether there is reasonable certainty that a program has any beneficial effect at all in preventing crime. The limitations of the available evidence for making this classification are discussed in Chapter Two. We note these limitations as we respond to the mandate for this Report and classify major local crime prevention practices in each institutional setting as follows:

What Works. These are programs that we are reasonably certain prevent crime or reduce risk factors for crime in the kinds of social contexts in which they have been evaluated, and for which the findings should be generalizable to similar settings in other places and times. Programs coded as "working" by this definition must have at least two level 3 evaluations with statistical significance tests **and** the preponderance of all available evidence showing effectiveness.

What Doesn't Work. These are programs that we are reasonably certain **fail** to prevent crime or reduce risk factors for crime, using the identical scientific criteria used for deciding what works.

What's Promising. These are programs for which the level of certainty from available evidence is too low to support generalizable conclusions, but for which there is some empirical basis for predicting that further research could support such conclusions. Programs are coded as "promising" if they found effective in at least one level 3 evaluation **and** the preponderance of the evidence.

What's Unknown. Any program not classified in one of the three above categories is defined as having unknown effects.

EFFECTIVENESS OF LOCAL CRIME PREVENTION PRACTICES

The scientific evidence reviewed focuses on the local crime prevention practices that are supported by both federal and local, public and private resources. Conclusions about the scientifically tested effectiveness of these practices are organized by the seven local institutional settings in which these practices operate.

Chapter 3: Community-Based Crime Prevention reviews evaluations of such practices as community organizing and mobilization against crime, gang violence prevention, community-based mentoring, and after-school recreation programs.

Chapter 4: Family-Based Crime Prevention reviews evaluations of such practices as home visitation of families with infants, preschool education programs involving parents, parent training for managing troublesome children, and programs for preventing family violence, including battered women's shelters and criminal justice programs.

Chapter 5: School-Based Prevention reviews evaluations of such practices as DARE, peer-group counseling, gang resistance education, anti-bullying campaigns, law-related education, and programs to improve school discipline and improve social problem-solving skills.

Chapter 6: Labor Markets and Crime Risk Factors reviews evaluations of the crime prevention effects of training and placement programs for unemployed people, including Job Corps, vocational training for prison inmates, diversion from court to employment placements, and transportation of inner-city residents to suburban jobs.

Chapter 7: Preventing Crime At Places reviews the available evidence on the effectiveness of practices to block opportunities for crime at specific locations like stores, apartment buildings and parking lots, including such measures as cameras, lighting, guards and alarms.

Chapter 8: Policing For Crime Prevention reviews evaluations of such police practices as directed patrol in crime hot spots, rapid response time, foot patrol, neighborhood watch, drug raids, and domestic violence crackdowns.

Chapter 9: Criminal Justice and Crime Prevention reviews the evidence on such practices as prisoner rehabilitation, mandatory drug treatment for convicts, boot camps, shock incarceration, intensively supervised parole and probation, home confinement and electronic monitoring.

EFFECTIVENESS OF DEPARTMENT OF JUSTICE FUNDING PROGRAMS

DOJ funding supports a wide range of practices in all seven institutional settings, although much more so in some than in others. Congress has invested DOJ funding most heavily in police and prisons, with very little support for the other institutions. The empirical and theoretical evidence shows that other settings for crime prevention are also important, especially in the small number of urban neighborhoods with high rates of youth violence. Thus the statutory allocation of investments in the crime prevention "portfolio" is lop-sided, and may be missing out on some major dividends.

The effectiveness of existing DOJ funding mechanisms is assessed at the end of each chapter on local crime prevention practices. The following list of major funding programs provides an index to the Chapters in which specific practices funded by each of them is discussed:

Community Policing: Chapters 8 and 10.

Local Law Enforcement Block Grant Program: Chapters 3, 7, 8 and 10.

Byrne Memorial Formula & Discretionary Grants Program: Chapters 3, 4, 5, 6, 8, 10.

Juvenile Justice Formula and Competitive Programs: Chapters 3, 4, 5, 8, 9 and 10.

Operation Weed and Seed: Chapters 3, 4, 8 and 10.

STOP Violence Against Women Grants: Chapters 3, 8, and 10.

Grants to Encourage Arrest Policies: Chapters 3, 8 and 10.

Violent Offender Prison Construction: Chapters 9 and 10.

Drug Courts Competitive Grants: Chapters 9 and 10.

CONCLUSION

The great strength of federal funding of local crime prevention is the innovative strategies it can prompt in cities like New York, Boston, and Kansas City (MO) where substantial reductions have recently occurred in homicide and youth violence. The current limitation of that funding, however, is that it does not allow the nation to learn **why** some innovations work, exactly **what** was done, and **how** they can be successfully adapted in other cities. In short, the current statutory plan does not allow DOJ to provide effective guidance to the nation about what works to prevent crime.

Yet despite the current limitations, DOJ has clearly demonstrated the contribution it can make by increasing such knowledge. The Department has already provided far better guidance to State and local governments on the effectiveness of all local crime prevention efforts than was available even a decade ago. Based on the record to date, only DOJ agencies, and not the State and local governments, have the available resources and expertise to produce the kind of generalizable conclusions Congress asked for in this report. The statutory plan this report recommends would enhance that role, and allow DOJ to accomplish the longstanding Congressional mandate to find generally effective programs to combat serious youth violence. By focusing that effort in the concentrated poverty areas where most serious crime occurs, the Congress may enable DOJ to reverse the epidemic of violent crime that has plagued the nation for three decades.

NOTES

¹Total FY 1996 funding for the Office of Justice Programs was \$2.7 billion, including \$228 Million in collections for the Office for Victims of Crime.

²42 U.S.C. Section 3791 (10)

Chapter One

INTRODUCTION: THE CONGRESSIONAL MANDATE TO EVALUATE

by Lawrence W. Sherman

For over three decades, the federal government has provided assistance for local crime prevention. Most of that assistance has been used to **fund** operational services, such as extra police patrols. A small part of that assistance has been used to **evaluate** operational services, to learn what works--and what doesn't--to prevent crime. Most of the operational funding to prevent crime, both federal and local, remains unevaluated by scientific methods (Blumstein et al 1978; Reiss and Roth, 1993).

The Congress has repeatedly stated its commitment to evaluating crime prevention programs. In the early years of local assistance under the Omnibus Crime Control and Safe Streets Act of 1968, it was "probably the most evaluation-conscious of all the social programs initiated in the 1960s and 1970s" (Feeley and Sarat, 1980: 130). In 1972, the Congress amended the Act to require evaluations of the "demonstrable results" of local assistance grants. In 1988, the Congress generally limited federal assistance under the Anti-Drug Abuse Act Byrne Grants to programs or projects of "proven effectiveness" or a "record of success" as determined by evaluations.¹ But then as now, the Congressional mandate to evaluate remains unfulfilled, for reasons of funding structure and levels inherent in local assistance legislation for three decades.²

This report responds to the latest in the long line of Congressional initiatives to insure that its local assistance funding is effective at preventing crime. It is a state-of-the-science report on what is known--and what is not--about the effectiveness of local crime prevention programs and practices. What is known helps to address the Congressional request for a scientific assessment of local programs funded by federal assistance. What is not known helps to address the underlying issue of the Congressional mandate to evaluate crime prevention, the statutory reasons why that mandate remains unfulfilled, and the scientific basis for a statutory plan to fulfil the mandate.

The report finds substantial advances in achieving the Congressional mandate in recent years. The scientific strength of the best evaluations has improved. The Department of Justice is making far greater use of evaluation results in planning and designing programs. Within the scope of severely constraining statutory limitations, the level of resources the Department of Justice has given to evaluation has increased. The 1994 Crime Act already contains piecemeal but useful precedents for a more comprehensive statutory plan to fulfil the mandate. By asking for this report, the Congress has opened the door for a major step forward in using the science of program evaluation better to prevent crime. That step is a clearer definition of what "effectiveness" means, and a clearer plan for using impact evaluations to measure effectiveness.

THE MANDATE FOR THIS REPORT

In the 104th United States Congress, the Senate approved a major new approach to local assistance program evaluation. The Senate bill would have required the Attorney General to "reserve not less than two percent, but not more than three percent of the funds appropriated" for several local assistance programs to "conduct a comprehensive evaluation of the effectiveness of those programs." This would have been the first statutory plan to adopt the principle of setting aside a certain percentage of DOJ's operational funds **exclusively** for program evaluation--a principle often endorsed by the same operational leaders from whose funds would be affected,³ and one which has been adopted for other federal agencies.

The House version of the Justice Department's Appropriations bill did not include the evaluation set-aside plan, so a Conference Committee of the two chambers reached an agreement on this point. Rather than funding evaluations of the three specific programs named in the Senate version, the Conference Committee called for a comprehensive evaluation of the effectiveness of **all** Justice Department funding of local assistance for crime prevention. The Committee also required that the review be completed within nine months after the enactment of the legislation.

On April 27, 1996, the 104th United States Congress enacted the Conference Report (See Exhibit 1) requiring the Attorney General to provide an independent, comprehensive and scientific evaluation of the "diverse group of programs funded by the Department of Justice to assist State and local law enforcement and communities in preventing crime."⁴ The evaluation was required to focus on the **effectiveness** of these programs, defined in three ways:

- o preventing crime, with special emphasis on youth violence
- o reducing risk factors for juvenile violence, including those found in
 - community environments
 - schools
 - families
- o increasing protective factors against crime and delinquency

The legislation specifically required that the evaluation employ "rigorous and scientifically recognized standards and methodologies." In order to accomplish this task, the Assistant Attorney General for the Office of Justice Programs directed the National Institute of Justice (NIJ), in coordination with the Bureau of Justice Assistance (BJA), the Office of Juvenile Justice and Delinquency Prevention (OJJDP), and the Executive Office of Weed and Seed, to issue a competitive solicitation for proposals. On June 26, 1996, the National Institute of Justice released a solicitation that began the process of building the framework for this report to achieve the mandate of the 1996 legislation.

Exhibit 1

MAKING APPROPRIATIONS FOR THE DEPARTMENTS OF COMMERCE, JUSTICE, AND STATE, THE JUDICIARY, AND RELATED AGENCIES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1996, AND FOR OTHER PURPOSES

DECEMBER 1, 1995 —Ordered to be printed

Mr. ROGERS, from the committee of conference,
submitted the following

CONFERENCE REPORT

Sec. 116

The conferees have agreed not to include section 120 as proposed in the Senate bill which would have required the Attorney General to reserve not less than two percent, but not more than three percent of the funds appropriated for the Local Crime Prevention Block Grant program, the Weed and Seed program, and the Youth Gang program under Juvenile Justice, to conduct a comprehensive evaluation of the effectiveness of these programs.

However, the conferees are aware that there is a diverse group of programs funded by the Department of Justice to assist State and local law enforcement and communities in preventing crime. The conferees are concerned that there has not been a recent comprehensive evaluation of the effectiveness of all of these programs and expects that nine months after enactment of this Act, the Attorney General shall provide to the Committees on Appropriations of both House and Senate, a thorough evaluation of the crime programs funded by the Office of Justice Programs, with special emphasis on factors that relate to juvenile crime and the effect of these programs on youth violence.

The conferees further expect that research for this evaluation will (1) be provided directly or through grants and contracts, (2) be independent in nature, and (3) employ rigorous and scientifically recognized standards and methodologies. It is further expected that the evaluation will measure, but shall not be limited to: (a) reductions in delinquency, juvenile crime, youth gang activity, youth substance abuse, and other high risk factors; (b) reductions in the risk factors in the community, schools, and family environments that contribute to juvenile violence; and (c) increases in the protective factors that reduce the likelihood of delinquency and criminal behavior.

FRAMEWORK FOR THIS REPORT

This chapter presents the broad rationale for the framework used in this report. It begins with the scientific issues in the choice of the framework, and clarifies what the report is not. It sets the stage for the review with a brief introduction to the scope and structure of federal funding of local crime prevention programs. It then returns to the basic challenge of fulfilling the mandate to evaluate as an integral part of responding to the Congressional request for this report. The detailed plan for the rest of the report is then presented in Chapter Two.

Scientific Issues in The Choice of Framework

The 1996 legislation featured four key factors guiding the choice of methods for accomplishing the evaluation mandate: its **breadth**, its **timing**, its **scientific standards**, and its **independence**. The Justice Department programs in question cover a broad and complex array of activities. The short time period for producing the report ruled out any new evaluations of crime prevention effectiveness. Thus the requirement to employ scientific methods clearly implied a synthesis of already completed scientific studies.

The reliance on existing rather than new evaluations is clearly reflected in the NIJ solicitation, which called for "an evaluation

review of the effectiveness of broad crime prevention strategies and types of programmatic activity..[including] family, school, and community-based strategies and approaches, as well as law-enforcement strategies." The solicitation defined more specifically how the evaluation was to be conducted:

It is expected that this evaluation will not conduct new studies or engage in any detailed analysis of existing data. Rather, the evaluation review and report should draw upon existing research and evaluation studies and comprehensive syntheses of this work to produce a critical assessment of the state of knowledge, including its generalizability and its potential for replication....Also, the review must explicitly examine the research in light of the outcome measures specified in the Act as described above.

The Assistant Attorney General decided to award a grant to an independent research group to accomplish this mandate. The legislation required that the review's content be "independent in nature," even if provided "directly" (by federal employees) or by independent contractors or grantees. An anonymous panel appointed by NIJ evaluated the proposals submitted in response to the solicitation. On the basis of the peer-review panel's report, the Director of the National Institute of Justice selected the University of Maryland's Department of Criminology and Criminal Justice in early August, 1996 to conduct the Congressionally mandated evaluation due on January 27, 1997.

Once the University of Maryland was selected as the independent contractor, the strategic choices for accomplishing the mandate shifted to the team of six senior scientists who wrote this report. All decisions about the project were left in the hands of the Maryland criminologists, who bear sole responsibility for the work. That responsibility includes the technical choices we made about how to employ "rigorous and scientifically recognized standards and methodologies" most effectively in the limited time available to complete the report. The principal decision was to define the scope of the report as follows:

a critical assessment, based on a growing body of science, of the effectiveness of a wide range of crime prevention strategies, operated at the local level, with and without the support of federal funds.

This report is thus a review of scientific evaluations of **categories** of local programs and practices that are supported by broad categories of federal funds--often by several different "programs" of funding. Using systematic procedures described in Chapter Two and the appendix, the report attempts to sort the science of local crime prevention programs and practices supported by DOJ. It focuses primarily on the direct evaluation of local program operations, and uses those findings selectively to support indirect and theoretical assessments of some national funding streams based on findings about their specific parts.

Direct Evaluations of Local Program Operations. What rigorous science can evaluate most reliably is the effect of a specific program operated at a local level. This report identifies over 500 studies that attempt to do just that, with varying levels of scientific rigor. In a few areas, the science is rigorous enough, the studies are numerous enough, and the findings are consistent enough for us to draw some reasonably certain and **generalizable** conclusions about what works, what doesn't, and what is promising at the local level of operation. Such conclusions are not yet possible for most local crime prevention strategies. That fact requires the report to address the starting point for the legislation mandating this report: the need for far greater investment in program evaluation. But the growing OJP support for program evaluation in recent years helps to provide the raw material for the core of this report.

Indirect Evaluations of National Funding. In an effort to be as responsive to the Congress as possible, this report makes selective use of another approach to the scientific method. That approach uses evaluations of local programs to make indirect evaluations of federal funding streams. Those streams vary widely in their diversity, from funding streams of such relatively uniform programs as the hiring of the Crime Act's 100,000 police to very diverse Local Law Enforcement Block Grants program. The extent to which it is scientifically appropriate to generalize upwards from local program evaluations to national funding streams varies as well. In general, the more homogeneous the federal funding stream, the more appropriate it is to evaluate the effectiveness of that funding based on local evaluations.

Theoretical Assessments of Unevaluated Programs. Where no rigorously scientific impact data are available on funding streams expending substantial tax dollars, the report employs theoretical analyses to provide limited assessments of the programs. A prime example is the numerous efforts that OJP is currently making to prevent crime in the concentrated urban ghetto poverty areas producing the majority of serious youth violence in America. These programs attempt to be comprehensive in addressing the crime risk factors in those areas, which allows a comparison of the program content to the available theory and data on risk factors. The need for scientific impact assessments of these programs, however, is critical, and the theoretical assessment should be seen merely as a stopgap approach required by the current lack of measured effects.

Comprehensiveness

This report attempts to be as comprehensive as the available science allows. It is not, however, an annotated list of DOJ local assistance programs with a summary of scientific evidence relating to each one. Such an encyclopedic approach would have several limitations. It would fail to identify important issues cutting across programs. It would fail to give greater attention to the more important crime risk factors identified in the literature. Most important, it would have nothing to say about a great proportion of the specific program components of DOJ local assistance programs, given the lack of available impact evaluations.

While the report attempts some form of scientific commentary for the major DOJ prevention funding streams, it omits direct commentary on many of the smaller diverse funding categories. We attempt not to omit, however, any published program impact evaluations, meeting minimal standards of scientific rigor, that help show indirectly the effectiveness of the DOJ programs. Where such omissions have occurred, we anticipate that can be corrected in a systematic effort to keep the present findings up to date in future years.

What This Report Is Not

The Congressional mandate did not require that this report include an audit of the use of Department Of Justice (DOJ) funds, an evaluation of the leadership of DOJ's Office of Justice Programs (OJP) or Community Oriented Police Services (COPS) office, or a process or descriptive evaluation of specific programs at the local level supported with DOJ funds. None of these tasks fall within the required assessment of the scientific evidence of the effectiveness of local assistance funds administered by DOJ in preventing crime and risk factors.

Not an Audit of DOJ. Congress did not require the Attorney General to provide a detailed accounting of how DOJ local assistance funds are being spent. That kind of analysis requires auditing rather than scientific methodologies; the legislation clearly indicated the use of science. Knowing exactly how much money is being spent on Drug Courts, for example, does not alter the conclusions that can be reached by using scientific methods to examine the available studies of the effectiveness of drug courts. The report's concern with the expenditure of DOJ funds was limited to four questions that informed a scientific assessment:

- 1) Does DOJ funding support this kind of crime prevention program or practice?
- 2) If not, does the scientific evidence suggest Congress should consider funding it?
- 3) Are current funds allocated in relation to scientifically established crime risk factors?
- 4) Have the funds been allocated in a way that permits scientific impact evaluation?

Not an Evaluation of DOJ Leadership. The term "evaluation" is often understood to mean something like a report card, reflecting on the personal effectiveness of officials directing programs. There is even a substantial scientific literature in the field of industrial psychology for personnel or performance "evaluation" systems. The legislation clearly does not call for a performance evaluation, but for an evaluation of program effectiveness. The Congressional mandate to focus on the science of the programs does not require assessments, positive or negative, about the performance of DOJ leadership. In order to standardize the focus on the evidence, the report does not even employ interviews with DOJ leadership, and relies solely on analysis of legislation, written documents and publications about the programs they administer.

Not A Descriptive or Process Evaluation of DOJ Programs. The Congressional mandate clearly focuses on what scientists call "impact" evaluations, rather than "descriptive" or "process" evaluations. The distinction between the two kinds of evaluation is critical, but often misunderstood. Descriptive or process evaluations describe the nature of a program activity, usually in some detail. An impact evaluation uses scientific methods to test the theory that a program causes a given result or effect. Only an impact evaluation, therefore, can be used to assess the "effectiveness" of a program. Descriptive evaluations can provide useful data for interpreting impact results based on variations in the implementation of programs and interpretations of their effects. But they do not provide a sufficient response to the Congressional mandate.

Not a Technical "Meta-Analysis." Scientists are making increasing use of a statistical methodology called "meta-analysis," in which findings from many studies are analyzed together quantitatively. This method is important because it can produce different conclusions than a summary of findings from individual studies, largely by increasing the sample size available for analysis. There are no currently published statistical meta-analyses comparing the effectiveness of the full array of crime prevention strategies, from Head Start to prisons. There are several meta-analyses on specific crime prevention strategies included in the evidence used for this report. The Congressional requirements for rapid production of this report, however, ruled out a formal meta-analysis of the evaluation results across all crime prevention programs, however.

Evaluating Funding Mechanisms Versus Prevention Programs

The legislation did not define DOJ crime prevention "programs" as the large general funding streams. The focus on effectiveness clearly directs the report to specific crime prevention strategies. A substantial scientific literature is available on the crime prevention effectiveness of the specific strategies. We could find no existing **impact** evaluation, however, of such general funding streams as the Byrne Memorial State and Local Law Enforcement Assistance Program. This fact raises several key issues: the definition of "programs," the science of varying treatments, and the barriers such variations raise to direct evaluation of internally diverse national funding streams.

Defining "Programs." A major source of confusion in policy analysis of federal crime prevention is the meaning of the word "program." The meanings vary on several dimensions. One dimension is the level of government: if the federal Byrne Program funds a neighborhood watch program in Baltimore, which one is the DOJ "program" this report should evaluate for the Congress: Byrne or Baltimore's neighborhood watch? Or should the evaluation focus fall in between those two levels of analysis, addressing what is known generally about neighborhood watch programs? This report takes the latter approach.

The meanings of the term "program" also vary with respect to the required degree of internal uniformity. Neighborhood watch "programs," for example, are fairly uniform in their content, despite some variations. A national community policing "program," in contrast, embraces a far wider range of activities and philosophies, ranging from aggressive zero tolerance enforcement campaigns "fixing broken windows" (Kelling and Coles, 1996) to outreach programs building partnerships between police and all segments of the community (Skogan, 1990).

Science and Varying Treatments. The tools of the scientific method are only as useful as the precision of the questions they answer. Medical science, for example, evaluates the effectiveness of specific treatments; it is rarely able to establish the controls needed to evaluate broad categories of funding embracing multiple or varying treatments, such as "hospitals" or even "antibiotics." Variations in treatment place major limitations on the capacity of science to reach valid conclusions about cause and effect. The scientific study of aspirin, for example, assumes that all aspirin has identical chemical components; violating that assumption in any given study clearly weakens the science of aspirin effectiveness. The same is true of crime prevention programs. The more a single program varies in its content, the less power science has to draw any conclusions about "the" program's content (Cohen, 1977; Weisburd, 1993).

Compare a study of the effects of a sample of 5,000 men taking aspirin to a study of the same sample taking different pills elected arbitrarily from an entire pharmacy of choices. Any changes in health would be more clearly understood with the aspirin study than with the pharmacy evaluation. Even if the whole pharmacy of pills were taken only on doctor's orders, based on a professional assessment of the most appropriate pills for each patient, wrapping all of the different pills' effects into the same evaluation of effectiveness would prevent an assessment of what effect each medicine had. Science is far more effective at evaluating one kind of pill at a time than in drawing conclusions about different pills based upon a pharmacy evaluation.

Direct Evaluations of National Funding Programs. Any attempt to evaluate directly an internally diverse national funding program is comparable to a pharmacy evaluation. Even if the right preventive treatments are matched to the right crime risks, a national before-and-after evaluation of a funding stream would lack vital elements of the scientific method. The lack of a control group makes it impossible to eliminate alternative theories about why national-level crime rates changed, if at all, with the introduction of a widely diverse national program like the Local Law Enforcement Block Grant. Federal funding of local crime prevention, for example, increased by over five hundred percent from 1994 to 1996, and violent crime has fallen steadily during that period. But violent crime started falling in 1992, for reasons that no criminologist can isolate scientifically. Isolating still further the effects of the increased funding in 1994 is not possible to do with rigorous scientific methods. Thus we could not have evaluated most national DOJ funding programs directly, even if we had been allowed several years or decades.

Implications of This Approach

The choice to start with the available science on local programs rather than the DOJ funding mechanism programs has important implications. One limitation is the report's unavoidable bias towards well-researched programs. One advantage is that the report becomes a reference source for different legislative approaches to federal funding. The approach also becomes a demonstration of how unevenly evaluation science can proceed, and the need for clear distinctions between science and policy analysis.

Bias Towards Well-Researched Programs. The report clearly emphasizes strategies that have received substantial research attention, regardless of their merits in receiving that attention. To the extent that the rigorous science has been focused on less promising crime prevention strategies, both the report and public policymaking are at a disadvantage. The alternative might have

been to rely more on theoretical science and less on empirical results. The obvious danger in that course, however, is a risk of losing the objectivity required for reliable assessments. On balance, then, the decision to focus on the strongest scientific evidence seems to be the most useful and least problematic approach available.

A Reference for Diverse Approaches to Federal Funding. Letting science guide the report around local programs may help the findings to have more lasting value. Organizing the evidence around theories and data will provide a reference for many different possible approaches to federal funding of local programs. While the structure of federal funding changes almost annually, the results of program evaluations accumulate steadily over long time periods. While the NIJ solicitation asked for special emphasis to be placed on evaluations completed in the last five years, many of the most important evaluation results are older than that. Omitting those earlier studies from the analysis would have substantially and inappropriately altered the conclusions reached. Similarly, Congressional deliberations on crime prevention policy can benefit from a reference source organized around the basic institutional settings for local crime prevention: communities, families, schools, labor markets, specific places, police, and criminal justice.

The Uncertainty of Science. Guiding the report with available findings offers a more realistic picture of what evaluation science is able to achieve. As the U.S. Supreme Court recently concluded, hypotheses about cause and effect cannot be "proven" conclusively like a jury verdict; they can merely be falsified using a wide array of methods that are more or less likely to be accurate.⁵ A Nobel Laureate observes that "Scientists know that questions are not settled; rather, they are given provisional answers..."⁶ Science is a constant state of double jeopardy, with repeated trials often reaching contradictory results. Fulfilling the mandate to evaluate will always result in an uneven growth of evaluation results, not permanent guidance. This report directly confronts the problems of mixed results from methods of varying scientific rigor, and attempts to develop decision rules for applying the findings to both research and program policy. These rules may have value not just for this report. They may also help advance the Congressional mandate to evaluate beyond the nonscientific concept of "proven" effectiveness to the scientific concept of "likely" effectiveness.

This problem of accurately predicting the effects of a program wherever it may be implemented is an important limitation to using evaluations in policy analysis. Generalizing results from an evaluation in one city to the effects of a program in another city is a very uncertain enterprise. We still lack good theories and research to predict accurately when findings can be accurately generalized. Just as the Justice Department may fund different kinds of community policing programs, the same program may be very different in different places. The nature of a "drug court" may vary enormously from one judge to the next, community policing home visits may vary from friendly to intrusive, gang prevention programs may have different effects in different kinds of neighborhoods or ethnic groups. This uncertainty is best acknowledged, and addressed by ongoing evaluations of even programs with enough evidence to be judged "likely" to "work."

Science Versus Policy Analysis. The focus on scientific results should help the reader distinguish between the report's science and its policy analysis. The distinction is crucial. Even though scientific evaluation results are a key part of rational policy analysis, those results cannot automatically select the best policy. This is due not just to the scientific limitations of generalizing results from one setting to the next. Another reason is that evaluations often omit key data on cost-benefit ratios; the fact that a program is "effective" may be irrelevant if the financial or social costs are too high. This report attempts, where possible, to distinguish summaries of science from their application to policy issues using judgment and other sources of information outside the evaluation results. We expect that there will be less consensus about the policy analysis than about the scientific findings. But we also determined after extensive deliberation that recommendations based on policy analysis were a useful addition to the purely scientific summaries that form the core of the report.

The framework adopted for this report is not the only possible way to have responded to the Congressional request. There are legitimate differences of opinion about how best to use scientific methods for this kind of analysis. Some analysts have argued for a more "flexible" approach to program evaluation, with more emphasis on expert insight and less emphasis on whether a program "works" (Pawson and Tilley, 1994). Others call for less reliance on evaluation results that have less rigorous measurement of program context and other data needed to assess the generalizability of results (Ekblom and Pease, 1995). Our own preference would have been to raise the cutoff point for defining "scientific" methods much higher than we actually did (see Chapter Two). On balance, however, this approach provides an acceptable compromise between the Congressional needs for information and the scientific strength of available evidence.

There are also multiple goals for the \$4 Billion annual funding described in this report, which may be valuable for other reasons besides its scientifically measurable effectiveness in preventing crime. The focus on crime prevention excludes the very important goals of justice, fairness and equality under the law. That limitation is not inherent in the science of program evaluation; it is merely a function of the boundaries of the specific mandate for this report.

LOCAL CRIME PREVENTION AND THE DEPARTMENT OF JUSTICE

The policy context for this report is the current structure of local crime prevention assistance programs funded by the U.S. Department of Justice. This section provides a brief introduction to those programs. It begins with a summary of the appropriated budgets for local crime prevention in fiscal year 1996, the year the Congress requested this report. It then describes the administrative structure of the Justice Department offices administering those funds. It concludes with a brief discussion of the types of funding mechanisms Congress has created for distributing the funding, and briefly details the focus and mechanisms of the largest of the funding programs.⁷

Budget

Local crime prevention offices now receive more DOJ funding than at any time in American history, a larger budget than the FBI, the DEA, or the INS. Among all DOJ components, only the Federal Bureau of Prisons consumes a larger share of the budget. At \$4 billion per year, the combined annual budget of the \$1.4 billion administered by the Director of the COPS (Community-Oriented Policing Services) Office and the \$2.6 Billion administered by the Assistant Attorney General for OJP (the Office of Justice Programs) is more than five times the amount the Congress allocated in the peak years of the old Law Enforcement Assistance Administration.

Not all of these funds can be classified as having crime prevention purposes. The largest of these programs, the 1994 Crime Act's Title I Community Policing grants, does not even specify the prevention of youth violence as a legislative purpose of the funding, even though many observers would expect youth violence prevention to **result** from the program. The definition of crime prevention as an intention or a result is a major issue addressed in Chapter Two, which explains this report's rationale in using a definition focused on results. This definition thus clearly include the 100,000 police. But even that broad definition does not include the State \$300 State Criminal Alien Assistance Program, reimbursing states for housing 38,000 illegal aliens incarcerated for felony offenses, or the \$31 million Public Safety Officers Benefits program for families of police slain in the line of duty. Nor does it include infrastructure programs for courts and computerization of criminal justice records, general programs of statistics, research and evaluation, services to victims of crime, the Police Corps, or general administrative costs. As Figure 1-1 shows, the major crime prevention funding programs within DOJ added up to about 85% of the \$4 billion total appropriations for the two local assistance offices (OJP and COPS), or about \$3.4 billion. The historical context of these appropriations levels is indicated in Figure 1-2, which shows the three-decade trends in total DOJ funding of its local crime prevention assistance offices (including services other than crime prevention).

The Department of Justice funding of local programs which may result in crime prevention are authorized under several different Acts of Congress. The Juvenile Justice and Delinquency Prevention Act is the oldest, having continued in force after the end of the Law Enforcement Assistance Administration. The 1988 Anti-Drug Abuse Act of 1988 authorized the Byrne Grants program to the states, followed by the 1994 Crime Act which took the local prevention funding to its current historic heights. The five principal titles of the 1994 Act include Public Safety and Policing (Title I), Prisons (Title II), Crime Prevention (Title III), Violence Against Women (Title IV), and Drug Courts (Title V). While this report treats all five titles as falling within a results-based scientific definition of crime prevention, it is worth noting that the Congress has never appropriated any funds specifically labeled as "crime prevention" under Title III. Both the 1988 Anti-Drug Abuse Act and the 1996 Omnibus Appropriations Act, however, appropriated funds allowing grants to be made in a "purpose area" labeled crime prevention.

Figure 1-1

Major DOJ Crime Prevention Funding Programs

OFFICE & BUREAU	FUNDING PROGRAMS	FY 1996 Funding
Community-Oriented Policing Services	100,000 Local Police	\$1.4 Billion
Office of Justice Programs		
Bureau of Justice Assistance	Local Law Enforcement Block Grant Formula Program	\$488 Million

	Byrne Memorial State and Local Law Enforcement Assistance Formula Program	\$475	Million
	Byrne Discretionary Grants Program:	\$32	Million
	(Boys and Girls Clubs Earmark)	(\$ 4)	Million
	(Nat'l. Crime Prevention Council Earmark)	(\$ 3)	Million
	(DARE Drug Abuse Prevention Earmark)	(\$ 2)	Million
Office of Juvenile Justice and Delinquency Prevention	Juvenile Justice Formula Grant Program	\$70	Million
	Competitive Grants Programs	\$69	Million
Executive Office of Weed and Seed	Operation Weed and Seed	\$28	Million
Violence Against Women Grants Office	STOP (Services, Training, Officers, and Prosecution) Violence Against Women Formula Grant Program	\$130	Million
	Rural Domestic Violence Enforcement	\$ 7	Million
	Encourage Arrest Program	\$ 28	Million
Corrections Program Office	Residential Substance Abuse Treatment	\$ 27	Million
	Violent Offender Truth in Sentencing Prison Construction Formula Grants	\$405	Million
Drug Courts Program Office	Drug Courts Competitive Grants	\$ 15	Million
Total Major Funding		\$3.2	Billion

Administrative Structure

The administration of these various programs under various Acts is organized into the two separate offices. One of these--the Office of Community-Oriented Policing Services--has a single large program and a single presidential appointee. The other--the Office of Justice Programs--has numerous programs ranging widely in size, managed by an Assistant Attorney General, two Deputy Assistant Attorneys General, and five Presidentially appointed directors or administrators of the following units the Bureau of Justice Assistance (BJA), the Bureau of Justice Statistics (BJS), the National Institute of Justice (NIJ), the Office of Juvenile Justice and Delinquency Prevention (OJJDP), and the Office for Victims of Crime (OVC). In addition, several other OJP offices manage funding under separate Titles of the 1994 Crime Act: the Corrections Programs Office, the Office for Drug Courts, and the Violence Against Women Grants Office. The OJP Executive Office of Weed and Seed is supported by transfers of BJA Byrne Discretionary Grant appropriations under the 1988 Anti-Drug Abuse Act. Figure 1-1 summarizes the administrative and programmatic structure of the agencies administering the major local crime prevention programs. NIJ and BJS do not administer major local assistance grants for crime prevention purposes, although BJS does assist states in their implementation of the data systems requirements for compliance with the Brady Act. The Office of Victims of Crime is funded by fines collected by federal courts, and provides funding mostly for repairing the harm caused by crime; a few areas of potential crime prevention effects from OVC funding, such as its support for battered women's shelters, are noted in Chapter Four.

Funding Mechanisms: Formula, Discretionary, Earmarks, Competitive

The crucial point in understanding DOJ local crime prevention funding programs is the statutory plan for allocating the funding. The "funding mechanisms" of this plan vary across the different authorization Acts, and use different criteria even within each funding mechanism depending on the specific Act. Two basic types of funding mechanisms are "formula" or "block" grants versus "discretionary" grants. Many observers and grant recipients incorrectly assume these labels mean that local units are entitled to their funding under formula grants, while DOJ executives decide how to administer the discretionary grants. That assumption is incorrect. There are substantial legislative requirements constraining DOJ's allocation of "discretionary" funds, and there are also various legislative requirements that grantees must satisfy in order to become eligible to receive their "formula" funding.

The so-called Discretionary programs are constrained by Congress in three ways: earmarks, eligibility criteria, and competition. **Earmarks** are legislative directions in the Appropriations laws (as distinct from Authorization Acts) on how to spend certain portions of funds appropriated within a larger funding program, such as the \$11 million earmark for Boy's and Girls Clubs within the 1996 appropriation for the BJA Local Law Enforcement Block Grant Program and the \$4.35 Million earmark for the same organization under the Byrne Discretionary grants. Earmarks are both "hard" and "soft." Hard earmarks are written into legislation, usually with specific amounts to be spent and the specific recipient of the funding identified. Soft earmarks are based upon committee hearings and conference reports, such as the legislation for the present report, with or without specified amounts.

Eligibility criteria programs are only "discretionary" in the sense that DOJ officials must decide whether the applicants are eligible to receive the funds for which they apply. The applicants do not receive the funds unless they apply, and can demonstrate their eligibility in the application. Congress often requires, for example, that states pass certain state laws as a condition of eligibility for receiving federal funds under certain grant programs. The most famous example is perhaps the limitation of maximum state speed limits to 55 miles per hour that was for two decades an eligibility requirement for receiving federal highway construction funding. Similarly, the 1994 Crime Act makes state passage of "Truth-in-Sentencing" Legislation an eligibility requirement for prison construction grants. Once DOJ has proof of program eligibility, however, the determination of how much funding the applicant receives must follow the statutory allocation plan. All those receiving funds do so on the basis of a "formula" that may be based on population, crime rates, prison overcrowding rates or other factors. In addition, certain minimum amounts are often reserved for jurisdictions of certain size irrespective of the formula, such as the requirement that half of all funding for the 100,000 police be allocated to applicants from cities of over 150,000 people. In that particular case, the allocation is made at least in part on a first-come, first served basis.⁸ Thus a more accurate label for such funding mechanisms might be "discretionary eligibility formula grants."

Only ten percent of the total OJP appropriation is for **competitive** grants, the truly discretionary programs in which applicants must compete on the merits of issues other than simple eligibility for funding. DOJ officials usually establish different criteria appropriate for each program. Examples of criteria for these grants include innovative approaches, interagency collaboration, comprehensive targeting of crime risk factors, and potential impact of the program on the community. Examples of competitive local assistance programs include Drug Courts, Operation Weed and Seed, JUMP mentoring grants and Encourage Arrest Grants.

Formula grant programs, in contrast to discretionary programs, have no so-called "eligibility" requirements, such as the passage of state laws. The allocation of funding is independent of such tests. Formula programs can, however, require that certain paperwork be satisfactorily completed. BJA Byrne grants, for example, require that an annual plan specify how the formula-determined allocation will be spent, and that evaluations of all grants made with formula allocations be forwarded to BJA. Failure to satisfy these requirements presumably has the same effect as in "discretionary eligibility" programs, which is to block the award of the funds.

These funding mechanisms offer relatively little discretion to DOJ in its choice of program areas or sites, but offers substantial direction to the state and local grant recipients. That policy choice is central to a continuing Congressional debate. Its relevance to this report is to show the centrality of the local programs chosen by the grant recipients in determining the effectiveness of this funding. It is the local decisions on which prevention programs to adopt, and not the Congressionally mandated actions by DOJ in allocating that funding, which largely determine the effectiveness of these broad funding streams in preventing crime.

Major Funding Stream Programs

This section briefly describes the major DOJ funding stream programs listed in Figure 1-1.

COPS. This program reimburses local police agencies for up to 75% of the salary and benefits of an additional police officer for three years, up to a maximum of \$75,000 per officer. It is a discretionary-eligibility-formula grant program in which funding is

allocated on the basis of eligible applicant population size, with a minimum allocation requirement that 50 percent of the funds go to police departments serving cities of over 150,000 people. In addition to this "Universal Hiring Program" to which the Congress has restricted appropriations in 1997, the earlier years of the program offered various competitive grant programs for domestic violence, youth firearms, anti-gang initiatives, and other special purposes.

Byrne (BJA). The 1988 Anti-Drug Abuse Act established both formula and discretionary grant programs in memory of New York City Police Officer Edward Byrne, who was murdered while monitoring a crack house. The formula program awards funds to states developing plans for allocating grants, originally under 21 and now under 26 purpose areas: 1) drug demand reduction programs involving police, 2) multijurisdictional task forces against drugs, 3) domestic drug factory targeting, 4) community crime prevention, 5) anti-fencing programs, 6) white-collar and organized crime enforcement, 7) law enforcement effectiveness techniques, 8) career criminal prosecution, 9) financial investigations, 10) court effectiveness, 11) correctional effectiveness, 12) prison industries, 13) offender drug treatment, 14) victim-witness assistance, 15) drug control technology, 16) innovative enforcement, 17) public housing drug markets, 18) domestic violence, 19) evaluations of drug control programs, 20) alternatives to incarceration, 21) urban enforcement of street drug sales, 22) DWI prosecution, 23) juvenile violence prosecution, 24) gang prevention and enforcement, 25) DNA analysis, 26) death penalty litigation. While each state is eligible to receive a minimum of 0.25 percent of total appropriations, the balance is allocated on the basis of state population as a proportion of the entire U.S. All Byrne funds must be matched by a 25% commitment of non-federal funds.

The BJA Byrne Discretionary Grants program is heavily earmarked for initiatives such as those indicated in Figure 1-1 (e.g., Boys and Girls Clubs, DARE) as well as programs well-established with Congressional understanding, such as Weed and Seed (see below). Over 5 percent of Byrne discretionary funds (\$3.1 million) went to program evaluation purposes in FY 1996, with another \$3.5 million allocated to program evaluation by the States from their formula grants.

Local Law Enforcement Block Grants (BJA). This is a formula grant program that awards funds to applying local governments based on their share of the their state's total Part I violent offenses (homicide, rape, robbery, aggravated assault) over the previous three years. The eight purpose areas for local expenditure of the grants are 1) police hiring, 2) police overtime, 3) police equipment and technology, 4) school security measures, 5) drug courts, 6) violent offender prosecution, 7) multijurisdictional task forces, community crime prevention programs involving police-community collaboration.

STOP Violence Against Women Block Grants (VAWGO). This is a formula grant program allocating funding to states and territories based upon population. Within each state, the grants must total at least 25% for law enforcement, prosecution, and victim services. A wide range of programs fall within each of these categories, including both domestic and stranger violence against women.

Encourage Arrest Grants (VAWGO). This is a competitive program for which eligibility is determined by the passage of certain state laws concerning the arrest of suspects about whom there is probable cause to believe they have committed an act of domestic violence or a related offense. These grants are intended to encourage communities to adopt innovative, coordinated practices that foster collaboration among law enforcement officers, prosecutors, judges, and victim advocates to improve the response to domestic violence.

Operation Weed and Seed (EOWS). This is a competitive program funded by a transfer of BJA discretionary Byrne funding to the OJP Executive Office of Weed and Seed. The program consists of long-term funding to a varying number of selected cities to help them create a comprehensive program of reducing crime in small, high-crime areas. The DOJ funding operates as seed money leveraging additional federal, state, local and private resources.

Juvenile Justice Formula Grants (OJJDP). This program provides annual funding to eligible states to deinstitutionalize status offenders, separate juveniles and adults in secure correctional facilities, jails and lockups, and to reduce the number of juveniles in secure facilities.

Prison Construction Grants (Corrections Office). This program provides funds to states to build more prison cells or to construct less expensive space for nonviolent offenders, to free space in secure facilities for more violent offenders.

Residential Correctional Drug Abuse Treatment (Corrections Office). This funding program funds state prison delivery of substance abuse treatment to inmates.

THE STATUTORY PLAN FOR PROGRAM IMPACT EVALUATION

In theory, one of the most effective federal crime prevention programs is the evaluation of local programs. The Attorney

General's Task Force on Violent Crime called it the central role of the federal government in fighting crime, the one function that could not be financed or performed as efficiently at the local level.⁹ With less than one percent of local criminal justice budgets supported by the federal government (not counting the COPS program), federal funds are arguably most useful as a stimulus to innovation that makes the use of local tax dollars more effective (Dunworth, et al, 1997). The three-decade old Congressional mandate to evaluate is consistent with that premise. Its implication is that a central purpose of federal funding of operations is to provide strong evaluations.

The Congressional mandate for this report therefore includes an evaluation of the effectiveness of DOJ-funded program evaluation itself. The central question is whether those evaluations have "worked" as a federal strategy for assisting local crime prevention. The report answers that question in a different fashion from the method used to evaluate the direct local assistance funding. Rather than directly evaluating the impact of program evaluations on crime, the report indirectly examines the antecedent question of whether those evaluations have succeeded in producing published and publicly accessible scientific findings about what works to prevent crime. After presenting the scientific framework for the review in Chapter two, the report presents the evidence for both program and evaluation effectiveness in Chapters Three through Nine. Chapter Ten then summarizes the limited evidence on local program effects, and returns to the underlying issue of how to accomplish the Congressional Mandate to evaluate.

This report concludes that the current statutory plan for accomplishing that mandate is inadequate, for scientific reasons not addressed by current legislation. That inadequacy substantially limits the capacity to judge the effectiveness of the federal effort to reduce serious crime and youth violence. Part of the statutory problem is simply inadequate funding. While Figure 1-2 shows the steep rise in total federal support for local crime prevention operations, Figure 1-3 shows a rough indication of the declining proportionate support for research and evaluation: the percentage of total OJP appropriations allocated to the National Institute of Justice.

Figure 1-2
LEAA/OJP
Budgets, 1969 through 1996

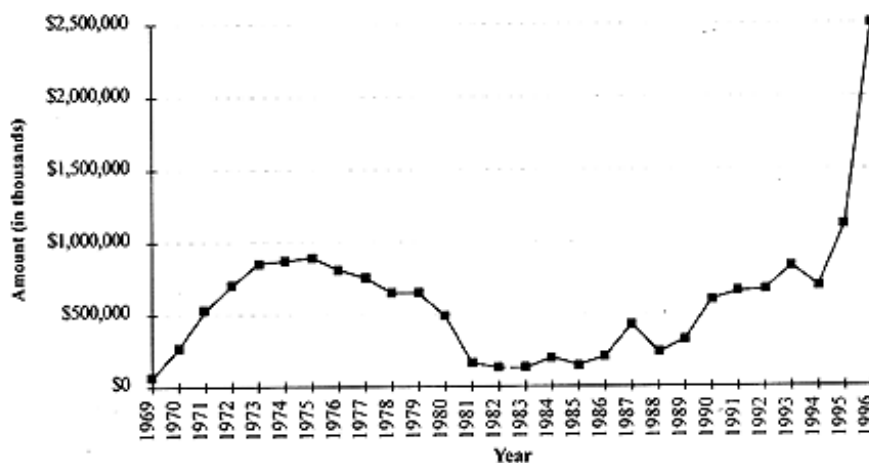


Figure 1-3

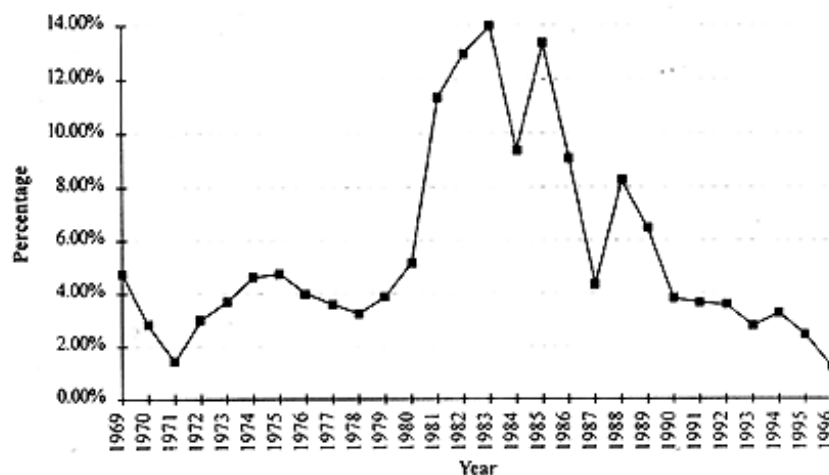
NIJ Budget as Percentage of OJP Budget

Figure 1-3 actually overstates the amount of DOJ funding allocated to program evaluations. Program evaluations are also funded by OJJDP and BJA,¹⁰ and actual NIJ expenditure in FY 1996 was \$99 million rather than \$30 (due to inter-agency transfers).¹¹ But Figure 1-3 reflects the total NIJ budget for all research, technical assistance, and dissemination purposes, as well as for program evaluation; only 27 percent (\$8 million) of NIJ's FY 1996 appropriation was allocated to evaluation. The proportionate allocation of the NIJ budget to evaluation over the past three decades has not changed substantially on this point. Thus while Figure 1-3 overstates the absolute dollars DOJ has been appropriated for evaluation, it is still an accurate portrayal of the absence of statutory attention to keeping evaluation funding commensurate with operational funding.

Evaluation funding alone, however, cannot increase the strength of scientific evidence about the effects of federally funded local programs on crime. Chapter Ten documents the need for adequate scientific controls on the expenditures of program funds in ways that allow careful impact evaluation. A statutory plan earmarking a portion of operational funds for strong scientific program evaluation is the only apparent means for increasing the effectiveness of federal funding with better program evaluations. The basis for this conclusion is central to scientific thinking about crime prevention, as the next chapter shows.

NOTES

¹42 U.S.C. 3782 Sec. 801 (b) (1), (19), (20).

²U.S. Attorney General's Task Force on Violent Crime, 1981, p. 73.

³In 1988, for example, more than 30 big city police chiefs asked Congress to earmark ten percent of the Anti-Drug Abuse Act funds for research and evaluation. While Titles I and II of the 1994 Crime Act authorize DOJ to spend up to 3 percent of funds for assorted purposes including evaluation, there has never been a requirement to spend a percentage of operational funds exclusively on program impact evaluations demonstrating crime prevention effectiveness.

⁴104th Congress, First Session, House of Representatives, Report 104-378.

⁵*Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993), in which the Court adopts the scientific framework offered by Karl Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge*, 5th Ed., 1989.

⁶David Baltimore, "Philosophical Differences," *THE NEW YORKER*, January 27, 1997, p. 8.

⁷This section is based largely upon a January 17, 1997 NIJ background memorandum from Jane Wiseman to Christy Visher prepared at the University of Maryland's request.

⁸U.S. Department of Justice, Office of Community Oriented Policing Services, COPS Facts: "Cops More '96." Update September 18, 1996.

⁹Attorney General's Task Force on Violent Crime, Report, 1981; James Q. Wilson, "What, if Anything, Can the Federal Government Do About Crime?" Presentation in the Lecture Series on Perspectives on Crime and Justice, sponsored by the National Institute of Justice with support from the Edna McConnell Clark Foundation, December, 1996.

¹⁰Total BJA expenditures on program evaluation in FY 1996 were \$6.6 million.

¹¹Actual NIJ expenditures on all purposes included transfers authorized by the Assistant Attorney General for the Office of Justice Programs from Crime Act appropriations of \$15.6 million in FY 1995 and \$51.9 million in FY 1996.

REFERENCES

Blumstein, Alfred, Cohen, Jacqueline, and Daniel Nagin (eds).

1978 Deterrence and Incapacitation: Estimating The Effects of Criminal Sanctions on Crime Rates. Washington, DC: National Academy of Sciences.

Cohen, J.

1977 Statistical Power Analysis for the Behavioral Sciences. N.Y.: Academic Press.

Ekblom, Paul and Ken Pease

1995 Evaluating Crime Prevention. In Michael Tonry and David Farrington, eds., Building a Safer Society: Strategic Approaches to Crime Prevention. Crime and Justice, Vol. 19. Chicago: University of Chicago Press.

Feeley, Malcolm and Austin Sarat

1980 The Policy Dilemma: Federal Crime Policy and the Law Enforcement Assistance Administration. Minneapolis: University of Minnesota Press.

Kelling, George and Katharine Coles

1996 Fixing Broken Windows. NY: Free Press.

Pawson, R. and N. Tilley

1994 What Works in Evaluation Research. British Journal of Criminology 34: 291-306.

Reiss, Albert J., Jr. and Jeffrey Roth (eds.)

1993 Understanding and Preventing Violence. Washington, D.C.: National Academy of Sciences.

Skogan, Wesley

1990 Disorder and Decline. NY: Free Press.

Weisburd, David with Anthony Petrosino and Gail Mason

1993 Design Sensitivity in Criminal Justice Experiments: Reassessing the Relationship Between Sample Size and Statistical Power. In Michael Tonry and Norval Morris, eds., *Crime and Justice*, Vol. 17. Chicago: University of Chicago Press.

Chapter Two

THINKING ABOUT CRIME PREVENTION

Lawrence W. Sherman

How effective at preventing crime are local programs with funding from the US Department of Justice? That question can only be answered in the context of a comprehensive scientific assessment of crime prevention in America. That assessment shows that most crime prevention results from the web of institutional settings of human development and daily life. These institutions include communities, families, schools, labor markets and places, as well as the legal institutions of policing and criminal justice. The vast majority of resources for sustaining those institutions comes from private initiative and local tax dollars. The resources contributed to these efforts by the federal government are almost negligible in comparison. The potential impact on local crime prevention of federally supported research and program development, however, is enormous.

The logical starting point for assessing the current and potential impact of federal programs is the scientific evidence for the effectiveness of crime prevention practices in each institutional setting. This requires, in turn, great attention to the enormous variation in the strength of scientific evidence on each specific practice or program. In general, far too little is known about the impact of crime prevention practices, regardless of how they are funded. But thanks largely to evaluations sponsored by the National Institute of Justice (NIJ), the Office of Juvenile Justice and Delinquency Prevention (OJJDP) and other federal agencies, the body of scientific evidence has grown much stronger in the past two decades. Most important, it has shown a steadily increasing capacity to provide very strong scientific evidence, even while most program evaluations remain so weak as to be scientifically useless.

The growing scientific evidence that federal support has produced allows us to assess some programs more intensively than others. Some of the evidence is strong enough to identify some effective and ineffective practices or programs in most institutional settings. Some evidence is more limited, but clearly points to some promising initiatives that merit further research and development. Reviewing this evidence in each of the seven institutional settings provides the strongest possible scientific basis for responding to the Congressional mandate. By separating the question of effectiveness from the question of funding, we map out the entire territory of crime prevention knowledge (including the many uncharted areas). That, in turn, provides a basis for locating both current and future Justice Department programs on that map.

Chapters Three through Nine of the report each examine the evidence in one institutional setting at a time. Each chapter draws scientific conclusions about program effectiveness, then uses those findings to suggest policy recommendations for both current programs and further research. Chapter Ten then assembles the major findings into the Congressionally-mandated assessment of the effectiveness of DOJ crime prevention programs. It concludes the report with the implications of the assessment for the federal role in generating just such evidence, and suggests a statutory plan for improving scientific knowledge about effective crime prevention methods.

This chapter provides the four cornerstones on which the report is based. One is the crucial difference between the political and scientific definitions of crime prevention. Making this distinction at the outset is essential for meeting the Congressional mandate for a scientific assessment. It also helps us clarify other key concepts in thinking about crime prevention.

A second cornerstone is the web of institutional settings in which crime prevention effects are created every day all over the nation, mostly without any taxpayer involvement at all. From childhood moral education to employee criminal history checks, there is tight social fabric holding most people back from committing crimes most of the time. Yet there are many holes and thin spots in that social fabric that crime prevention programs might, and sometimes do, address.

The third cornerstone is the logical basis for separating scientific wheat from chaff, or strong scientific evidence from weak or useless data. Not all crime prevention evaluations are created equal, but we must be clear about the rules of evidence.

The fourth and final cornerstone is the history and current status of the federal role in guiding and funding local crime prevention. The distinction between those functions should be kept in mind in any discussion of the implications of crime prevention research for federal policy.

KEY CONCEPTS IN CRIME PREVENTION

Crime prevention is widely misunderstood. The national debate over crime often treats "prevention" and "punishment" as mutually exclusive concepts, polar opposites on a continuum of "soft" versus "tough" responses to crime: midnight basketball versus chain gangs, for example. The science of criminology, however, contains no such dichotomy. It is as if a public debate over physics had drawn a dichotomy between flame and matches. Flame is a result. Matches are only one tool for achieving that result. Other tools besides matches are well known to cause fuel to ignite into flame, from magnifying glasses to tinder boxes.

Similarly, crime prevention is a result, while punishment is only one possible tool for achieving that result. Both midnight basketball and chain gangs may logically succeed or fail in achieving the scientific definition of crime prevention: any policy which causes a lower number of crimes to occur in the future than would have occurred without that policy.¹ Some kinds of punishment for some kinds of offenders may be preventive, while others may be "criminogenic" or crime-causing, and still others may have no effect at all. Exactly the same may also be true of other programs that do not consist of legally imposed punishment, but which are justified by a goal of preventing crime.

Crime prevention is therefore defined not by its intentions, but by its consequences. These consequences can be defined in at least two ways. One is by the number of **criminal events**; the other is by the number of **criminal offenders** (Hirschi, 1987). Some would also define it by the amount of **harm** prevented (Reiss and Roth, 1993: 59-61) or by the number of **victims** harmed or harmed repeatedly (Farrell, 1995). In asking the Attorney General to report on the effectiveness of crime prevention efforts supported by the Justice Department's Office of Justice Programs, the U.S. Congress has embraced an even broader definition of crime prevention: reduction of **risk factors** for crime (such as gang membership) and increases in **protective factors** (such as completing high school)--concepts that a National Academy of Sciences report has labeled as "primary" prevention (Reiss and Roth, 1993: 150). What all these definitions have in common is their focus on observed effects, and not the "hard" or "soft" content, of a program.

Which definition of crime prevention ultimately dominates public discourse is a critically important factor in Congressional and public understanding of the issues. If the crime prevention debate is framed solely in terms of the **symbolic** labels of punishment versus prevention, policy choices may be made more on the basis of emotional appeal than on solid evidence of effectiveness. By employing the scientific definition of crime prevention as a consequence, this report responds to the Congressional mandate to "employ rigorous and scientifically recognized standards and methodologies."² This report also attempts to broaden the debate to encompass the entire range of policies we can pursue to build a safer society. A rigorously empirical perspective on what works best is defined by the data from research findings, not from ideologically driven assumptions about human nature.

Bringing more data into the debate has already altered public understanding of several other complex issues. The prevention of disease, for example, has gained widespread public understanding of the implications of new research findings, especially those about lifestyle choices (like smoking, diet and exercise) that people can control themselves. The prevention of injury through regulation of automobile manufacturers has increasingly been debated in terms of empirically observed consequences, rather than logically derived theories; the safety of passenger-side airbags, for example, has been debated not just in terms of how they are supposed to work, but also in terms of data on how actual driver practices make airbags increasingly cause the deaths of young children.³ Emotional and ideological overtones of personal freedom and the role of government clearly affect debates about disease and injury prevention, but scientific evidence appears to have gained the upper hand in those debates.

Similarly, the symbolic politics of crime prevention could eventually give way to empirical data in policy debates (Blumstein and Petersilia, 1995). While the emotional and symbolic significance of punishment can never be denied, it can be embedded in a broader framework of crime prevention institutions and programs that allows us to compare value returned for money invested (Greenwood, et al, 1996). Even raising the question of cost-effectiveness could help focus policy-making on empirical consequences, and their implications for making choices among the extensive list of crime prevention efforts.

The value of a broad framework for analyzing crime prevention policies is its focus on the whole forest rather than on each tree. Most debates over crime prevention address one policy at a time. Few debates, either in politics or in criminology, consider the relative value of all prevention programs competing for funding. While scientific evidence may show that two different programs both "work" to prevent crime, one of the programs may be far more cost-effective than another. One may have a stronger **effect**, cutting criminal events by 50% while the other cuts crimes by only 20%. Or one may have a longer **duration**, reducing crimes among younger people whose average remaining lifetime is 50 years, compared to a program treating older people with an average remaining life of twenty years. A fully informed debate about crime prevention policy choices requires performance measures combining duration and strength of program effect. While such accurate measures of "profitability" and "payback" periods are a standard tool in business investment decisions, they have been entirely lacking in crime prevention policy debates.

Yet comparative measurement is not enough. Simply comparing the return on investment of each crime prevention policy to its alternatives can mask another key issue: the possible **interdependency** between policies, or the economic and social conditions required for a specific policy to be effective. Crime prevention policies are not delivered in a vacuum. A Head Start program may fail to prevent crime in a community where children grow up with daily gunfire. A chain gang may have little deterrent effect in a community with 75% unemployment. Marciniak (1994) has already shown that arrest for domestic violence prevents crime in neighborhoods with low unemployment and high marriage rates--but arrest **increases** crime in census tracts with high unemployment and low marriage rates. It may be necessary to mount programs in several institutional settings simultaneously--such as labor markets, families and police--in order to find programs in any one institution to be effective.

One theory is that **the effectiveness of crime prevention in each of the seven institutional settings depends heavily on local conditions in the other institutions**. Put another way, the necessary condition for successful crime prevention practices in one setting is adequate support for the practice in related settings. Schools cannot succeed without supportive families, families cannot succeed without supportive labor markets, labor markets cannot succeed without well-policed safe streets, and police cannot succeed without community participation in the labor market. These and other examples are an extension of the "conditional deterrence" theory in criminology (Tittle and Logan, 1973; Williams and Hawkins, 1986), which claims that legal punishment and its threat can only be effective at preventing crime if reinforced by the informal social controls of other institutions. The conditional nature of legal deterrence may apply to other crime prevention strategies as well. Just as exercise can only work properly on a well-fed body, crime prevention of all kinds may only be effective when the institutional context is strong enough to support it.

Over a century ago, sociologist Emile Durkheim suggested that "it is shame which doubles most punishments, and which increases with them" (Lukes and Scull, 1983, p. 62). More recently, John Braithwaite (1989) has hypothesized the institutional conditions needed to create a capacity for shame in both communities and individuals. He concludes that shame and punishment have been de-coupled in modern society, and suggests various approaches to restoring their historic link. His conclusions can apply to non-criminal sanctions as well, such as school discipline, labor force opportunities, expulsion from social groups and ostracism by neighbors and family. Conversely, it applies to rewards for compliance with the criminal law, such as respectability, trust, and responsibility. The emotional content of winning or losing these social assets is quite strong in settings where crime prevention works, but weak or counterproductive in what social scientists call "oppositional subcultures." Any neighborhood in which going to prison is a mark of prestige (Terry, 1993) is clearly a difficult challenge for any crime prevention practice.

The community context of crime prevention may need a critical mass of institutional support for informally deterring criminal behavior. Without that critical mass, neither families nor schools, labor markets nor places, police nor prisons may succeed in preventing crime. Each of these institutions may be able to achieve marginal success on their own. While most American communities seem to offer sufficient levels of institutional support for crime prevention, serious violence is geographically concentrated in a small number of communities that do not. Lowering national rates of violent crime might require programs that address several institutional settings simultaneously, with a meaningful chance of rising to the threshold of "social capital" (Coleman, 1992) needed to make crime prevention work.

To the extent that this theory focuses resources on the relative handful of areas falling below that threshold, that focus can be justified by its benefits for the wider society. Over half of all homicides in the US occur in just 66 cities, with one-quarter of homicides in only eight cities (FBI, 1994). These murders are concentrated in a small number of neighborhoods within those cities. The public health costs of inner-city violence, by themselves, could provide sufficient justification for suburban investment in inner-city crime prevention. If crime can be substantially prevented or reduced in our most desperate neighborhoods, it can probably be prevented anywhere.

By suggesting that the effectiveness of some crime prevention efforts may depend upon their institutional contexts, we do not present a pessimistic vision of the future. While some might say that no program can work until the "root causes" of crime can be cured, we find no scientific basis for that conclusion--and substantial evidence against it. What this report documents is the potential for something much more precise and useful, based on a more open view of the role of scientific evaluation in crime prevention: a future in which program evaluations carefully measure, and systematically vary, the institutional context of each program. That strategy is essential for a body of scientific knowledge to be developed about the exact connections between institutional context and program effectiveness.

We expect that greater attention to the interdependency of institutions may help us discover how to shape many institutional factors simultaneously to prevent crime--more successfully than we have been able to do so far. The apparent failure of a few efforts to do just does not mean that we should give up our work in that direction. Such failures marked the early stages of

almost all major advances in science, from the invention of the light bulb to the development of the polio vaccine. The fact that our review finds crime prevention successes in all of seven of the institutional settings suggests that even more trial and error could pay off handsomely. Our national investment in research and development for crime prevention to date has been trivial (Reiss and Roth, 1993), especially in relation to the level of public concern about the problem. Attacking the crime problem on many institutional fronts at once should offer more, not fewer, opportunities for success.

Defining crime prevention by results, rather than program intent or content, focuses scientific analysis on three crucial questions:

1. What is the independent effect of each program or practice on a specific measure of crime?
2. What is the comparative return on investment for each program or practice, using a common metric of cost and crimes prevented?
3. What conditions in other institutional settings are required for a crime prevention program or practice to be effective, or which increase or reduce that effectiveness?

The current state of science barely allows us to address the first question; it tells us almost nothing about the second or third. Just framing the questions, however, reveals the potential contribution that federal support for crime prevention evaluations could offer. That potential may depend, in turn, on a clear understanding of the location of every crime prevention practice or program in a broad network of social institutions.

THE INSTITUTIONAL SETTINGS OF CRIME PREVENTION

Crime prevention is a consequence of many institutional forces. Most of them occur naturally, without government funding or intervention. While scholars and policymakers may disagree over the exact causes of crime, there is widespread agreement about a basic conclusion: strong parental attachments to consistently disciplined children (Hirschi, 1995) in watchful and supportive communities (Braithwaite, 1989) are the best vaccine against street crime and violence. Schools, labor markets and marriage may prevent crime, even among those who have committed crime in the past (Sampson and Laub, 1993), when they attract commitment to a conventional life pattern that would be endangered by criminality. Each person's bonds to family, community, school and work create what criminologists call "informal social control," the pressures to conform to the law that have little to do with the threat of punishment. Informal controls threaten something that may be far more fearsome than simply life in prison: shame and disgrace in the eyes of other people you depend upon (Tittle and Logan, 1973).

The best evidence for the preventive power of informal social control may be the millions of unguarded opportunities to prevent crime which are passed up each day (Cohen and Felson, 1979). Given the fact that most crimes never result in arrest (FBI, 1996), the purely statistical odds are in favor of a rational choice to commit any given crime. The question of why even more people do not commit crime is therefore central to criminology, and has driven many theories (Hirschi, 1969; Cohen and Felson, 1979; Gottfredson and Hirschi, 1990). The extent to which law enforcement can affect the perception of those odds is a matter of great debate (Blumstein, Cohen and Nagin, 1978), as is the question of whether even a low risk of punishment is too high for most people. Yet there is widespread agreement that the institutions of family and community are critically important to crime prevention.

That agreement breaks down when the institutions of family and community themselves appear to break down, creating a vacuum of informal social control that government is then invited to fill up (Black, 1976). Whether police, courts and prisons can fill the gap left by weak families and socially marginal communities is a question subject to debate in both politics and social science. But it may be the wrong question to ask, at least initially. The premise of the question is that the breakdown of the basic institutions of crime prevention is inevitable. Yet for over a century, a wide range of programs has attempted to challenge that premise. Entirely new institutions, from public schools to social work to the police themselves (Lane, 1992), have been invented to provide structural support to families and communities. In recent years, the federal government has attempted a wide range of programs to assist those efforts. Rather than simply assuming their failure, it seems wiser to start by taking stock of their efforts.

Settings, Practices and Programs

Crime prevention is a result of everyday practices concentrated in seven institutional settings. A "setting" is a social stage for playing out various roles, such as parent, child, neighbor, employer, teacher, and church leader. There are many ways to define these settings, and their boundaries are necessarily somewhat arbitrary. Yet much of the crime prevention literature fits quite

neatly into seven major institutional settings: 1) communities, 2) families, 3) schools, 4) labor markets, 5) places, 6) police agencies and 7) the other agencies of criminal justice. The definitions of these settings for crime prevention are quite broad, and sometimes they overlap. But as a framework for organizing research findings on crime prevention effectiveness, we find them quite workable.

Crime prevention research examines two basic types of efforts in these seven settings. One type is a "**practice**," defined as an ongoing routine activity that is well established in that setting, even if it is far from universal. Most parents make children come home at night, most schools have established starting times, most stores try to catch shoplifters, most police departments answer 911 emergency calls. Some of these practices have been tested for their effects on crime prevention. Most have not. Some of them (such as police patrols and school teacher salaries) are funded in part by federal programs. Most are not. Regardless of the source of funding, we define a practice as something that may change naturally over time, but which would continue in the absence of specific new government policies to change or restrict them.

A "**program**," in contrast, is a focused effort to change, restrict or create a routine practice in a crime prevention setting. Many, but far from all, programs are federally funded. Churches may adopt programs to discourage parents from spanking children, or letting children watch violent television shows and movies. Universities may adopt programs to escort students from the library to their cars in the hours after midnight. Shopping malls may ban juveniles unescorted by their parents on weekend evenings, and police may initiate programs to enforce long-ignored curfew or truancy laws. In time, some programs may turn into practices, with few people remembering the time before the program was introduced.

Perhaps the clearest distinction between programs and practices is found among those programs requiring additional resources. The disciplinary practices of parents, for example, and the hiring practices of employers are largely independent of tax dollars. But calling battered women to notify them of their assailant's imminent release from prison may be a practice that only a federally funded program can both start and keep going. Even police enforcement of laws against drunk driving, in recent years, seems to depend almost entirely on federally funded overtime money to sustain (Ross, 1994). Whether these federal resources are "required" is of course a matter of local funding decisions. But in many jurisdictions, many practices begun under federal programs might die out in the absence of continued funding.

These distinctions are important to crime prevention for reasons of evidence: newly-funded programs are more likely to be subjected to scientific evaluations than longstanding practices. The modern trend towards demanding accountability for public expenditures has made program evaluations increasingly common, especially for federal programs. Paradoxically, we could know more about potentially marginal new ideas than we do about the mainstream practices of the major crime prevention institutions. Police DARE programs (Drug Abuse Resistance Education), for example, have been subjected to more numerous evaluations (Lindstrom, 1996) than the far more widespread practice of police patrol (Sherman and Weisburd, 1995). Similarly, neighborhood watch programs (Hope, 1995) have been subjected to far more extensive evaluation than the pervasive role of zoning practices in physically separating commercial and residential life in communities, reducing face-to-face contact among the kind of neighbors who used to see each other at the corner grocery store.

The availability of evidence on crime prevention is itself a major issue for the national policy debate. Where expenditures are high but evidence is weak or non-existent, the need for evaluation research is great. Even where expenditures are low, practices or programs that show good reason to conclude that they are causing or preventing crime should merit a high priority for research. In order to identify the key gaps in our knowledge, however, we must start not with the available evidence, but with an inventory of crime prevention practices and programs in each institutional setting. Throughout the report, this inventory guides our review of what works, what doesn't, what's promising, and what we need to know a lot more about.

Chapter 3: Communities

We begin our review with the most broadly defined institutional setting. From small villages to large urban neighborhoods, from suburban developments to urban high rise public housing, both the physical and social structure of communities varies widely. So, too, does their effectiveness in preventing crime through informal social controls. Some communities average more than two jobs per family; others average none. Some communities have more churches than taverns; others have more crack houses than grocery stores. Some have more people on welfare than working; others have more retirees than schoolchildren. Some have more renters than homeowners; others have more adult men who are technically homeless than those who are named on a lease or a deed. In some communities most residents recognize most other residents by name and face; in most of the modern United States, perhaps, even face recognition of most neighbors is extremely rare.

Communities also vary on several stark dimensions. Most of the serious violent juvenile crime in the US is concentrated in a relative handful of communities (OJJDP, 1996). Some communities have homicide rates 20 times higher than the national

average (Sherman, Shaw and Rogan, 1995). In some communities two-thirds of all adults are chronically unemployed (Wilson, 1996: 19). In some communities 90% or more of the population is African-American for miles around, a condition of "hypersegregation" unprecedented in American history (Massey and Denton, 1993). In some communities child abuse is reported among 19% of at-risk children of white parents (Olds, et al, 1986). To a large extent, the entire rationale for the federal politics of crime prevention is driven by the extreme criminogenic conditions of these relatively few communities in the US, areas of concentrated poverty where millions of whites and an estimated 1/3 of all African-Americans reside.

Where a community winds up on these and other dimensions may not only affect its crime prevention practices. There is also substantial evidence that these factors condition the effectiveness of community-based crime prevention **programs** (Hope, 1995), another excellent (but rare) example of interdependency. In study after study, evidence emerges that crime prevention programs are more likely to take root, and more likely to work, in communities that need them the least. Conversely, the evidence shows that communities with the greatest crime problems are also the hardest to reach through innovative program efforts.

Chapter Three reviews this evidence as pointing to the general conclusion that such programs are too weak to make a difference in the underlying structural conditions causing both crime prevention and innovative programs to fail. More heavily concentrated federal efforts to address many community factors simultaneously have, fortunately, suggested somewhat better results against local crime risk factors. And even in the midst of great adversity, there is some evidence that "big brother" and "sister" mentoring programs can help reduce drug abuse and other risk factors for crime--perhaps showing how much a community benefits by having strong families that provide their own mentoring, also known as parenting.

Chapter 4: Families

Perhaps the most basic structural feature of any community is the condition of its families. Basic family practices in child-rearing, marriage, and parental employment appear to matter enormously in the criminality of both children and fathers (Hirschi, 1995; Sampson, 1986). The failure of many parents to marry has been the target of many programs for preventing extramarital pregnancy, especially among teenagers. The failure of many parents to provide consistent affection and discipline to children has been the target of other programs, from parent training to home visitation and consultation by nurses and other helpers. As Chapter Four shows, some of these programs are quite promising, with very encouraging evaluation results. Whether these programs, by themselves, can overcome the effects of surrounding a family with a high-crime community is unclear.

It is also unclear whether we have found the right programs for combatting domestic violence, arguably a major risk factor for crime found in the family setting. Most of these programs are delivered to families by the criminal justice system. These programs unfortunately fail to reach the many families whose violence goes unreported to police. For the families the programs do reach, the scientific evidence is either discouraging or inadequate. Here again, the crime prevention programs seem to work best for the families in the strongest communities. Criminal justice programs may be least effective in the communities where family violence is most prevalent.

The major exception to this pattern is the use of battered women's shelters, an important emergency service at high-risk times for family violence. While shelters also lack clear evaluations showing crime prevention benefits, police data show the highest risk of such violence to lie in the immediate aftermath of the last domestic assault. Protecting women, and often their children, in that short time frame may well reduce total injuries from domestic violence, even if shelters cannot solve the underlying family violence. Yet even shelters are relatively less available in the poorest communities, compared to communities of greater social and financial resources.

Chapter 5: Schools

The most direct link between families and communities is presently found in schools. Measured purely by the amount of available time to reduce risk factors for crime, schools have more opportunity to accomplish that objective than any other agency of government. Succeeding at their basic job of teaching children to read, write and compute may be the most important crime prevention practice schools can offer. But too many schools are overwhelmed by a criminogenic community context, crippled by the lack of parental support for learning and the breakdown of order in the classrooms (Toby, 1982). While some schools succeed at teaching basic skills despite these challenges, the odds appear to be against it.

The most intensively studied crime prevention programs in schools, however, are unrelated to academic learning. More common are the efforts to use schools to reduce non-academic crime risk factors, including drug abuse and aggression. As Chapter Five demonstrates, the extensive record of scientifically evaluated prevention programs provides some guidance about which programs are most effective or promising. The evidence shows that school-based programs aimed at increasing resilience, for

example, by teaching students "thinking skills" necessary for social adaptation, work to reduce substance use and are promising for reducing delinquency. Programs that focus not on individual students, but instead on school organizations, also work. Programs that simply clarify norms about expected behavior work. As in other settings, the success of school programs and practices is largely dependent on the school's capacity to initiate and sustain innovative programs. Schools situated in crime-ridden, disorganized communities are less likely to have the infrastructure necessary to support prevention programs, and are more likely to fail. That failure is usually more pronounced in communities with the weakest labor market demand for adult workers.

Chapter 6: Labor Markets

There is a long history of attempting to prevent the onset or persistence of criminality by pulling young people into the labor market for legitimate work (Cloward and Ohlin, 1960). Theoretical and empirical support for the crime preventive value of employment is generally quite strong in the longitudinal analysis of individual criminal careers (Sampson and Laub, 1993; but see Shannon, 1982, and Gottfredson, 1985). It is also found in experimental studies of the effects of criminal sanctions, which can deter offenders who are employed but backfire on offenders who are unemployed (Sherman, 1992). Macro-level data on the short-term effects of changes in the unemployment rate on crime are more mixed (Freeman, 1983, 1995), but the staggeringly high unemployment rates in our highest-crime communities are beyond dispute (Wilson, 1996).

Programs aimed at linking labor markets more closely to high crime risk neighborhoods and individuals could have substantial crime prevention benefits. As Chapter Six shows, however, only Job Corps programs have demonstrated success at enhancing the employment experience of severely unemployable persons, and even that evidence is scientifically weak. No program has yet shown success in tackling the unemployment rates of high crime neighborhoods. Yet of all the dimensions of neighborhood life, this one may have the most pervasive influence on crime. Neighborhoods where work is the exception rather than the rule may lack the discipline necessary for conventional life styles (Wilson, 1996). Marriage and two-parent family life deeply declines with the loss of labor markets for adult males, making men unnecessary as economic partners and husbands. If inner city communities of concentrated poverty are to be reclaimed as crime prevention institutions, reviving their local labor markets may be the most logical place to start. As jobs increasingly migrate to far suburbs beyond the reach of public transit, inner city workers with no cars may depend even more on recent innovative programs to link them to suburban labor markets.

Inner city employment may face an even tougher problem than geography, however. As employers become increasingly sensitive to concerns about potential theft and violence by their employees, they have won increasing access to measures of the criminality of prospective and current workers. One measure is official records of criminal convictions, which are more readily available now than at any previous time in US history (SEARCH Group, 1996). Another measure is drug testing in the workplace, which many employers require as a condition of employment. Both measures could either bar a worker from being hired or lead to their being fired. Extensive police crackdowns of recent years have given millions of young men criminal records for minor offenses (Blumstein, 1993; Tonry, 1995), limiting their employment prospects and perhaps increasing their likelihood of further and more serious criminality.

Yet labor markets may be most powerful in preventing crime precisely because they respond negatively to criminal histories. While employment may give would-be offenders a stake in society, its crime preventive value may hinge on the threat of losing that stake. Maintaining that threat without creating a large group of unemployable outcasts is a major crime prevention challenge for the future of our labor market practices.

Chapter 7: Places

One of the most recently discovered "institutions" in American life is the "place" (Anderson, 1978; Oldenburg, 1990). From donut shops to taverns to street corners and hotels, there is a pattern of social organization uniquely constructed around very small locations that are usually visible to the unaided human eye. These places vary enormously in their populations, core functions and activities, crime rates and criminogenic risk factors like drugs and guns. Some places are so crime prone that they are labeled "hot spots" of crime (Sherman, Gartin and Buerger, 1989), among the 3% of addresses which produce 50% of reported crimes.

Regardless of whether these places cause crimes or merely act as "receptors" for them, the prevention of crime in places may have substantial effects at reducing total crime in the community. Even in high crime neighborhoods, most places are crime-free for years at a time (Pierce, Spaar and Briggs, 1988). The frequent recurrence of crimes in just a handful of locations makes the prevention of crime in such "hot spots" all the more important.

Security guards, cameras, alarm systems, safes and fences have all proliferated in the latter twentieth century, making private

expenditures on crime prevention rival public spending. Whether these practices succeed in preventing crime is generally impossible to determine from the available research, given its limitations. Even where they do succeed at preventing crime in target places, it is unclear whether the total number of criminal events in society is reduced or merely displaced to other locations (Barr and Pease, 1990). But as the evidence reviewed in Chapter Seven shows, the control of criminogenic commodities like alcohol, cash and firearms (Cook and Moore, 1995) can make a great deal of difference in the rate of crime in limited access locations like airports and transit systems. Such strategies may even overcome the influence of surrounding high crime communities.

Our capacity to make a limited number of places into safe havens from crime may also form a paradox: the safer we make places for more advantaged people, the less public investment there may be in making less advantaged communities safe (Reiss, 1989). The use of metal detectors to create of gun-free zones has become a prized luxury, reserved for presidents and judges, airplane passengers and (more democratically) some school children. But it may also have reduced policymakers' concern about gun crime in the streets, especially the streets of poverty areas. People spending more money on private security may wish to spend less for public safety. While communities may be better off without their worst hot spots of crime, they cannot be made safe by place-based strategies alone. To the extent that crime prevention in places depletes efforts in other institutional settings, safe places in a dangerous community may be ultimately self-defeating. It is hard to imagine a democracy as a fortress society.

Chapter 8: Policing

The crime prevention effects of policing may pose the widest gap between academic and political opinion. While public opinion polls show consensus that police prevent crime, criminologists widely challenge that view. Citing a single, scientifically weak evaluation of police patrol presence (Kelling, et al, 1974), many criminologists generalize that variations in police practice or numbers can make little difference in crime (Gottfredson and Hirschi, 1990; Felson, 1994). This conclusion ignores a vast array of contrary evidence.

As Chapter Eight shows, there are many police practices that reduce crime, and some that even increase crime. The strength of police effects on crime is generally moderate rather than substantial, unless police presence drops to zero when patrols go on strike--at which point all hell breaks loose. The converse of that observation could be that massive increases of police presence focused in a small number of high crime communities have a major effect at preventing crime. While such concentrations have never been attempted for sustained periods of time, it is possible that a focused crime prevention strategy could rely heavily on police presence to regain a threshold level of public order and safety. Once beyond this threshold, the effectiveness of family, community, schools and the labor force could be substantially increased.

Community policing programs offer one opportunity to increase police presence in the highest crime communities. Like police resources generally, the 1994 Crime Act puts a large portion of its 100,000 police where the people are, but not where the crime is. The scientific evidence increasingly suggests the effectiveness of much greater concentration of federal funding in the neighborhoods which need police the most. While such policies would fly in the face of distributional politics (Biden, 1994), they are strongly implied (although not proven) by studies of police effects on crime in low and high crime areas. The Federal funding of police overtime could also be more effective if available funds were channeled to the small number of neighborhoods generating most of the handgun homicide in the nation.

Yet research also shows that police presence can backfire if it is provided in a disrespectful manner. Rude or hostile treatment of citizens, especially juveniles, can provoke angry reactions that increase the risk of future offending (Tyler, 1991). Flooding high crime communities with aggressive police could backfire terribly, causing more crime than it prevents, as it has in repeated race riots over the past quarter century. The challenge is to develop programs that make policing simultaneously more focused in **what** they do to prevent crime and more polite in **how** they do it.

Chapter 9: Criminal Justice

The full list of crime prevention practices and programs in criminal justice is very long indeed. We relegate them to a single chapter in an attempt to focus more attention on how such punishment programs compare to non-punitive prevention practices. Recent reviews conclude there is very little evidence that increased incarceration has reduced crime (Reiss and Roth, 1993). Yet variations in how the criminal justice system treats admitted offenders can make a great deal of difference. The evidence reviewed in Chapter Nine finds encouraging support for more correctional use of drug treatment programs, rehabilitation programs in prison, and institutionalization of some juvenile offenders rather than community-based supervision.

The effectiveness of any correctional treatment, however, may depend upon the community, family, and labor market context into which the offender returns home. In a very important sense, correctional programs compete with the same home conditions

that led the offender into correctional hands in the first place. Making corrections work, at least with the offenders it treats, may require the same changes of institutional context needed to make programs and practices in other settings more effective.

Chapter 10: Justice Department Funding for Local Crime Prevention Programs

It is important for the U.S. Congress to assess its own funding of local crime prevention programs in the context of these seven institutional settings for attempting--and sometimes achieving--crime prevention results. It may be even more important to understand the relationship among the seven settings, and the extent to which conditions in one affect conditions or results in another. Chapter Ten synthesizes the major findings from each institutional setting to draw broad conclusions about the effectiveness of DOJ local assistance programs. But many of the local programs and practices these funds support have never been evaluated with enough scientific rigor to draw conclusions based on direct evidence about their effects on crime. Chapter Ten therefore concludes with analysis and recommendations concerning the structure of program evaluation for local assistance funding, suggesting how to better achieve the longstanding Congressional mandate to evaluate.

Evaluating crime prevention is at best a delicate enterprise. Policymakers often think, incorrectly, that an evaluation is like an "audit" or trial in which the results are usually clear cut and definitive. Either the funds were spent or they weren't; either the program served its intended beneficiaries at a reasonable cost per client or it didn't. Such "audit" questions are much easier to answer than the "evaluation" questions of cause and effect, often stretching out over a lifetime of the targets of crime prevention efforts. The next section introduces some of the complications in drawing such conclusions scientifically. Chapter ten returns to those issues in terms of their implications for future evaluation policies for OJP funding. Rather than spending a little evaluation money on most programs in an "audit" model, the Congress would receive more return on investment by concentrating evaluation dollars on a few major examples of key programs in a field testing model.

MEASURING CRIME PREVENTION EFFECTIVENESS

A recent review of the crime prevention evaluation literature by two prominent English criminologists concluded the field was "dominated by....self-serving unpublished and semi-published work that does not meet even the most elementary criteria of evaluative probity (Ekblom and Pease, 1995:585-6). What they meant by "evaluative probity" was fairly basic to any inference of cause and effect. Measures of crime, for example, are very often missing from publicly funded crime prevention "evaluations," which simply describe how the program worked and whether it achieved its administrative objectives: services provided, activities completed. Despite the recent emphasis at reinventing government to focus on **results**, most crime prevention evaluations still appear to focus on **efforts**.

Crime Prevention and Other Worthy Goals

Many if not most government programs, of course, have multiple objectives. Even those which evaluations show ineffective at preventing crime may accomplish other worthy goals, such as justice and equality under the law. That is a very important consideration for policy analysis, one that deserves careful treatment. This report does not explicitly examine program effects in accomplishing other goals beyond those specified in the legislation: crime, especially youth violence, risk factors and (their converse) protective factors. That does not mean other goals are unimportant. Consideration of those other goals can be entirely appropriate in other contexts, and can be examined by scientific program evaluations. This report omits them necessarily in order to conserve resources for answering the specific question the Congress asked.

Whether the focus of an evaluation is on crime prevention or other goals, the distinction between descriptive and impact evaluations remains crucial. Training police on domestic violence issues, for example, may not directly reduce domestic violence. But descriptive evaluations reporting how many police were trained for how many hours are also unable to show whether other goals were accomplished. Causing police to treat domestic violence victims more politely, to provide more victim assistance, or to gather better evidence at the scene could all be important objectives of police training. Controlled experiments could show whether training accomplishes those important goals. Absent a strong scientific approach to program evaluation, however, descriptive evaluations of efforts say little about results for other goals besides crime prevention.

Classifying the Strength of Scientific Evidence

Even where evaluations attempt to measure crime prevention, they often lack the basic scientific elements needed for inferring cause and effect. While they may report lower crime rates among people who were served by a program than those who were not, the evaluations often fail to say which came first, the program or the crime rates. If crime prevention programs simply attract lower crime rate people, they cannot be said to cause those lower crime rates. Other evaluations include a temporal sequence, reporting that crime dropped after a program was introduced, for example. But there may be many other reasons why

crime went down besides the program. While comparison or "control" groups can be used to help eliminate those other possibilities, many evaluations fail to use them. Even when they are used, the comparison groups chosen are often too unlike the target groups given the program, so that the comparison does not plausibly show what would have happened without the program. Only a random selection of equally eligible program targets can conclusively eliminate alternative theories about the effects of a crime prevention program.

Thus we must confront a body of research in which the strength of the **evidence** varies as much as the strength of the crime prevention program **effects** reported in the research. Making sense of this evidence requires some scale for rating the strength of each study. While our analysis employs more complicated classifications (see Appendix 1), there are three basic elements we consider:

- 1) reliable and statistically powerful measures and correlations (including adequate sample sizes and response rates),
- 2) temporal ordering of the hypothesized cause and effect--so that the program "cause" comes before the crime prevention "effect," and
- 3) valid comparison groups or other methods to eliminate other explanations, such as "the crime rate would have dropped anyway."

The first element without the others arguably constitutes "weak" evidence, the first and second without the third comprise "moderate" evidence, and all three together define "strong" evidence. This standard sets aside the question of replication of results in repeated studies, since it is generally so rare in federal program evaluations. Such replicated results are "very strong" evidence compared to most program evaluations.

A SCALE OF EVIDENTIARY STRENGTH FOR CAUSE AND EFFECT

	Weak	Moderate	Strong
1. Reliable, powerful correlation test	x		
2. Temporal ordering of cause and effect		x	
3. Elimination of Major Rival Hypotheses			x

Our analysis employs a "methodological rigor" rating based on a scale adapted from one used in a recent national study of the effectiveness of substance abuse prevention efforts (Center for Substance Abuse Prevention, 1995). Using this **scientific methods scale**, we rate seven different dimensions of the methods used in each study. The overall rating is based primarily on these three factors:

o **the study's ability to control extraneous variables** (i.e., to eliminate major rival hypotheses, accomplished through random assignment to conditions, matching treatment and comparison groups carefully, or statistically controlling for extraneous variables **the minimization of measurement error**

o **the statistical power** to detect meaningful differences (e.g., the power of a test to detect a true difference. The smaller the anticipated effects of prevention, the larger the sample size must be in order to detect a true difference.)

Other considerations contributing to the overall rating of methodological rigor are the **response rate**, **attrition** of cases from the study, and the use of appropriate **statistical tests**. An appendix to this report describes the methodology rating in more detail and shows the coding sheet used to rate studies.

Using this scale, each eligible study examined for this report was given a "scientific methods score" of 1 to 5, with 5 being the strongest scientific evidence.⁴ While there are some minor variations in how the authors of Chapters Three through Nine apply the basic scientific methods criteria in making coding decisions, the criteria are standardized within each chapter and highly similar across chapters. In order to reach level 3, a study had to employ some kind of control or comparison group to test and refute the rival theory that crime would have had the same trend without the crime prevention program;⁵ it also had to attempt to control for obvious differences between the groups, and attend to quality of measurement and to attrition issues. If that comparison was to a more than a small number of matched or almost randomized cases, the study was given a score of "4".⁶ If the comparison was to a large number of comparable units selected at random to receive the program or not, the study was scored as a "5", the highest possible level; random assignment offers the most effective means available of eliminating competing explanations for whatever outcome is observed. Most of the tables summarizing evaluation research in the next seven

chapters display these scientific methods scores right next to the reference to the study.

The scientific issues for inferring cause and effect vary somewhat by institutional setting, and the specific criteria for applying the scientific methods scale vary accordingly. Issues such as sample "attrition," or subjects dropping out of treatment or measurement, for example, do not apply to most evaluations of commercial security practices. But across all settings, our scientific methods scale does include these core criteria:

1. Correlation between a crime prevention program and a measure of crime or crime risk factors
2. Temporal sequence between the program and the crime or risk outcome clearly observed, or a comparison group present without demonstrated comparability to the treatment group
3. A comparison between two or more units of analysis, one with and one without the program ⁷
4. Comparison between multiple units with and without the program, controlling for other factors, or a nonequivalent comparison group has only minor differences evident
5. Random assignment and analysis of comparable units to program and comparison groups

In addition, the use of statistical significance tests is employed as a key criterion in reaching program effectiveness conclusions based on the application of the scores.

The report does not code scientific methods scores on evaluations of every program or practice considered. On many questions, recent literature reviews and meta-analyses by qualified scholars were readily available. The Office of Juvenile Justice and Delinquency Prevention, in particular, was very helpful in providing the draft report of its own group of independent scholars examining the problems of serious, chronic and violent juvenile offenders (Loeber and Farrington, forthcoming). The report uses two alternate procedures in relying on extant secondary reviews and meta-analyses. One is to use data presented in the reviews to score the key original research. The other is not to use any scoring, but merely to summarize the conclusions of the secondary review.

Risk and Protective Factors. The Congressional mandate for this report included risk and protective factors for crime and delinquency as outcome measures to be considered. Different approaches to the interpretation of these terms are offered in the literature. This report defines them as inversely related: the lower the level of a risk factor, the higher the level of a protective factor. For example, community labor force participation is a risk factor where it is low and a protective factor where it is high. To the extent that factors such as a secure personality or strong bonding to adults may be considered protective against independent risk factors (such as neighborhood unemployment), those protective factors can also be treated as risk factors when they are absent.

Deciding What Works

Clear conclusions about what works and what doesn't requires a high level of confidence in the research results. Such claims are always suspect in science, which is an eternally provisional enterprise. New research results continue to fill in the gaps of our knowledge, and reanalysis of old results in light of the new findings often produces different conclusions. The best one can ever claim to "know" is what to conclude on the available evidence, pending the results of further research. Given the consequences of claim about "what works" can have major effects on crime prevention practice, it is important to use a high threshold for the strength of scientific evidence at any point in time.

The current state of the evidence, however, creates a dilemma in responding to the Congressional mandate. Using level 5 studies as the "gold standard" of evaluation design, the scientific methods scores for most of the available evaluations are low. The recommendations in Chapter 10 are designed to raise the methods scores of future evaluations of DOJ programs. The dilemma the current evidence poses is the question of how high to set the threshold for answering the Congressional question about program effectiveness: deciding what works. A very conservative approach might require at least two level 5 studies showing that a program is effective (or ineffective), with the preponderance of the evidence in favor of the same conclusion. Employing a threshold that high, however, would leave very little to be based upon from the existing science. There is a clear tradeoff between the level of **certainty** in the answers we can give to the Congress and the level of useful **information** that can be gleaned from the available science. On balance, excluding what can be said from moderately rigorous studies would waste a great deal of information that could be useful for policymaking. The report takes the middle road between reaching very few conclusions with great certainty and reaching very many conclusions with very little certainty.

Based on the scientific strength and substantive findings of the available evaluations, the report classifies all local programs into one of four categories: what works, what doesn't, what's promising, and what's unknown. The criteria for classification applied across all seven institutional settings are as follows:

What Works. These are programs that we are reasonably certain of preventing crime or reducing risk factors for crime in the kinds of social contexts in which they have been evaluated, and for which the findings should be **generalizable** to similar settings in other places and times. Programs coded as "working" by this definition must have at least two level 3 evaluations with statistical significance tests showing effectiveness **and** the preponderance of all available evidence supporting the same conclusion. Where the strength of the effect on crime is available in terms of standard deviations from the mean level of crime or risk, the effect size (Cohen, 1977) in both level 3 studies must exceed .1.

What Doesn't Work. These are programs that we are reasonably certain **fail** to prevent crime or reduce risk factors for crime in the kinds of social contexts in which they have been evaluated, and for which the findings should be **generalizable** to similar settings in other places and times. Programs coded as "not working" by this definition must have at least two level 3 evaluations with statistical significance tests showing ineffectiveness **and** the preponderance of all available evidence supporting the same conclusion. The effect size standard for coding what works is also applied where available, which in the current report is limited to the school-based prevention programs.

What's Promising. These are programs for which the level of certainty from available evidence is too low to support **generalizable** conclusions, but for which there is some empirical basis for predicting that further research could support such conclusions. Programs are coded as "promising" if they have at least one level 3 evaluation with significance tests showing their effectiveness at preventing crime or reducing crime risk factors, **and** the preponderance of all available evidence supports the same conclusion.

What's Unknown. Any program not coded in one of the three other categories is defined as having unknown effects. The report lists some but not all such programs. This category includes major variations on program content, social setting, and other conditions which limit the generalizability even of programs coded as working or not. For example, it is unknown whether family training interventions repeatedly found effective in Oregon can work on the south side of Chicago.

The weakest aspect of this classification system is that there is no standard means for determining exactly what variations on program content and setting might affect generalizability. In the current state of science, that can only be accomplished by the accumulation of many tests in many settings with all major variations on the program theme. None of the programs reviewed for this report have accumulated such a body of knowledge so far. The conclusions about what works and what doesn't should therefore be read as more certain to the extent that the conditions of the field tests can be replicated in other settings. The greater the differences between evaluated programs and other programs using the same name, the less certain or generalizable the conclusions of this report must be.

What Works and Policy Conclusions

The uses of this report for policy conclusions require two additional cautions. One is that program evaluations alone are clearly insufficient as a basis for making policy. Other goals programs may achieve besides crime prevention need also to be examined. So must issues of relative cost-effectiveness that this report is unable to address. The current state of science cannot support detailed analyses of where crime prevention dollars can achieve the largest return on investment.

A second caution is that programs with unknown effects should not be judged deficient. A basic tenet of science is that the absence of evidence is not evidence of absence--of a cause and effect relationship. Merely because a program has not been evaluated properly does not mean that it is failing to achieve its goals. Previous reviews of crime prevention programs, especially in prison rehabilitation, have made that error, with devastating consequences for further funding of those efforts. In addressing the unevaluated programs, we must blame the lack of documented effectiveness squarely on the evaluation process, and not on the programs themselves. Our analysis must also address programs for which there is little or weak evidence.

Given the risk of unevaluated programs being labeled ineffective, we attempt where possible to use indirect empirical evidence or theoretical analysis to provide some scientifically based assessment. For example, battered women's shelters have not been evaluated, but substantial epidemiological evidence shows that they protect women at a very high risk time for domestic violence. Thus indirect evidence suggests they should be effective at reducing domestic violence, even though the specific hypothesis remains untested. Such commentary beyond the scope of program evaluations seems, on balance, to be a reasonable attempt to fulfill the Congressional mandate for this report.

FEDERAL GUIDANCE VERSUS FEDERAL FUNDING

A recent analysis of police organizations concluded that "research and development is the core technology of policing" (Reiss, 1992). For police officers accustomed to thinking of guns, cars or even computers as their core technology, this statement may be quite surprising. Just as R & D is the core technology of both medicine and computer software manufacturing, however, so it is for crime prevention. This is no more true in policing than in the six other institutions. And for the federal government to leverage its scarce dollars in crime prevention, Professor Reiss's dictum may be truest of all.

The claim that R & D is a core technology for crime prevention provides a useful framework for considering the history of the federal government's role in state and local crime. That history can be seen as a struggle between **guiding** and **funding** local crime prevention, between an emphasis on R & D and an emphasis on program funding. The two are not necessarily exclusive, and can even be complementary to the extent that R & D becomes the basis for more effective use of program funding. That appears to be the premise of the Congressional mandate for this report. But any consideration of federal programs for local crime prevention must begin by noting the two separate, and clearly unequal, responsibilities Congress has assigned to the U.S. Department of Justice.

Historically, crime prevention R & D preceded local funding, and persisted during the decade in which funding was largely abolished. The following time line summarizes the two functions:

Program Funding				-----		-----	
Research & Development	-----			-----		-----	
Years	1950s	1960	1965	1969	1980	1988	1996

Prior to World War Two, the federal role in local crime prevention was limited to investigation and prosecution of federal crimes, such as bank robbery. During the Eisenhower Administration, growing concern over juvenile delinquency led to research within the Department of Health, Education and Welfare (HEW) Office of Children and Youth. These programs were expanded in the early Kennedy-Johnson administration, especially within the National Institute for Mental Health, which joined the Ford Foundation as a major source of funding for research on youth crime. (Ford and other foundations largely withdrew from the crime problem after the massive increases in federal funding in the 1970s). Many of the ideas emerging from that research, especially about community development, were to become key elements in the Johnson administration's War on Poverty.

In 1965, the federal role in local crime prevention moved beyond research into program development, and from HEW into the Department of Justice (DOJ). In the process, the federal role evolved into a practical emphasis on providing **guidance** to local authorities about preventing crime. The creation of the Office of Law Enforcement Assistance within DOJ led to grants supporting new ideas, such as the Family Crisis Intervention Unit. Developed as a partnership between the City University of New York and the New York City Police Department under an OLEA grant (Bard, 1970), this project became the first clear example of federal guidance, with these elements:

- o a locally-initiated innovative idea for a crime prevention program
- o federal funds to support a demonstration of the program in one location
- o federal funds to support an evaluation of the program in one location
- o federal funds to disseminate the results of the program nationwide

The success of the approach was dramatic. Within a few years after DOJ funded the demonstration in New York, hundreds of police agencies around the country had adopted a similar approach. The capacity of the federal government to help incubate a new idea and then distribute it to the nation was clear.

What was less clear was the capacity of the federal government to insure high scientific standards of program evaluation (Liebman and Schwarz, 1973). Using the scale of scientific methods employed in this report, the evaluation of the New York City project would have ranked a zero. While the program sought to reduce domestic violence, the evaluation contained no measurement of that crime problem, relying only on general crime statistics. There was no comparison of cases that were or were not assigned to the Family Crisis Intervention Unit, and no basis for determining its effectiveness. Yet when both the evaluation and the DOJ pronounced the program a success, the combined authority of science and the federal government led to widespread replication of the program using local tax dollars.

In the past three decades, the federal capacity to produce rigorous evaluation research has increased substantially. The federal role has helped the entire field of criminology to grow in both the numbers and the experience of trained evaluation scientists; the number of doctoral programs in the field has also increased ten fold. The field itself has a much stronger body of knowledge about scientific issues in program evaluation, notably statistical power. The analysis presented in Chapter Ten suggests that the major limitations on better crime prevention evaluations today are not technical, but statutory. There is a clear need for a statutory plan specifying both the resources and the structure of the federal role in crime prevention R & D. In the absence of such a plan, a great deal of federal funds will be spent without any opportunity to measure their effectiveness at preventing crime.

Most of those funds will be spent on program funding for crime prevention, which have come, gone and returned to the federal role in local crime prevention. At the peak of the violent crime epidemic of the late 1960s, the idea of federal financing of local police and corrections had enormous bipartisan appeal. The Omnibus Crime Control and Safe Streets Act of 1968 was signed by President Johnson, and then implemented by President Nixon at a cost of almost \$1 Billion per year. The 1968 law increased the federal R & D role by creating what became the present National Institute of Justice, Bureau of Justice Statistics, and the Office of Juvenile Justice and Delinquency Prevention as part of the new Law Enforcement Assistance Administration (LEAA) in DOJ. But most of the billion was transferred back to the states, through each Governor's Office, for spending on a wide range of unevaluated programs. Some of the state expenditures, like tanks for rural police agencies, became so notorious that LEAA was ultimately abolished by Congress at the end of the Carter administration.

Operational program funding slowly returned to the federal role during the Bush administration, as part of the national war on drugs prompted partly by crack cocaine epidemics in several cities. Despite the urging of almost 40 big city police chiefs that Congress set aside even 10% of the drug war funding for federal R & D, the return of program funding contained no plan for evaluating its effectiveness. Just as in the 1960s design of the LEAA, Congress provided no statutory plan for developing usable knowledge from state and local programs funded by federal dollars. Sound evaluations, and the costs associated with them, remained the exception, not the rule. The Crime Bill of 1994 vastly increased program funding to historic highs, but provided almost no statutory language for measuring the effectiveness of the programs funded.

Discretionary reallocations of the 1994 funds by the Assistant Attorney General for Justice Programs have breathed new life into the R & D role, putting resources for measuring effectiveness to a new high level. The National Institute of Justice, for example, was only appropriated \$31 million in fiscal year (FY) 1996, but actually expended \$99 million. The additional funds came from allowable transfers of programmatic funds. In the short run, these reallocations seem likely to increase the scientific evidence available for assessing the effectiveness of crime prevention programs; even a year from now, for example, a report like this one should have many new findings from rigorous research. But in the long run, the role of R & D will remain marginal to the federal role without a statutory plan for insuring its centrality.

The key issue for such a plan is the relationship between guiding and funding crime prevention. The two can proceed on largely separate paths, much as they have in the past. The result of that approach is an enormous opportunity cost, a lost chance to learn what works, what doesn't, and what's promising. By tying R & D more closely to program funding, the Congress can leverage taxpayer dollars to guide local crime prevention as well as supplement its funding. The record suggests that, dollar for dollar, the small federal investment in R & D has had far more effect on local crime prevention than the large federal investment in program funding (Blumstein and Petersilia, 1995). Program funding provides a tiny fraction of the financial capital invested in crime prevention. Research and development, in contrast, provides a very large fraction of the intellectual capital invested in local crime prevention. Program funding can be far more productive if it serves to enhance R & D.

Using program funding to enhance R & D is unlikely to happen without a Congressional mandate. No program can be properly evaluated as an afterthought. In contrast to a financial audit, a scientific evaluation requires data collection in advance of the program startup date. It also requires an element of control by the evaluators in how the program is delivered, in order to provide a valid evidence about cause and effect. While not all locations adopting a program need to be evaluated in this way, there must be at least a few "laboratory" locations in which controlled testing of crime prevention effects becomes scientifically feasible. Under current statutory funding arrangements, however, Congress imposes little requirement on funded programs to cooperate with evaluations, and little requirement on federal agencies to set aside program funds to support scientifically adequate evaluations.

This historical context sets the stage for the Congressionally-mandated review of program effectiveness. It reveals several key points to recall in reviewing the following chapters:

- 1) The vast majority scientific knowledge on the effectiveness of federal programs is itself the product of federal investment,

primarily through DOJ; such knowledge is too costly to come from state and local tax dollars

- 2) The short supply of available knowledge is a direct reflection of federal under- investment in crime prevention R & D.
- 3) Federal program funding puts the cart before the horse, then fail to even harness the horse. Crime prevention programs are funded nationwide before they are evaluated, and then are funded in ways that make sound evaluation almost impossible to achieve.

This report is thus a scientific assessment of both federal crime prevention programs and federal policy for evaluating those programs. Defining crime prevention as a result rather than an intention, the report maps out the charted and uncharted territory of crime prevention knowledge in each of its seven institutional settings. It distinguishes between strong and weak evidence for each part of that map, most of which is unfortunately far too weak. It then locates federal crime prevention programs on that map, many of which fall in uncharted territory. It concludes with an assessment of the federal role in improving that map, and a cost-effective plan for speeding up the rate of discovery.

NOTES

¹Some developmental criminologists distinguish factors and programs that help stop people from ever becoming offenders from those which help prevent further offenses after a first offense (e.g., Tremblay and Craig, 1995). Given the difficulty in detecting offenses hidden from the criminal justice system, however, this distinction is made primarily for purposes of program operation, and not for conceptual purposes.

²104th Congress, H.R. Report 104-378, December 1, 1995, Section 116.

³And as the policy debate relies increasingly on data, the importance of the scientific strength of the evidence becomes more visible. Asra Q. Nomani and Jeffrey Taylor, "Shaky Statistics Are Driving the Airbag Debate" WALL STREET JOURNAL January 22, 1997, p. B1.

⁴The scores are based on direct examination of studies subjected to primary review (see Appendix). For studies summarized from secondary reviews, the scores are inferred from descriptions of research designs provided in the secondary reviews.

⁵This criterion was employed by all chapters except for Chapter Seven, in which long time series analyses absent control groups were coded as level 3.

⁶Chapter Five rates some studies as level four even without a large number of units in the comparison group.

⁷Chapter Five also requires that differences between treatment and control are known and partially controlled, while Chapter Seven substitutes long time series for control groups.

REFERENCES

Anderson, Elijah

1978 *A Place on the Corner*. Chicago: University of Chicago Press.

Bard, Morton

1970 *Training Police As Specialists in Family Crisis Intervention*. Washington, DC: US Department of Justice.

Barr, R. and Ken Pease

1990 *Crime Placement, Displacement, and Deflection*. In Michael Tonry and Norval Morris, eds. *Crime and Justice: A Review*

of Research. Vol. 12. Chicago: University of Chicago Press.

Black, Donald

1976 *The Behavior of Law*. NY Academic.

Blumstein, Alfred and Joan Petersilia

1995 *Investing in Criminal Justice Research*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Blumstein, Alfred, Cohen, Jacqueline, and Daniel Nagin (eds).

1978 *Deterrence and Incapacitation: Estimating The Effects of Criminal Sanctions on Crime Rates*. Washington, DC: National Academy of Sciences.

Blumstein, Alfred

1993 *Making Rationality Relevant*. *Criminology* 31: 1-16.

Braithwaite, John

1989 *Crime, Shame and Reintegration*. Cambridge: Cambridge University Press.

Butterfield, Fox

1995 *All God's Children*.

Cloward, Richard and Lloyd Ohlin

1960 *Delinquency and Opportunity*. Glencoe, Ill: Free Press.

Cohen, J.

1977 *Statistical Power for the Behavioral Sciences*. NY: Academic.

Cohen, Lawrence and Marcus Felson

1979 *Social Change and Crime Rate Trends: A Routine Activities Approach*. *American Sociological Review* 44: 588-607.

Coleman, James S.

1990 *Foundations of Social Theory*. Cambridge: Harvard University Press.

Cook, Philip J. and Mark H. Moore

1995 *Gun Control*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Center for Substance Abuse Prevention

1995 *The National Structured Evaluation of Alcohol and Other Drug Abuse Prevention*. Washington, DC: US Department of Health and Human Services.

Ekblom, Paul and Ken Pease

1995 *Evaluating Crime Prevention*. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

Farrell, Graham

1995 Preventing Repeat Victimization. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

FBI

1994 *Crime in the United States, 1993*. Washington, DC:

1996 *Crime in the United States, 1995*. Washington, DC:

Felson, Marcus

1994 *Crime in Everyday Life*. Thousand Oaks, CA: Pine Forge Press.

Freeman, Richard B.

1983 *Crime and Unemployment*. In James Q. Wilson, Ed. *Crime*. San Francisco: ICS Press.

1995 *The Labor Market*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Gottfredson, D.C.

1985 Youth Employment, Crime, and Schooling: A Longitudinal Study of a National Sample. *DEVELOPMENTAL PSYCHOLOGY* 21: 419-432.

Gottfredson, Michael and Travis Hirschi

1990 *A General Theory of Crime*. Stanford, CA: Stanford University Press.

Greenwood, P.W., K.E. Model, C.P. Rydell & J. Chiesa. (1996) *Diverting Children from a 1996 Life of Crime: Measuring Costs and Benefits*. Santa Monica, CA: RAND.

Hirschi, Travis

1969 *Causes of Delinquency*. Berkeley: University of California Press.

1986 *On The Compatability of Rational Choice and Social Control Theories of Crime*. In Derek Cornish and Ronald Clarke, Eds., *The Reasoning Criminal*. NY: Springer-Verlag.

1995 *The Family*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Hope, Tim

1995 *Community Crime Prevention*. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

Kelling, George L., Antony M. Pate, Duane Dieckman and Charles Brown

1974 *The Kansas City Preventive Patrol Experiment: Technical Report*. Washington, DC: Police Foundation.

Lane, Roger

1992 *Urban Police and Crime in Nineteenth Century America*. In Michael Tonry and Norval Morris, eds., *Modern Policing. Crime and Justice*, Vol. 15. Chicago: University of Chicago Press.

Liebman, Donald A. and Jeffrey Schwartz

1973 Police Programs in Domestic Crisis Intervention: A Review. In J. R. Snibbe and H.M. Snibbe, Eds., *The Urban Policeman in Transition*. Springfield, Ill.: Charles C. Thomas.

Lindstrom, Peter

1996 Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Loeber, Rolf and David P. Farrington, Editors

Forthcoming Report of the Study Group on Serious, Chronic, and Violent Juvenile Offenders. Washington, DC: Office of Juvenile Justice and Delinquency Prevention

Lukes, Steven and Andrew Scull, Editors

1983 *Durkheim and The Law*. NY: St. Martin's Press.

Marciniak, Elizabeth

1994 *Community Policing of Domestic Violence: Neighborhood Differences in the Effects of Arrest*. PhD Dissertation, University of Maryland, College Park.

Massey, Douglas S. and Nancy A. Denton

1993 *American Apartheid: Segregation and the Making of the Underclass*.

Merton, Robert K.

1969 *The Matthew Effect in Science*. *Science*.

Oldenburg, Ray

1990 *The Great Good Place*. NY: Paragon House.

Olds, David, Charles R. Henderson, Jr., Robert Chamberlin, and Robert Tatelbaum

1986 *Preventing Child Abuse and Neglect: A Randomized Trial of Nurse Home Visitation*. *Pediatrics* 78: 65-78.

OJJDP (Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Department of Justice)

1996 *Juvenile Offenders and Victims: A National Report*. Washington, DC: OJJDP.

Petersilia, Joan and Alfred Blumstein

1995 In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Pierce, Glenn, Susan A. Spaar, and LeBaron Briggs, IV.

1988 *The Character of Police Work: Strategic and Tactical Implications*. Unpublished Ms., Northeastern University, Center for Applied Social Research.

Reiss, Albert J., Jr.

1987 *The Legitimacy of Intrusion Into Private Space*. In Clifford D. Shearing, and Philip C. Stenning, Eds., *Private Policing*.

Beverly Hills: Sage.

1992 In Michael Tonry and Norval Morris, Eds., *Modern Policing. Crime and Justice*, Vol. 15. Chicago: University of Chicago Press.

Reiss, Albert J. Jr., and Jeffrey A. Roth, eds.

1993 *Understanding and Preventing Violence*. Washington, DC: National Academy of Sciences.

Ross, H. Laurence

1994 personal communication

Sampson, Robert

1986 *Crime In Cities: The Effects of Formal and Informal Social Control*. In Albert J. Reiss, Jr. and Michael Tonry, Eds., *Communities and Crime. Crime and Justice*, Vol. 8. Chicago: University of Chicago Press.

Sampson, Robert and John Laub

1993 *Crime in The Making*. Cambridge, Mass.: Harvard University Press.

SEARCH Group

1996 *Interface*. Fall.

Sherman, Lawrence W.

1992 *Policing Domestic Violence: Experiments and Dilemmas*. NY: Free Press.

Sherman, Lawrence W., Patrick R. Gartin and Michael E. Buerger

1989 *Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place. Criminology 27: 27-55.*

Sherman, Lawrence W., James W. Shaw and Dennis P. Rogan

1995 *The Kansas City Gun Experiment: Research in Brief*. Washington, D.C.: National Institute of Justice.

Sherman, Lawrence and David A. Weisburd

1995 *General Deterrent Effects of Police Patrol in Crime "Hot Spots:" A Randomized, Controlled Trial. Justice Quarterly 12: 625-648.*

Tittle, Charles and Charles H. Logan

1973 *Sanctions and Deviance: Evidence and Remaining Questions. Law and Society Review 7: 371-379.*

Tremblay, Richard and Wendy M. Craig

1995 *Developmental Crime Prevention*. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

Toby, Jackson

1982 *Violence in School*. In Norval Morris and Michael Tonry, Eds. *Crime and Justice: A Review of Research*. Vol.4. Chicago: University of Chicago Press.

Tonry, Michael

1995 Malign Neglect. NY: Oxford University Press.

Tyler, Tom

1991 Why People Obey the Law. New Haven: Yale University Press.

Williams, Kirk R., and Richard Hawkins

1986 Perceptual Research on General Deterrence: A Critical Review. *Law and Society Review* 20: 545-572.

Wilson, William Julius

1996 When Work Disappears: The World of the New Urban Poor. NY: Alfred A. Knopf

Chapter Three:

COMMUNITIES AND CRIME PREVENTION

by Lawrence W. Sherman

..many community characteristics implicated in violence, such as residential instability, concentration of poor, female-headed households with children, multiunit housing projects, and disrupted social networks, appear to stem rather directly from planned governmental policies at local, state and federal levels.

--National Academy of Sciences report, 1993¹

Communities are the central institution for crime prevention, the stage on which all other institutions perform. Families, schools, labor markets, retail establishments, police and corrections must all confront the consequences of community life. Much of the success or failure of these other institutions is affected by the community context in which they operate. Our nation's ability to prevent serious violent crime may depend heavily on our ability to help reshape community life, at least in our most troubled communities. Our good fortune is that the number of those troubled communities is relatively small. Our challenge is that their problems are so profound.

Serious violent crime is not a problem for most residential communities in the United States. In the suburban areas where most Americans live, the homicide rate is comparable to Finland's (FBI, 1994: 191; Reiss and Roth, 1993: 52). Half of all American homicides occur in the 63 largest cities, which only house 16% of the U.S. population. Homicides in those cities are also highly concentrated, in a handful of communities marked by concentrated poverty, hypersegregation (Massey and Denton, 1993), family disruption and high gun density. Almost 4% of all homicides in America involve gang members in Los Angeles County alone (Klein, 1995: 120). Serious violent crime in America is predominantly a matter of one particular kind of community, increasingly isolated and shunned by the rest of American society (Wilson, 1996).

The causation of inner-city crime has received extensive diagnosis (Wilson, 1987, 1996; Massey and Denton, 1993; Bursik and Grasmik, 1993; Sampson and Lauritsen, 1993). The prevention of inner-city crime has been attempted with extensive programs. The connection between causes and prevention, however, has been weak at best, and often nonexistent. More than any of the other institutional settings, the community setting shows a striking divergence of causal analysis and prevention programs. The causes, or at least the risk factors correlated with serious crime,² are basic and interconnected, while the programs are superficial and piecemeal. Federal policies from urban renewal to public housing may have done more to cause inner city violence than to prevent it (Sampson and Lauritsen, 1993: 89). For most of this century, community crime prevention programs have failed to tackle the governmental policies and market forces that fuel inner-city violence.

A central issue in the disconnection between causes and cures is the assumptions of how these communities "got that way." As William Julius Wilson has observed, "The segregated ghetto is not the result of voluntary or positive decisions on the part of the residents... [but is] the product of systematic racial practices such as restrictive covenants, redlining by banks and insurance

companies, zoning, panic peddling by real estate agents, and the creation of massive public housing projects in low-income areas." The result of these forces in recent years has been called "hypersegregation:" historically unprecedented levels of geographic segregation by race and class, magnifying the effects of poverty and racial isolation (Massey and Denton, 1993). Yet community prevention programs address none of these causes of community composition and structure, which in turn influence community culture and the availability of criminogenic substances like guns and drugs.

Ironically, a central tenet of community prevention programs has been the empowerment of local community leaders to design and implement their own crime prevention strategies. This philosophy may amount to throwing people overboard and then letting them design their own life preserver. The scientific literature shows that the policies and market forces causing criminogenic community structures and cultures are beyond the control of neighborhood residents, and that "empowerment" does not include the power to change those policies (Hope, 1995). It is one thing, for example, for tenants to manage the security guards in a public housing project. It is another thing entirely to let tenants design a new public housing policy and determine where in a metropolitan area households with public housing support will live.

Even the management of modest programs with federal support are often beyond the capacity of community organizations, especially where it is needed the most. The consistent evidence of the neighborhood watch programs, for example (Skogan, 1990: chapter 6), is that the more crime and risk factors a neighborhood suffers, the less likely it is to develop any organized activity to fight crime. When community organizations do get involved in administering federal funds, there are often major problems and scandals of financial mismanagement. "Empowering" local communities with federal funding often turns into no applications from the worst areas and red tape nightmares for the not-so-bad areas that do get involved.

The disconnection between causation and prevention is also clear in the official use of the term "comprehensive." To be comprehensive in addressing risk factors is very different from being comprehensive in mobilizing all available agencies of government. Recent "comprehensive" crime prevention programs merit the term more by agency participation than by risk factors. The fit between agencies and risk factors is good in a few cases, such as home nurse visitation to address single parent childraising practices (see Chapter 4). But many risk factors have no obvious agency to fix them. Even multi-agency coordination is no guarantee that the major risk factors, like hypersegregation and labor market isolation (see Chapter 6), will be addressed.

Thus the major causes of community crime problems are like handcuffs locking a community into a high crime rate. The most frequently evaluated community-based crime prevention programs do not attempt to break those handcuffs. Rather, they operate inside those constraints, attempting "small wins" within the limited range of risk factors they can manipulate. But until the handcuffs of race-based politics themselves are unlocked, many analysts expect relatively little major improvements from programs addressing only the symptoms of those constraints.

Given the disconnection between causes and cures, it is not surprising that program impact evaluations provide little strong evidence of effective crime prevention. Setting aside programs delivered in families, schools, labor markets, places or the criminal justice system, the number of evaluations of community-based programs is quite small and generally discouraging. While there have been some "small wins," like reduced vandalism and drug use in housing projects with recreational programs, there have been no scientifically documented "big wins" preventing violence in a concentrated urban poverty area. Within that context, community mobilization efforts, gang prevention programs, gun buybacks, social worker and recreation programs have generally failed to show much if any effect on crime.

Yet the evaluation methods for these programs have generally been quite weak, and there is no certainty that such programs are doomed to failure even though they sidestep the central causes reflected in the scientific literature. Amidst generally negative results from generally weak program evaluations, there are encouraging findings from some research that may merit further testing, even though other studies have found contradictory results:

- o **Gang violence prevention** has been effective in several case studies
- o **Community-Based Mentoring** prevented drug abuse in one rigorous experiment
- o **Afterschool Recreation** programs have reduced vandalism in public housing

These findings about community-based programs addressing "proximate" rather than "root" causes suggest a strategy for developing national crime prevention policy. Both the Justice Department and the rest of the federal government are moving towards concentration of resources on high-crime inner-city areas, which one-third of all African-Americans reside (Massey and Denton, 1993: 77) and where community factors generate the high homicide victimization rate of young black males--which is

twelve times higher than the average in the US population (Fingerhut and Kleinman, 1990). Whether the efforts now in planning can address the structural factors is an unanswered question. But a combination of programs addressing proximate causes and the structural factors may have the best chance of success.

It is also possible that the diagnosis of community crime causation is incomplete. Even in the face of profound urban problems, it may be possible to reduce substantially the level of serious crime. New York City homicides and shootings dropped in half in recent years, with no documented change in concentrated urban poverty. It is not clear how or why that reduction occurred. The leading theory is the application of the police methods found effective in the studies reviewed in Chapter Eight. No community-level prevention program (or demographic change) has emerged as an alternative, competing explanation. But it remains possible to design such a program, focused more on the proximate than on the root causes of serious violence, and to test it in a randomized trial on a large multi-city sample of urban poverty areas. Programs currently planned by the executive branch to improve inner-city conditions can be most beneficial if they are structured to allow such a rigorous evaluation, so the nation can be very clear about the precise effects of the program on crime.

This chapter compares scientific evidence about community risk factors for violent crime to the logic of community crime prevention programs. It briefly reviews some methodological issues in evaluating those programs. It then examines the limited impact evaluations of crime prevention programs based in community settings outside the institutions examined in the next six Chapters. The chapter concludes by comparing the science of community-based crime prevention to major DOJ funding programs, with policy recommendations for both programs and research.

COMMUNITY RISK FACTORS FOR VIOLENT CRIME

The science of crime causation, while still in its infancy, offers more than a century of research on the community characteristics associated with higher risks of violent crime (Quetelet, 1842). By "community," this literature usually denotes residential areas of varying size within cities. These areas may be as small as blocks (Taylor and Gottfredson, 1986) or cover several square miles (Shaw and McKay, 1942). Much of this literature, recently reviewed for an NIJ-funded National Academy of Sciences Panel (Sampson and Lauritsen, 1993), uses rates of homicide and other serious violent crimes as the major focus.

One framework for classifying community risk factors distinguishes community composition, social structure, oppositional culture, legitimate opportunities, and social and physical disorder. Each of these apparent risk factors could be the focus of comprehensive community crime prevention programs. Most are not. Instead, as the National Academy of Sciences report suggests, "non-crime" government policies may have done more over the past four decades to enhance these risk factors than to reduce them. Perhaps the most visible example is the construction of public housing projects (Bursik, 1989), which in one study was followed by increased population turnover and increased crime rates independent of race.

Community composition refers to the kinds of people who live in a community. Unmarried or divorced adult males, teenage males, non-working adults, poor people, persons with criminal histories and single parents have all been identified in the literature as the kind of people whose presence is associated with higher rates of violent crime (Messner and Tardiff, 1986; Sampson, 1986; Curry and Spergel, 1988; Bursik and Grasmik, 1993). What is unclear in the literature is whether having more such people simply produces a higher total of individual level risk factors, or whether there is a "tipping" effect associated with the concentrations of such people (Sampson and Lauritsen, 1993). The latter theory derives from substantial findings on the effects of proportions in groups and corporations (Kanter, 1977): in which behavior of entire communities changes when a proportion of one type of person goes beyond the tipping point.

Public policies contributing to the concentration of high-risk people in certain neighborhoods include the federally funded highway system that took low-risk people out of urban neighborhoods to the suburbs (Skogan, 1986). The suburbanization of both white middle class people through highways, and black middle class people through federal open-housing laws (Wilson, 1987), helped tip the proportions of many inner city communities towards a majority of persons or families at higher risk of crime. As long as those high-risk families or persons were in a minority, their low risk neighbors were able to exercise a community protective factor against violent crime. When the high-risk families became a majority in many urban communities, a spiral of crime and the fear of crime led to further loss of middle class residents and jobs. This in turn increased the concentration of unemployed and poor people, followed by further increases in crime (Schuerman and Kobrin, 1986; Wilson, 1996.) No federal or local public policies have yet to counteract, or even challenge, these proportional imbalances.

Community Social Structure. Independently of the kinds of people who live in a community, the way in which they interact may affect the risk of violent crime. Children of single parents, for example, may not be at greater risk of crime because of their family structure. But a community with a high percentage of single parent households may put all its children at greater risk of delinquency by reducing the capacity of a community to maintain adult networks of informal control of children. The greater

difficulty of single parent families in supervising young males is multiplied by the association of young males with other unsupervised young males, since delinquency is well-known to be a group phenomenon (Reiss, 1988). The empirical evidence for this risk factor is particularly strong, with violent victimization rates up to three times higher among neighborhoods of high family disruption compared to low levels, regardless of other characteristics such as poverty, and the correlation between race and violent crime at the neighborhood level disappears after controlling the percentage of female-headed households (see Sampson and Lauritsen, 1993).

Other aspects of community structure include the prevalence of unsupervised male teenage groups, the density (or extent of overlap) among local friendship networks, and local participation in formal voluntary associations. Support for the inverse correlation of violent crime with voluntary association membership has been found at the block level in Baltimore (Taylor et al, 1984). Sampson and Groves (1989) found support for dense friendship networks as a protective factor and unsupervised teen groups as a risk factor for violence in the British Crime Survey. All of the risk factors have arguably been concentrated in urban neighborhoods by public policies. Skogan (1986) reviews the evidence on urban renewal's destruction of dense local friendship networks, uprooting entire neighborhoods; nationwide, 20 percent of all urban housing units occupied by blacks were demolished during the 1970s (Logan and Molotch, 1987: 114, as cited in Sampson and Lauritsen, 1993: 88). Wilson (1987) and Massey and Denton (1993) trace the history of public housing policy decisions that concentrated poor, black, female-headed households in limited areas rather than dispersing them amidst other kinds of families (Lemann, 1991). While community mobilization programs are designed in part to build voluntary association membership and increase informal social control, the evidence to date suggests that such efforts have not succeeded (Hope, 1995).

Oppositional Culture. Observers of high crime neighborhoods have long identified the pattern of "oppositional culture" arising from a lack of participation in mainstream economic and social life: bad becomes good and good becomes bad. Given the apparent rejection of community members by the larger society, the community members reject the values and aspirations of that society by developing an "oppositional identity" (Cohen, 1955; Clark, 1965; Braithwaite, 1989; Massey and Denton, 1993: 167). This is especially notable in terms of values that oppose the protective factors of marriage and family, education, work and obedience to the law. As inner-city labor force participation rates have declined (Wilson, 1996) and inner-city segregation has increased over the past three decades (Massey and Denton, 1993), the strength of the opposition has increased. Ethnographic studies of such cultures in recent years (e.g., Anderson, 1990) show more intense opposition than similar studies in the 1960s and 1970s (e.g., Liebow, 1967; Anderson, 1978), which found more widespread acceptance of mainstream values. Efforts to gain "respect" in oppositional cultures may then rely more on violence than on other factors (Anderson, 1990). Public policy has contributed to this primarily by its historical support for segregation and its modern failure to prevent its inner-city concentration, both by race (Massey and Denton, 1993: chapter 7) and joblessness (Wilson, 1996: chapter 3).

Criminogenic Commodities. Communities with very high rates of youth violence are places in which there are high concentrations of criminogenic commodities (Cook and Moore, 1995). Both alcohol use (Collins, 1989) and drug use (Goldstein, 1989) are highly correlated with violent crime at the situational level of analysis (Miczek, et al, 1993), and gun use in crime generally causes greater risk of homicide (Cook, 1991; Reiss and Roth, 1993). Other evidence suggests that high crime communities appear to have very high concentrations of locations selling alcohol (Roncek and Maier, 1991) and drugs (Sherman and Rogan, 1995). Whether the disproportionate presence of these substances reflects market demand arising from oppositional culture or other reasons (including public policy) is an unresolved issue in the literature.

Social and Physical Disorder. Recent work on the "broken windows" (Wilson and Kelling, 1982; Kelling and Coles, 1996) theory of community crime causation suggests some support for the theory (Skogan, 1990). The theory claims that in communities where both people and buildings appear disorderly, the visual message that the community is out of control may attract more serious crime (Wilson and Kelling, 1982). This may happen by a spiral of increasing fear of crime among conventional people, who use the area less and thus provide less informal control. Communities that deteriorate in this respect over time are observed to suffer increased rates of violence (Schuerman and Kobrin, 1986). Public policies contribute to such declines through nonenforcement of building code violations (Hirsch, 1983) and of minor criminal conduct such as public drinking (Kelling and Coles, 1996). Demolition policies to reduce the unsightly appearance of decayed buildings may then also reduce neighborhood density of street populations, the effect of which is not clear in the literature; lower density may either increase the risk of violent crime (Wilson, 1996) or reduce it (Sampson and Lauritsen, 1993).

All of these risk factors and more are connected to broader debates about race, poverty, welfare, unemployment and family life in America. These debates often ignore the extreme inner-city concentrations of these risk factors. These concentrations are both extreme in each category and in their accumulation. Few neighborhoods in the US suffer nonemployment rates as high as 63 to 77 percent of all adults. The ones that do are also likely to suffer from weak social structure, high rates of alcohol abuse, gun carrying, drug abuse, and violent youth crime. To the extent that policy debates focus on these issues outside of the inner-city areas of concentration, it may fail to attack the interdependence between these risk factors.

EVALUATING COMMUNITY CRIME PREVENTION

In order to learn whether federal policies can at least reduce violent crime in such communities, both strong programs and strong scientific methods should help. In this context, "strong" programs would address multiple risk factors simultaneously, while "strong" scientific methods would isolate the separate effects of different program elements. Using these definitions, the current state of the science offers no strong tests of strong community crime prevention programs.

The evaluations reviewed in this chapter generally employ weak research designs to test programs focused on symptoms of community risk factors, rather than the basic risk factors themselves. This limits our ability to draw conclusions about what effects, if any, the evaluated programs really have. As Chapter Two explains, all evaluations are not created equal. Some of them provide far stronger evidence about cause and effect than others. The strong ones generally employ large samples, reliable measures of both program operations and their intended effects, and possible rival causes of those effects. The weaker ones, quite common in this chapter, may measure program content and crime, but do a very poor job of measuring other factors that may affect crime besides the program.

This chapter uses the scale of scientific methods scores presented in Chapter 2. On a scale of 1 to 5, each specific evaluation reviewed is ranked for its capacity to support strong conclusions about the effect of the program. This strength of evidence is often unrelated to costs, or even the theoretical strength of the program being tested. The massive Chicago gang prevention project of the early 1960s, for example, gathered detailed records on thousands of interactions between the gang workers and area youths. But because the program area was the unit of analysis, not those interactions, the actual sample size was only 4 areas, and the power to infer cause and effect was quite low. Any number of other factors could have caused crime in those areas to go up or down besides the presence or absence of the intensively measured gang prevention programs.

This problem poses a serious obstacle to advancing scientific knowledge about community-based crime prevention. Community risk factors can only be addressed and measured one community at a time. The cost of measuring some factors is very high. Multiplying that cost across a substantial sample of communities has long been deemed prohibitive by research funding agencies. Yet the cost of inner-city violence is also very high. The cost of more rigorous program research could be well justified if it led to more effective community-based prevention programs. In the absence of such investment to date, however, there is not a single large-sample randomized controlled trial in which the community is the unit of analysis and the outcome measure is serious crime.

A related problem of scientific method is the simultaneous application of more than one program to a community at a time. These combinations of treatments are usually premised on the rationale that the more programs, the better: comprehensively attacking many risk factors at once should increase the overall chances of successful crime prevention. In the words of one observer, the theory is that "only everything works." The problem is that even with successful results, a combination of programs makes it impossible as a matter of scientific method to isolate the active ingredients causing the success. It may be all of them in combination. Or it may be only one or two.

A third related issue is the choice of program elements. Many funding programs leave the choice of specific prevention programs up to local communities. Local assessment of specific community risk factors and local decisions about program content are a key part of many community-based strategies (Hawkins, et al, 1995). But from a scientific standpoint, the variability in these combinations across communities allows an evaluation to test the effects of the general strategy, and not the specific program elements. Research designs in other fields have been used to systematically vary the program combinations, and determine across large samples which combinations are most effective, holding other factors constant through random assignment. This approach, or some variant of it, can be used in evaluating community programs, and may be implemented soon in England (Farrington, 1997).

There is no necessary tradeoff, as some have suggested, between comprehensive programs and scientific evaluations. While the operational and research problems in multi-community designs are clearly complex, they can be addressed with sufficient time and resources. As recent DOJ crime prevention policy has moved in the direction of comprehensive community programs, both the number of treatments and the number of communities have become increasingly critical aspects of the potential return on evaluation dollars. The scientific solution to the methodological limitations observed so far is larger sample sizes, with varying combinations of the treatments. The best argument in favor of this "big science" solution is the evidence that follows, and the extremely limited conclusions we can draw from the \$100 million or more (in current dollars) of private and public funds that it cost over the past three decades to conduct the studies examined below.

COMMUNITY MOBILIZATION

The most visible community-based crime prevention strategy in the latter Twentieth Century has been community mobilization. The definition of this term has varied widely, from the creation of formal community development organizations to the mobilization of resources from outside the community to help solve local problems like crime and unemployment. Hope's (1995) review of the evaluations of these programs finds virtually no evidence that the programs attempted to date have achieved an impact on crime. In some cases, as in New York City's Mobilization for Youth Project of the 1960s, that is due to the lack of crime impact evaluations. In other cases, it is due to a failure to implement successfully the programs selected by community leadership to a degree sufficient to test the theory of the program. Whether the approach could be successful under conditions other than those evaluated to date remains unknown.

The Eisenhower Foundation's support of nonprofit community organizations in ten low-income neighborhoods in the late 1980s offers one of the best evaluations available (Scientific Methods Score = 3; Lavrakas and Bennett, 1989, as cited in Hope, 1995: 39-40). Its most encouraging finding is that eight of the ten sites actually implemented programs chosen during the planning process. This stands in strong contrast to the police-generated neighborhood watch programs reviewed in Chapter Eight, for which the major problem in low-income areas has been successfully organizing block or apartment house meetings of neighborhood residents. The Eisenhower site programs that were implemented ranged from individual-level social service provision to attempts to change community social structure. The evaluators concluded from the impact evaluations that there was "little evidence that the ...Program had documentable successes in achieving its major goals of crime reduction and improved quality of life."

These results may stem in part from what Hope (1995) calls the difference between "vertical" and "horizontal" strategies of community crime prevention. Horizontal strategies focus on aspects of community life and place accountability on community members to solve their own problems. Vertical solutions focus on the linkages between community life and decisions made at higher levels of power outside the community, from factory closings to bank redlining of mortgages. Recent scholarly analyses of community crime causes (e.g., Wilson, 1996) focus more on vertically determined dimensions of community life, while few prevention programs evaluated to date have drawn heavily on a vertical approach. Uses of vertical solutions to date have been relatively limited, such as seeking external assistance in street closings, assigning more police, and other city government decisions that leave untouched most of the risk factors cited above. But even local government decisions may make a difference.

In the NIJ-sponsored Hartford experiment in the early 1970s (Fowler and Mangione, 1986), the community mobilization of a resident organization was successful at street closing and obtaining increased police activity. Initial reductions in crime, however, were followed by increases in the third and fourth years of the program. This scientifically weak (Scientific Methods Score = 2) evaluation lacked a comparison area, which limits the interpretation of the target area crime trends. But it is of interest that in the two years after local police activity was reduced, resident mobilization rose to its highest program levels. But despite the peak level of community mobilization, robbery and burglary rose to their highest levels in the life of the project.

It may be that mobilization alone cannot bear down directly on crime, and that the "horizontal" theory of community crime prevention is not likely to succeed. Further experimentation with different "vertical" tactics may be needed to find out if community mobilization or other methods to affect decisions external to the local community can change such decisions in ways that cause local crime prevention.

COMMUNITY PREVENTION OF GANG VIOLENCE

The disconnection between causes and cures in community crime prevention is illustrated by our nation's approach to gang violence. Five recent reviews of this literature provide the evidence for this analysis (Klein, 1995; Spergel, 1995; Howell, 1995, forthcoming; Thornberry, forthcoming). Taken together, this research suggests four major conclusions:

1. Most government and private programs for gang prevention have been left unevaluated.
2. The few evaluated programs have either failed to decrease gang violence, or have actually increased it.
3. Gang prevention programs have ignored the most likely causes of the recent growth of gangs, the community structure of growing urban poverty ghettos.
4. Nonetheless, successful methods for preventing gang violence have been demonstrated in case studies, and could be subjected to controlled testing on a larger scale.

This section reviews the connection between gang membership and serious violent crime, the evidence on the causes of gang membership, and the evaluations of community-based programs for preventing gang violence. It concludes that while most

evaluations have been negative, the scientific rigor of the studies has been weak. The case studies demonstrating success in preventing gang violence can be tested with much greater scientific rigor as possible national models. The high concentration of serious juvenile violence among gang members provides ample justification for large-scale research and development.

Gang Membership and Serious Crime

The basic question about gang prevention is whether it would have any impact on serious and violent crime. Success at gang prevention is only important to communities if eliminating gangs would reduce the number of serious crimes. The answer to that question has not been clear from the scientific evidence. Fortunately, a substantial investment in research by the U.S. Department of Justice Office of Justice Programs (OJP) has recently provided strong scientific evidence on the question. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) Study Group on Serious, Violent and Chronic Juvenile Offenders shared with the University of Maryland Crime Prevention Project its draft report, one chapter of which reviews this evidence (Thornberry, forthcoming). The chapter examines longitudinal data on the connection between gang membership and serious crime in two birth cohort studies. It breaks the question into two parts:

o How much serious crime is committed by gang members?

o Does gang membership make any difference in the harm caused by the people who join gangs, or would they have committed the same amount of serious crime even without joining a gang? That is, do gangs facilitate serious crime, or merely recruit serious criminals?

Thornberry reports that in Rochester, NY, one-third of a panel of adolescent males reported being a member of a gang at some point before the end of high school. That same one-third committed 90 percent of the serious crimes in the entire panel, including 80% of violent crimes and 83% of drug sales. Thornberry also summarizes similar results from the NIH Center for Substance Abuse Prevention (CSAP)-funded study of gang members in the Seattle Social Development Project (Battin, Hill, Hawkins, Catalano, and Abbott, 1996, as cited in Thornberry, forthcoming). Gang members in Seattle comprised only 15% of the sample, but accounted for 85% of all robberies committed during grades 7 to 12, and 62% of all drug selling. Thornberry reports lower gang contributions for gang crime in Denver from Esbensen and Huizinga's (1993) panel data: with 6% of respondents reporting gang membership, gang members reported 35% of serious offenses and 42% of drug sales.

The hypothesis that gangs **cause** juveniles to commit more serious crimes than they would commit anyway receives a rigorous test in the OJJDP Rochester Youth Study. Thornberry et al (1993, as cited in Thornberry, forthcoming) report that gang members commit crimes against persons twice as often while they are active members of gangs than before and after active membership. Similar patterns were found for crimes in general and drug use, but not for property offenses. Thornberry (forthcoming) reports that similar patterns were observed in the Seattle CSAP project, except that involvement in drug sales in Seattle remained elevated even after gang membership ended (Hill, Hawkins, Catalano, Kosterman, Abbott and Edwards, 1996, as cited in Thornberry, forthcoming). More recent analyses of the Rochester data also show drug sales, as well as gun carrying, persisting at elevated rates even after gang membership ends (Lizotte et al, 1996).

Large sample, multiple interview, longitudinal self-reported offending studies are the strongest evidence possible on these questions. The studies reported here do not necessarily reflect the effects of gang membership in the highest-crime areas of the very large cities where serious juvenile violence is most concentrated. But the available evidence is clear enough to establish gang membership as a community risk factor appropriate for preventive programs. There is also a scientific basis for distinguishing gangs from drugs as a cause of violence, since Klein (1995) finds far more gang homicides without a drug link than with one.

Successful prevention of gang membership for substantial portions of adolescent males might reduce their rates of serious crime. Even among gang members, interventions to divert them from gang violence could prevent many crimes. The question then becomes how prevention or diversion can be accomplished at the community level of intervention. As a matter of science, the logical starting point is to attack the causes of gang membership.

Causes of Gang Membership

At the individual level of analysis, the causes of gang membership appear little different from the causes of delinquency in general (Thornberry, forthcoming). While the cumulation of disadvantages in life is a risk factor for both delinquency and gang membership, it is not clear why in the same community, some boys join gangs and others do not (Spergel, 1995).

At the community level of analysis, however, the patterns are somewhat clearer. The key fact to be explained is why gangs have

spread so rapidly--almost contagiously--over the past decade, from a few big cities to virtually all large and middle-sized cities and many smaller cities and towns. Klein (1995: 91) reports a 345% increase in the number of cities reporting violent gangs from 1961 (54 cities) to 1992 (766 cities). The 1995 National Youth Gang Survey found 2,000 jurisdictions reporting 23,000 gangs with some 665,000 members (Moore, 1996, in Howell, forthcoming). Within cities in which gangs have been well-established for decades, gang-related homicides have also risen dramatically, such as the 392% increase in Los Angeles County from 1982 to 1992 (Klein, 1995: 120). Klein (1995: 194) concludes that while the rise of homicides is partly driven by the growth in gun carrying, the growth of gangs themselves is strongly linked to the rapid growth of urban "underclass" areas.

Drawing heavily on William Julius Wilson's (1987) analysis of the new urban poverty ghettos, Klein isolates five factors: the loss of industrial jobs, out-migration of middle-class blacks, growing residential segregation of inner-city blacks, increasing failure of schools to prepare inner-city children for a service economy, and the consequent strains on family life of the declining ratio of "marriageable" (that is, employed) males to females of child-bearing years. Hagedorn (1988) applies this theory to the case study of Milwaukee, and finds a good fit with the facts: gang membership and violence rose as the Wilson model of concentrated urban poverty developed in that city. Huff's (1989) comparison of gangs in Columbus and Cleveland found much more rapid growth in Cleveland, where the Wilson model had rapidly accelerated, than in Columbus, where community factors had remained fairly static. Jackson (1991) found across a large sample of cities that two factors predicted whether they developed gangs, job opportunities and the proportion of the population ages 15 to 24.

Klein's own work with Fagan (reported at Klein, 1995: 204) finds that 1970 Census data on community characteristics at the city level predict gang emergence in the 1980s. Specifically, racial segregation and a low proportion of persons in the labor force in 1970, although not concentration of poverty in 1970, predicts the 1980s emergence of gangs. So does an interaction of the loss of manufacturing jobs and unemployment rates. Different patterns are evident, however, for blacks and Hispanics, with strong effects for the former but not the latter. Curry and Spergel (1992) also report black-Hispanic differences in causes of gang growth, with more emphasis on cultural factors for Hispanics and structural factors for blacks. These findings lead Klein (1995: 205) to this conclusion about the design of gang prevention programs: "at least some portion of the gang proliferation problem is reflective of larger social ills. Merely addressing gang problems through gang intervention, be it street work or suppression, won't have much effect."

Evaluations of Gang Prevention Programs

The impact evaluation literature is largely consistent with Klein's conclusion. Howell's (1995, forthcoming) review of these data for OJJDP includes nine studies, from which "nothing has been demonstrated through rigorous evaluation to be effective in preventing or reducing serious and violent gang delinquency, [although] a number of promising strategies are available" (Howell, forthcoming, p. 21). Spergel's (1995: 256) independent review of the same evidence reaches the same conclusion: "traditional social intervention programs, whether agency-based, outreach or street work, or crisis intervention, have shown little effect or may even have worsened the youth gang problem."

Gang Membership Prevention. Three studies test a gang membership prevention program on a population of potential gang members. The first evaluation dates to the 1930s, when University of Chicago gang scholar Frederic Thrasher (1936, as cited in Howell, forthcoming) directed a four-year study of the "character-building" and recreation programs of a New York City Boys' Club. His conclusion sounds much like Klein's a half-century later: the program was unable to prevent gang membership due to family, school and poverty problems. "These influences for the most part were beyond the power of the Boys' Club to neutralize" (p. 78). The second study is a description of a grass-roots residential and nonresidential "sanctuary" from street life in Philadelphia (Woodson, 1981), without a comparison group. The House of Umoja also initiated "gang summits," so it is difficult to credit the city-wide drop from thirty-nine gang homicides in 1973 to one in 1977 to prevention alone.

The third prevention program (Thompson and Jason, 1988, as cited in Howell, forthcoming) consists of a gang prevention curriculum and afterschool recreational activities offered to eighth grade students suggests. The evaluation's conclusion that the program was successful is based on a difference of three more students who became gang members in the comparison group (4 out of 43) than in the experimental group (1 out of 74). The evaluation design also suffered substantial attrition between exposure to treatment and followup interview, as well as the common problem of school-based evaluations (see Chapter Five): the treatment was assigned at the level of the school, but evaluated at the level of the student. The design featured three pairs of schools, with one in each pair assigned to receive the program. The outcome data are not reported at the school level, but the base rate of gang membership in the short followup period renders most other aspects of the design less important. In sum, there is little empirical basis for promise in the Thompson and Jason (1988) evaluation of the gang prevention curriculum and afterschool program.

Gang Intervention. The programs for intervening with already active gangs and gang members are somewhat more rigorously evaluated. While the oldest and most influential of all gang intervention and prevention projects, the Chicago Area Project, has

never been evaluated, its primary component has been evaluated several times. That component is the "detached worker," a trained youth counselor who spends most working hours on the streets with gang members. The role and function of these workers varies somewhat across projects, largely on a dimension of how much formal programming they organize, such as club meetings or outings to major league baseball games. Some detached workers also try to organize adults into voluntary associations, and to develop community-level capacity for leadership and problem-solving. The workers vary in the extent to which they focused on gangs as groups or on gang members as individuals. The common core of their role is an attempt to redirect gang energy towards legitimate activity, including school and work, as well as to discourage crime.

Despite these variations on the theme, none of the evaluations of detached worker programs found any evidence of reduced crime. Klein (1971), in fact, found just the opposite in an African-American area of Los Angeles: the detached workers increased the level of crime, which declined after the program was terminated. His explanation for that result is that the detached workers enhanced group cohesion, which in turn increased the "productivity" of the gang with its major product, crime. The theoretical significance of that conclusion is enormous, given the implications for other gang programs that may also increase cohesion. Durkheim's basic principle that group solidarity is increased by external attack would apply, for example, to police efforts to lock up a gang. Such a struggle with authorities can provide glory and meaning to otherwise barren lives, and simply encourage more violence.

In a followup study, Klein (1995: 146) applied the group cohesion theory in an explicit attempt to minimize it. The Ladino Hills program tested a strategy of working only with 100 Hispanic gang members as individuals, not with the gangs as a group. Detached workers in this evaluation encouraged gang members to drop out of the gang, which some of them did as long as the workers were around; gang arrests declined 35% during that period. Gang cohesion also remained low for a six month followup period after the program ended. Several years after the program ended, Klein reports, gang cohesion and crime returned to its baseline levels. He concludes (1995: 147) that gangs "cannot long be controlled by attacks on symptoms alone; community structure and capacity must also be targeted."

Limited evidence against the cohesion hypothesis, however, comes from a California Youth Authority program in Los Angeles in the mid-1970s (Torres, 1981, cited in Klein, 1995: 149). Over four years, cohesion-building efforts with seven Hispanic gangs, including sports activities, served as a basis for truce meetings and feud mediation. Homicides and intergang violence declined among the targeted gangs, but not between targeted gangs and other groups. Klein (1995: 149) is skeptical about the reliability of the police data on "gang" crimes, but concludes that "further research attention to such intensive efforts as took place in this CYA project certainly seem warranted."

Table 3-1

Findings from Gang Prevention and Intervention Evaluations

(Secondary Sources: Howell 1995, forthcoming; Klein, 1995)

Primary Evaluation	Scientific Rigor Score	Program Content	Program Effects
Gang Membership Prevention			
Thrasher 1936 effect	?	NYC Boy's Club	No preventive
Woodson 1981 declined	2	House of Umoja, Philadelphia	Gang Murders
Thompson & Jason 1988 gangs;	2	12 Gang Prevention Classes; some afterschool options	Major attrition, small N joined 1 of 74 Experimentals, 4 of 43 Comparison

**Gang Member
Intervention**

Miller 1962 measures	3	Goal: turn gangs into clubs, 7 detached workers, 205 boys	No effect on delinquency of targets
Gold & Mattick 1974 cited in Spergel crime; 1995: 249	3	Detached Workers focused on gangs; community organization	No effect on area crime or gang slight effect on educational goals
Bibb 1967	?	NYC Detached Workers with gangs	No effect on gang crime
Klein 1969 crime;	2	LA Group Guidance 5 detached workers 5 gangs, weekly meetings, program	Project increased delinquency; more program, more crime reduced when program ended
Klein 1968, gang 1995:145-147 effect	2	100 Ladino Hills gang members encouraged to leave gangs, 18 months	35% reduction in arrests from less gang cohesion; lost after 2 yrs
Torres 1981 target	2	Older gang leaders hired as consultants, truces and feud mediation	Homicides and intergang violence declined among gangs, not other gangs
Spergel 1986	3	Crisis intervention & mediation by detached workers	Less serious crime for juveniles, more for adults, in target than control
Spergel 1995	3	Conflict mediation, job and school referrals, police and social workers	50% less serious violence for target gangs
Goldstein, Glick and Carthan (1994)	?	Anger Replacement training for gang members	Reductions in gang arrests

Most other evaluated gang programs had far less success than the CYA or Ladino Hills projects, even with the symptoms of community structure. It was not for lack of effort. The intensity of gang worker efforts is described in one summary of the six years of work of the Chicago Youth Development Project (CYDP), a privately-sponsored program combining detached gang

workers with community organization (Carney, Mattick and Callaway, 1969: 15, as quoted in Klein, 1995:144):

Staff succeeded in finding 750 jobs for 490 young people; similarly, 950 school dropouts were returned to school 1,400 times. CYDP outreach workers made 1,250 appearances at police stations and courts on behalf of 800 youngsters. Finally CYDP workers made 2,700 follow-up visits to the homes of 2,000 juveniles who were arrested during the last thirty months of the project, in an effort to get them involved in one aspect or another of the project's programs. Despite this effort, the careful evaluation found that the youth unemployment rate remained unchanged, the school dropout rate increased somewhat, and the arrest rates of juveniles in CYDP areas increased over time.

A different and more recent strategy for using gang workers is crisis intervention and conflict mediation. A test of this approach by detached workers in a Puerto Rican area of Chicago had more encouraging, if, complex results (Spergel, 1986, as cited in Spergel, 1995: 255). While the program area had a slower rate of increase in serious gang crimes by **juveniles** than the comparison area, the program area also had a faster rate of increase in serious crimes by **adults**. Attempts to organize the target community were less successful than efforts to mediate juvenile gang conflicts to prevent violence. More recently, Spergel has found some evidence that a coordinated police-probation-detached worker program to monitor gang offenders on community supervision has slowed their rate of committing serious violence (Spergel and Grossman, 1995, as cited in Howell, forthcoming). Encouraging results from another conflict-oriented program have been reported for New York (Goldstein, Glick and Carthan, 1994, as cited in Howell, forthcoming). Using a cognitive skills approach called "Anger Replacement Training," the evaluators report decreases in arrests of gang members.

Perhaps the most encouraging findings about gangs come from Boston, where they have nothing to do with traditional gang prevention. Preliminary results of a gang-related project to reduce juvenile firearms crime are extremely encouraging (Kennedy, Piehl and Braga, 1996). An effort to deter gang-related gun violence by massive police response to any shootings is supported by probation officers who have the statutory authority to search probationers at will. The probation officers work with police to send out the word that any shootings will get anyone even tangentially involved into a lot of trouble. This approach has apparently given some gang members a convenient excuse to opt out of planned conflicts, much as the police crackdown on drunk driving in Australia has given barroom drinkers an excuse to refuse extra drinks (Homel, 1994). If the final results of this project confirm preliminary findings, it will be another example of substantially reduced gun crime without any structural changes in community conditions.

The Future of Gang Violence Prevention

While the results of available evaluations are generally negative, the number of careful field tests remains quite small. The average level of scientific rigor in the available evaluations is quite low. Taken together, **the studies show weak evidence of no effect**. None of the programs address the underlying community risk factors associated with the recent explosive growth in gang activity. Yet new models of gang violence prevention now under development at Harvard and the University of Chicago might well succeed in reducing gang violence without solving the structural problems of the inner-city. Combinations of police, probation officers and civilians who keep gangs under close surveillance may be successful at heading off planned conflicts leading to gun violence. Unplanned encounters of rival gangs leading to shootouts may be harder to prevent, but reduced gun carrying could accomplish that as well. Police-civilian teams checking known and convicted gang members for guns, with appropriate legal authority, could in theory reduce gun carrying and spontaneous shootings.

The enormous concentration of serious violence among gang members suggests the value of further research and development efforts to find effective prevention methods for gang violence. But the state of the scientific evidence suggests the risks of funding gang programs without careful evaluations, whether through block grants or discretionary programs. University of Southern California gang violence scholar Malcolm Klein (1995: 138) states the case clearly:

Consider California, more affected by street gangs than any other state is, by far...the state has 196 cities with street gangs, 60 in Los Angeles County alone. The state's Office of Criminal Justice Planning in fiscal year 1990-91 poured almost \$6 million into sixty projects under its Gang Violence Suppression Program. Included were school programs, street work programs, community mobilization, diversion alternatives, and a wide variety of criminal justice enforcement projects. Yet not a dollar went to an independent evaluation of the effectiveness of these projects. Sixty wasted opportunities to assess our efforts seems to be an inexcusable exercise in public irresponsibility.

The fact that Klein's own work demonstrated that a gang "prevention" program actually **increased** crime rather than reducing it lends special force to his conclusion. The theoretical implications of Klein's work on gang cohesion suggest that much of what police are doing--often supported by federal funds--to suppress gang violence may also be increasing rather than preventing that violence. The seriousness of gang violence provides even more reason, not less, for a high standard of scientific rigor in

evaluating gang prevention. What evidence we have clearly shows that good intentions are not enough.

Both old and new strategies could be subjected to more rigorous evaluations. Despite the strength of Klein's findings, for example, they are based on quasi-experimental pre-post designs generally lacking control groups. A large scale test of gang worker strategies across a sample of 100 gangs, with 50 gangs randomly assigned to intervention, might well produce different results. The Ladino Hills project Klein (1995:146) reports is actually quite encouraging; the program was a clear success at diverting gang members from gangs as long as the gang workers stayed on the job. Klein's emphasis on the project's failure to end gang activity in the area for up to two years after the gang workers were withdrawn seems to set an unrealistically high standard. Just because a maintenance therapy did not rise to the level of a permanent vaccine does not make it worthless. Rather, the evidence suggests that Klein has found a way to reduce gang membership. This is a promising finding that merits replication with a more rigorous research design.

New strategies for gang prevention should also be tested at much higher levels of scientific rigor. OJJDP is currently supporting the development and testing of comprehensive community gang prevention efforts, coordinating multiple local agencies and attempting to mobilize community involvement. NIJ is currently supporting firearms crime reduction efforts. Neither approach is currently undergoing a randomized controlled test (level 5) using communities, or gangs, as the unit of analysis. Indeed, it may well be premature to be doing so at this stage until the strategies are sufficiently well-developed. But a clear plan to develop a strategy that can be subjected to more rigorous testing could help move the nation more quickly to discovering effective methods for reducing gang violence.

One objection to this approach is that every city has a unique gang situation, and must design its own program (Klein, 1995: 154). The response to that objection is that most cities lack sufficient data to conduct rigorous evaluations: enough neighborhoods, enough gangs, enough gang violence to control for all the chance factors that can affect results. Limiting evaluations to one gang program or one city at a time would do little to increase available evidence about how to prevent gang crime. It is only by seeking out the commonalities of successful gang prevention programs across areas and types of gangs that the scientific basis for effective prevention can be advanced.

COMMUNITY-BASED MENTORING PROGRAMS

Community-based mentoring programs take a much broader focus on risk factors than gang prevention programs. Both the empirical evidence and theoretical linkages to community risk factors gives solid reason to support much more research and development on this strategy. While it does not have the gang programs' efficiency of focusing on the limited number of juveniles committing the most serious violence, mentoring offers the promise of effectiveness across a much broader population. Some members of that population could well become gang members or serious violent criminals. Mentoring could be a way to prevent that.

Theoretical Rationale for Mentoring

Why should mentoring of a larger at-risk population of pre- and early adolescents be any more effective than detached social workers focused on gangs? Gang social workers, after all, are in effect mentors to gang members. But the general failure of detached workers may be due to their focus on older youths who are already active offenders. Many developmental theorists argue that ages 10 to 14 provide a more promising focus for intervention and prevention (Carnegie Council on Adolescent Development, 1995). The power of peer groups may not be as great in that age-range, and an intensive relationship with a conventional adult could be a powerful influence for youths on the cusp of delinquency.

A more powerful reason for the failure of detached workers with gangs may be insufficient dosage. Given their workloads, they may not have been able to spend enough time with their individual clients, irrespective of age, in order to become a strong role model. A more intense relationship, with "quantity time" of "quality time," between a "mainstream" male adult and a preadolescent or early adolescent boy may directly address several community risk factors for crime:

- o fatherless boys; 17 million children now in single parent homes, 25% of all youth and 50% of minority youth (Tierney, et al, 1995: 49)

- o lack of legitimate role models

- o insufficient "intergenerational closure" with adult influences counteracting peers (Wilson, 1996: 62)

Mentoring provides the highest dosage of adult-child interaction of any formal community-based program. Compared to street

workers and recreation program supervisors, mentors can develop much stronger bonds with juveniles at risk. In theory, they can gain the power of "legitimacy" (Tyler, 1990) based on a pattern of respect and support the mentor establishes with the juvenile, so that the mentor's approval and attention becomes a valued resource. That resource then gives the juvenile a "stake in conformity" (Toby, 1957), something to lose if the juvenile gets into trouble with the law.

Mentoring programs described in available evaluations feature three to four meetings a month or more between mentor and child, with each meeting lasting at least for several hours. Community-based mentors see juveniles in a wide range of settings, including home, movies, professional sports, plays and concerts. They may talk frequently on the telephone, with mentees calling mentors as well as vice versa. In contrast to school-based mentoring programs (reviewed in Chapter 5) which generally operate with a heavier emphasis on academic issues and truancy, community-based mentors tend to be involved in more domains of the child's life. They may also provide more resources in the form of entertainment outings. Mentors may be paid or unpaid, college students or adults. All of them receive some sort of training, although the infrastructure supporting mentoring relationships varies. Adult volunteers in the oldest formal mentoring program, the 90-plus year-old Big Brothers and Big Sisters of America (BB/BSA), for example, are subjected to extensive background examination to screen out potential child molesters.

Results of Community Mentoring Evaluations

Careful examination of community-based mentoring evaluations supports a conclusion that they are a promising approach to preventing crime risk factors, notably drug use. While most of the evaluations show no effect, the most rigorous modern evaluation shows a strong effect at reducing drug use, and clear effects at reducing alcohol use and "hitting" among at-risk children. The short-term measurement of those beneficial effects, however, must stand in the shadow of much less encouraging results from a thirty-year followup of an equally rigorous Depression-era mentoring test, the privately-funded Cambridge-Somerville experiment.

Controlled Experiments. The first controlled test of mentoring began in 1937, when recent college graduates were hired and trained to provide an average of two visits a month to the experimental half of a sample of 650 at-risk boys under age 12 at the program's outset.³ The paid social worker mentors met with their clients at home, in the street, or at project headquarters. They provided academic tutoring, trips to concerts and sports events, and general emotional support for the boys. The program also provided the boys' families with help for medical and employment problems, and sent the treatment group boys to summer camp. By 1942, 253 of the original 325 treatment group boys were still in the program, when it was ended so the counselors could join the armed forces.

The results of this intensive mentoring showed no difference between treatment and control groups in criminal records, either in 1942 (Powers and Witmer, 1972) or in 1975-76 (McCord, 1978). The longterm followup, however, did show significantly higher levels of diagnosed alcoholism, serious mental illness, and stress-related physical health problems. A higher level of unfavorable life outcomes, although not specifically greater crime, among the treatment group seems clear. What is less clear is the meaning of the results for the value of mentoring programs today.

Three theories compete to explain these results. One is that mentoring simply backfires, somehow creating an artificial source of support that makes it harder for mentored boys to adjust as adults. A more plausible theory is that the abrupt departure of these long-term counselors from the boys' lives was as damaging emotionally to the boys as a divorce or other loss of parental involvement, compounded in many cases by the boys' previous loss of their own natural fathers' support. A third theory is that the difference in diagnosed mental health problems is only an artifact of the treatment group's greater exposure to professional and medical services as part of the treatment content. Under this theory, the treatment boys had no greater rate of personal problems, but when they had problems they were simply more likely to seek professional help of the kind the program had taught them to seek.

The fundamental principle of science here is that one experiment alone, no matter how rigorous, cannot provide a "definitive" test of any hypothesis. Social experiments in particular require replication to determine their generalizability to other times and places. A three-decade followup is an excellent basis for drawing conclusions about the lifetime effects of a treatment, but it has a substantial drawback for policy analysis: by the time the results are in, the world has changed so much that the results may no longer be valid. The modern social conditions of inner-city poverty and segregation are so different from the context of the Cambridge-Somerville experiment that it is not clear that the identical program would produce similar results.

If three decades are too long, one year is probably too short. Unfortunately, that is all we have in our modern controlled experiment in community-based mentoring for pre- and early adolescents (Tierney and Grossman with Resch, 1995). The virtues of this experiment, however, are many, including the substantial risk factors in the sample. The 959 eligible applicants for the Big Brothers/Big Sisters program in eight cities came from homes in which 40% of the parents were divorced or

separated, 15% had suffered a death of a parent, 40% had a family history of substance abuse, and 28% had a history of domestic violence. The children themselves, of whom 60% were minorities, 40% girls, and all aged 10-14, included 27% who had been abused as children. As Chapter Four reports, child abuse substantially increases the risk of criminality in later life.

How much the Big Brothers/Big Sisters program reduces criminality later in life is not clear. What is clear from this tightly randomized experiment is that there were substantial benefits in one year (average) treatment. After spending around 12 hours monthly with their volunteer adult mentors, the treatment group children had 45% less reported onset of drug abuse than the control group children, who had been put on the waiting list.⁴ They also had 27% less onset of alcohol use, and 32% less frequency of hitting someone. The program also reduced truancy: treatment group children skipped 52% fewer days of school and 37% fewer classes on days they were in school.

These results were achieved at a very modest cost. Since the mentors volunteer their time, the only cost is the infrastructure needed to recruit, screen, train and properly "match" the mentors to children for successful long-term relationships. The cost is estimated at about \$1,000 per match (Tierney and Grossman, with Resch, 1995: 52). While the full crime prevention benefits of that cost cannot be specified without a longer-term followup study, the short-term benefits alone might justify federal support of this apparently underfunded program. At a price of \$1,000 per year of drug abuse prevented, the taxpayer would be well ahead spending money on this program instead.

Table 3-2

Community-Based Mentoring Evaluations

Primary Source (secondary)	Scientific Methods Score	Program Content	Program Effects
McCord 1978, 1992 criminal Powers and Witmer 1972	5	2 visits monthly by paid male counselors for 5.5 years with 253 At-risk Boys under 12 in 1937-42; WW2 end	No effect on record; treatment group did worse on diagnosed mental health
Tierney et al 1995 drug hitting	5	Big Brothers & Sisters, 1 year for 10-14 yr.-olds, 60% minority & 27% abused; 3 hrs wkly	46% reduction in use onset, 32% reduction in people, relative to controls
Green 1980 (Howell 1995) measures	4	Big Brothers for fatherless white boys 1/2 day weekly for 6 months	No effects on disruptive class behavior; no of drug use
Goodman 1972 (Howell 1995)	2	College Student Mentors of 10-11 yr-old boys 6 hrs wkly over 2 years	high control group attrition; program effects on crime unknown
Dicken, Bryson and Kass 1977 (Howell 1995)	3	College Student mentors for 6-13 yr.-olds, 6 hrs wkly, 4 months	no difference in teacher-rated behavior of mentees

Fo and O'Donnell 1974 (Howell 1995)	5	12 weeks of paid community mentors with at-risk 11 to 17 year olds; N = 26	Truancy reduced significantly under some conditions
Fo and O'Donnell for 1975 with (Howell 1995)	5	1 year of paid community mentors meeting weekly with at-risk 10-17 yr-olds	Lower recidivism treatment groups priors, higher without

Two other randomized experiments in paid "Buddy System" mentoring conducted in Hawaii were published in the early 1970s. The ages of the at-risk youth ranged from 11 to 17, while the ages of the paid mentors ranged from 17 to 65. The first experiment (Fo and O'Donnell, 1974, as cited in Howell, 1995: 91) lasted only 12 weeks, during which it randomly assigned 26 subjects into four treatment groups (an average of 6 per group). This small experiment used an elaborate theoretical model, in which treatment groups varied on several dimensions. The dimensions included the conditions of mentor approval for the mentees, dichotomized as contingent, or not, on appropriate behavior by the mentees. A third treatment group was paid \$10 a month on the same contingent basis. The results showed that truancy declined for the subjects receiving contingent approval, but not for those receiving unconditional approval.

A larger experiment by the same authors abandoned the theoretical distinctions, comparing crime rates between randomly assigned 10-17 year olds receiving mentoring or not (Fo and O'Donnell, 1975, as cited in Howell, 1995: 92). The one-year experiment found that treatment backfired among those with no prior record; those in the experimental group had more offenses during treatment than control group youths who also had no prior record in the baseline period. Among youth who had prior records at the outset of the experiment, however, the results were the opposite: mentees had less recidivism than the control group. The possible reasons for this difference were not reported.

Non-Randomized Evaluations. The other community-based mentoring studies offer little scientific evidence for policy purposes. The Green (1980, as cited in Howell, 1995: 92) evaluation of a Big Brothers' program in Nassau County, for example, lacks any outcome measure of drug abuse, violence or crime. Green does find no difference in disruptive classroom behavior, but so did the Tierney and Grossman with Resch (1995) experiment. The non-randomized design and 6 month followup period also limit its value.

None of the remaining tests are strong enough to contradict the positive effects found in the recent test of Big Brothers/Big Sisters. The Goodman (1972, as cited in Howell, 1995: 90) two-year test of paid mentors in Berkeley (CA) showed some evidence of worse school behavior among mentored at-risk boys than among the controls. Substantial attrition in the control group only, however, made the comparison difficult to interpret. A nonrandom test of a similar approach using unpaid college students for a semester found no differences in teacher ratings of behavior (Dicken, Bryson and Kass, 1977, as cited in Howell, 1995: 91). All of these negative results from what were essentially "start-up" programs may be due to factors that are not present in the standardized, long-practiced methods of the national Big Brothers/Big Sisters program.

The Future of Community-Based Mentoring

The major question about mentoring remains the meaning of the Cambridge-Somerville experiment for contemporary public policy. The answer to that question is unlikely to come from further analysis of that experiment, but from its replication under modern conditions. The Big Brothers/Big Sisters experiment (Tierney and Grossman with Resch, 1995) is an excellent start in that direction, and would be even more valuable if followed by many years of followup data collection. Its promising results, however, suggest the value of a larger test, one that incorporates the diagnosis of community risk factors, as suggested in the conclusions of this chapter.

Based solely on the research available at present, there seems to be sufficient basis to reach somewhat different conclusions than those reached by one OJP publication prepared prior to the publication of the Tierney and Grossman with Resch (1995) experiment, which substantially alters the weight of the evidence. The OJJDP Guide for Implementing the Comprehensive

Strategy for Serious, Violent and Chronic Offenders (Howell, 1995: 128) suggests that "mentoring relationships that are noncontingent and uncritically supportive" are "not effective," but that "mentoring relationships that include behavior management techniques" are "potentially promising." The Big Brothers/Big Sisters program reports no contingency policy for mentor approval of mentees. Its success at reducing drug use onset would thus seem to falsify the "contingent approval" hypothesis. The small sample size (N =26) of the one finding consistent with that hypothesis makes the much larger recent study more compelling evidence (Fo and O'Donnell, 1974).

The most important conclusion from this research restates the conclusion of the gang prevention evaluations. Even with the encouraging findings from the most recent controlled test of community mentoring, there is too little information for adequate policymaking. The priority is for more research, not more unevaluated programs. The danger of doing harm is far too great to promote and fund mentoring on a broad scale without carefully controlled evaluations. No such evaluations, to our knowledge, are presently on the drawing boards. They could readily be included, however, as part of a broader test of a comprehensive interventions package in high-crime areas. While the community context of mentoring experiments under those conditions would be unique, the addition of other programs addressing community risk factors could well enhance the potential for crime prevention will adding to scientific knowledge.

COMMUNITY-BASED RECREATION PROGRAMS

The hypothesis that recreation can prevent crime has become one of the most acrimonious in the history of crime policy. More than any other issue, the debate reflects the inappropriate definition of prevention discussed in Chapter 2. What is most revealing about the debate, however, is the virtual indifference it has displayed to empirical evidence. Rather than arguing on theoretical grounds alone, it would seem more valuable to test the hypothesis scientifically. Chapter Five presents evidence that school-based programs have been tested and found ineffective at preventing crime and delinquency. This section presents more limited evidence on community-based recreation centers, where the evidence is thinner but marginally more promising.

An OJJDP publication (Howell, 1995: 95) provides a clear statement of the recreation hypothesis:

Afterschool recreation programs can address the risk factors of alienation and association with delinquent and violent peers. Protective factors may include opportunities for involvement with prosocial youth and adults, skills for leisure activities, and bonding to prosocial others.

An equally plausible negative hypothesis can be suggested on theoretical grounds. In a neighborhood plagued by inter-gang rivalries and everyday anger (Bernard, 1990), after-school recreation creates opportunities for victims and offenders to intersect in time and space (Cohen and Felson, 1979), creating conflicts and potential for violence. One Philadelphia nightclub shooting in the early 1980s, for example, was generated by a fight that began on a recreation center basketball court. A middle ground hypothesis is that the effects of after-school recreation may vary substantially by neighborhood context and how the recreation center is run.

Results of Recreation Evaluations

The scientific evidence on these hypotheses is currently quite limited. What evidence there is all positive, supporting the proponents of recreation programs. While the scientific rigor of the three available evaluations is modest, it shows fairly strong effects, two on crime and one on drugs. Two are based on Boys' and Girls' Clubs (BGC), and two are in public housing.

Table 3-3

After-School Recreation Programs

Primary Source (Secondary source)	Scientific Methods Score	Program Content	Program Effects
Jones and Offord 1989 for (Howell 1995: 95)	3	Canadian Public Housing Project children 5 to 15 offered intensive	75% reduction in juvenile arrests experimental, 67% increase for

control		recreation, 3 years	location
Schinke, Orlandi and Cole 1992 prevention use;	4	3 groups of 5 public housing projects	Recreation centers with drug
		each, 1 group	had lowest drug
		Boys/Girls Club (BGC), 1 BCG plus drug prevention, 1	vandalized housing units down 25% in drug prevention
sites		control no BGC	
Brown and Dodson 1959 declined (Howell 1995: 95)	3	Boys' Club area compared to 2 comparison areas, 9 years	Program area delinquency after two years, comparison rose

The test in a Canadian public housing project offers the strongest evidence. Over 32 months, the low-income children ages 5 to 15 were provided an intensive after-school program in sports, music dancing, and scouting. A comparison public housing project had only minimal city services. The majority of age-eligible children in the test site participated in the recreation program. Compared to a baseline period of two years prior to the program, arrests of juveniles in the program site declined 75 percent. In the same time period, arrests of juvenile in the comparison site rose 67%. Sixteen months after the program ended the effect had worn off, providing further evidence of a program effect (Jones and Offord 1989, as cited in Howell, 1995:95).

The American public housing test covered three groups of five housing projects each. One group already had a traditional BGC program operating in the community center. A second group received newly established BGC programs, supplemented by the SMART Moves (Self-Management and Resistance Training) substance abuse prevention program aimed at parents as well as children. A third group of three projects had no BGC and remained that way as a control group. Observational and police data indicated a decline in drug use in the new BGC/SMART Moves sites. Archival records showed that vandalized housing units dropped from 8% to 6% of total units in the new BGC sites, while rising from 8% to 9% in the controls and remaining unchanged in the existing BGC sites (Schinke, Orlandi and Cole, 1989).

A nine-year, 1950s study examined juvenile delinquency in a Louisville Kentucky area served by a Boys' Club (Brown and Dodson, 1959). The club included both traditional activities at the building and a summer camp program. The study found declining juvenile delinquency relative to two comparison areas without a Club. The first two years after the Club began operation, however, showed similar trends in delinquency in the program and comparison areas. While the prevention effect could plausibly have taken several years to become evidence, the lack of significance tests and other checks on validity limit the value of this study.

The Past and Future of Recreation Programs

Recreation programs merit further research and development for their potential crime prevention benefits, if only because they continue to draw Congressional support (e.g., Washington POST, January 16, 1997, p. A4). This conclusion is based not just on the three available impact evaluations, but on the long history of such programs in mainstream American life. The widespread availability of such programs in low-crime areas is another structural difference between suburban and inner-city communities, one that may contribute to the latter's higher crime rates.

The danger of violent conflicts being generated by club activities is just as open a question as the potential benefits of the programs. Careful research is needed to assess the net frequency of such conflicts with and without recreation, since shootouts can start off the basketball courts as well as on them. The potential prevention benefits from such programs may well exceed the benefits of prison, perhaps at much lower cost. But we will never know unless we invest in careful evaluation research. More funding of operations alone will leave the policy decision vulnerable to ideological and symbolic politics, rather than a rational

decision on the merits of reliable evidence.

REMOVING CRIMINOGENIC COMMODITIES

Perhaps the most immediate proximate contributing cause to many criminal events is a "criminogenic substance" (Cook and Moore, 1995). Guns, drugs, alcohol and cash, in the right circumstances, can all provide the additional, if not sufficient, cause which helps make a crime happen. That does not mean, however, that these substances will always be in the right circumstances, even when they are available in the community. Guns, for example, may not do much harm if they are kept locked in a safe, even though the potential for theft of the guns may make them a potential cause of a shooting on the street. Similarly, the context and use of alcohol varies widely, and is only criminogenic in some settings.

One approach to community crime prevention is to limit access to criminogenic substances. Community groups often lobby against the renewal of tavern liquor licenses, for example, on the grounds that the alcohol access increases the rates of robbery and assault in the community. Many cities are increasingly concerned about 24-hour bank cash-dispensing machines, with increasing regulatory control of their locations and security measures (Sherman, 1995). Low-income communities have possibly had fewer robberies and thefts since direct bank deposit of welfare and Social Security checks became common a decade ago.

These ideas are generally theoretically sound, given the prevailing theory of criminal events (Felson, 1994). Few of them have been evaluated. One specific approach that has been evaluated, gun buyback programs, suggests that there can be a major gap between theory and practice.

Gun buyback programs are based on two hypotheses. One is that the more guns in a community, the more gun violence there is. There is substantial evidence to support that claim (Reiss and Roth, 1993). The second hypothesis, however, is not supported by the evidence. That hypothesis is that offering cash for guns in a city will reduce the number of incidents in which guns are used in crime in that city. Four evaluations reviewed in Figure 4 show no effects of gun buyback programs on guns. There are several reasons why buyback programs may fail to reduce gun violence:

- o they often attract guns from areas far from the program city
- o they may attract guns that are kept locked up at home, rather than being carried on the street
- o potential gun offenders may use the cash from the buyback program to buy a new and potentially more lethal firearm; the buyback cash value for their old gun may exceed market value substantially.

The enormous expense of these programs is instructive. When St. Louis invested \$250,000 in gun buybacks in 1994, the same funds could have been used to match 250 children with Big Brothers/Big Sisters. Those 250 children would then have enjoyed about half the risk of becoming drug users, at least for the first year (Tierney and Grossman with Resch, 1995). But the opportunity cost of the programs never entered into the debate.

The scientific rigor of the buyback evaluations is not great. They can be summarized as providing **moderate evidence of no effect**. They fail to show effects on gun crimes relative to a comparison of trends in the same types of crimes committed without guns. Given their high cost and weak theoretical rationale, however, there seems little reason to invest in further testing of the idea.

Table 3-4

Gun Buyback Evaluations

Source	Scientific Rigor Score	Program Content	Program Effects
Rosenfeld 1995	3	1991 Gun Buyback in St. Louis of 7,500 guns	No reduction in homicides or gun assaults relative to same offenses, no

Rosenfeld 1995	3	1994 Gun Buyback in St. Louis of 1200 guns	guns No reduction in homicide or gun assaults relative to same offenses, no guns
Callahan et al 1995	3	1992 Seattle Gun Buyback	No effect on crime reports or medical records of gun injuries

CONCLUSIONS

This chapter has shown that there is a substantial disconnection between what is known about community causes of serious violence and what this nation is doing about those causes. The scientific evidence that communities matter is strong. The evidence that serious crime is concentrated in a very small number of communities is even stronger. But the link between those facts and the design of prevention programs is very thin indeed. Instead, a National Academy of Sciences report concludes there is evidence that federal and local transportation and housing policies over the past half-century have substantially contributed to the causation of serious crime, especially in the hypersegregated inner cities where over half of all homicides occur.

Despite the past gap between causation and prevention, there are manyas-yet unevaluated new efforts on the horizon attempting to bridge that gap. There is also promising evidence that some programs can be successful without addressing the root causes diagnosis of causation. Thus the prospects for progress in community-based prevention may be stronger than the current evaluation record suggests.

By the criteria used in this report, there are no community based programs of "proven effectiveness" by scientific standards to show with reasonable certainty that they "work" in certain kinds of settings. There are programs for which we can conclude the evidence shows with reasonable certainty that they do not work, at least in the settings where they have been evaluated. But even these programs might be found effective if varied in significant ways and rigorously evaluated. Moreover, there is both empirical evidence and theoretical reason to conclude that some programs are promising enough to merit further replication and evaluation.

What's Promising

- o **Gang violence prevention** focused on reducing gang cohesion, but not increasing it
- o **Volunteer mentoring** of 10 to 14 year-olds by Big Brothers/Big Sisters is promising for the reduction of substance abuse, but not delinquency

What's Doesn't Work

- o **Community mobilization** against crime in high-crime inner-city poverty areas
- o **Gun buyback** programs operated without geographic limitations on gun sources

THE EFFECTIVENESS OF DOJ PROGRAMS

These findings offer some answers to the Congressional question about the effectiveness of DOJ crime prevention programs. Perhaps most important is the scientific support for the growing emphasis on comprehensive programs for high crime communities found throughout the Office of Justice Programs (OJP). With the advent of the Enterprise Zone/Empowerment Communities (EZ/EC) initiative, the emphasis on comprehensive risk factor strategies is spreading to the entire federal executive branch. The scientific evidence supports this approach, especially to the extent that it actually concentrates on the

specific neighborhoods in which serious crime is most heavily concentrated--not just the cities in which those neighborhoods are located. Because this review finds no community-based programs of scientifically proven effectiveness to employ in those high-crime communities, however, there is a critical need for further research and development to help focus that funding more effectively. And because the statutory plan allows states to expend DOJ funds in communities with moderate to low rates of serious youth violence and risk factors for crime and delinquency, the expenditure of the funds is not yet optimal for discovering programs of proven effectiveness in those areas.

Several DOJ funding programs provide support for community-based local prevention programs. The major funding areas are Byrne Grants, Weed and Seed, Local Law Enforcement Block Grants, and the Title V Delinquency Prevention Grants. Most important, however, may be the DOJ funding for rigorous program evaluations of community-based prevention.

Byrne Grants

The Byrne Formula Grant program (as distinct from discretionary grants--see Chapter One) awarded \$1.8 billion through the states and territories from 1989 through 1994 (Dunworth, et al, 1997: 5). Community crime prevention, property crime prevention, and public housing are three of the twenty-one original (now 26) "Purpose Areas" for the program. Grants funded under these purpose areas could generally fall in the institutional setting addressed by this chapter. Together the three purpose areas received approximately \$68 million, or less than four percent of the total funding. Drug treatment is a fourth Purpose Area operating at the community level, receiving \$107 million in those years or 6 percent of total formula grants.

As noted in Chapter One, the broad diversity of programs funded and general absence of scientifically rigorous impact evaluations makes it impossible to assess the effectiveness of the Byrne funding stream as a single policy. Even the specific Byrne Purpose Areas cover a broad range of local programs. The scientific evidence reviewed in this chapter, however, strongly supports the statutory language calling for "strategic plans to target resources on geographic and substantive areas of greatest need" (Dunworth, et al, 1997: 3). The key question raised by this chapter is the best criteria for selecting the areas of greatest need. A related question is the most appropriate definition of "area." Absent a clear focus on the geographic areas with the most serious crime, community-based programs offer little scientific basis for claims of effectiveness at preventing such crime.

The evidence suggests that community-based Byrne grants may be most effective if concentrated on the small number of census tracts (often contiguous) where the majority of homicides in each state are clustered. The scientific evidence on the geographic distribution of homicides shows strong concentrations within high risk-factor census tracts. While a decade ago it would have been difficult for many states to analyze homicide data statewide by census tract, recent advances in microcomputers and computerized crime mapping makes such analysis feasible. Not every high homicide area may be appropriate for Byrne funding, given the difficulties of implementing community-based programs. But a statutory plan to focus a substantial percentage--perhaps fifty percent or more--of community-based Byrne Grant programming within such communities could speed the process of discovering what works. This would be especially likely if coupled with a national plan for testing community-based strategies across large samples of communities (see below).

The issue of concentration helps to interpret the evidence on **community mobilization**. That evidence shows that, by itself, mobilization is ineffective against serious crime in low-income communities. But it is far too early to close the door on mobilization as a possible necessary condition for other strategies. Many questions remain about whether mobilization can enhance a wide range of other specific efforts to attack serious crime, such as helping police reduce illegal gun carrying, reducing the availability of drugs and alcohol, and divert youth from gangs. Those questions, again, can only be answered by large sample community level studies as recommended below. In the absence of such programming for the sake of discovering what works, however, community mobilization funding would be of doubtful effectiveness.

Concentration of funds on high-crime communities would also make it possible to evaluate programs like drug treatment in a community-based way. Rather than examining the effects of drug treatment on individual-level crime rates, a community-level concentration of drug treatment could measure the community crime prevention effects of substantial increases in local treatment slots. The individual-level evidence we do have on drug treatment (see Kinlock, 1991), however, is certainly supportive of the effectiveness of Byrne funding spent on that Purpose Area.

Local Law Enforcement Block Grants

This formula grant program newly established in 1996 is also more focused on high-crime communities than other federal funding of local crime prevention. Most of the \$404 million in 1996 funds were allocated on the basis of each local police agency's level of reported Part I violent crimes. The statutory distribution plan clearly places greater resources in the cities with the most serious problems of violence and youth violence. It does not, however, require that the funding be concentrated within

those cities in the areas of greatest risk.

Like the Byrne Program, Local Law Enforcement Block Grants (LLEBG) could be focused more precisely on census tracts with highest homicide rates. And like the Byrne grants, LLEBGs have awarded substantial support for community mobilization. The 1996 amount was \$33 million, about nine percent of program funding. The comments above about further funding of community mobilization programs under Byrne apply to LLEBG as well; more investment in discovering what works seems justified, while unevaluated funding is likely to be ineffective at either preventing crime or increasing scientific knowledge about prevention.

Weed and Seed

Since 1991, the Weed and Seed program (see Chapter One) has been the most theoretically appropriate federal funding program for dealing with concentrated inner-city violence. Based upon the available DOJ publications, Weed and Seed funding offers the clearest focus on the census tracts with very high homicide rates; the initial program area in Kansas City had a rate of 180 per 100,000, or twenty times the national average. As the first of many comprehensive inner-city programs developed in recent years by OJP, Weed and Seed also offers the best evidence on the challenges of implementing and evaluating comprehensive programs, especially those in which DOJ becomes the lead agency in mobilizing resources from other federal departments at a micro-local level.

Weed and Seed's rationale for preventing serious crime is a high concentration of resources addressing a high concentration of risk factors in a small geographic area. The basic structure of this approach apparently differs from the majority of DOJ funding, which by statute cannot be focused upon the highest-crime communities. Given enough evaluation evidence for programs of proven effectiveness in such places, there could be a strong rationale for channeling the majority of DOJ crime prevention funding in ways similar to Weed and Seed. The challenge for Weed and Seed is therefore not just to prevent crime in the target communities, but to do so in a way that allows scientific evidence to accumulate about program effectiveness. The initial history of the program in that regard is instructive.

The initial Weed and Seed target area in Kansas City was accompanied by an NIJ evaluation grant that was almost equal to the amount of the program funding. That evaluation found a 49 percent reduction in gun crime and a statistically significant reduction in homicide associated with a single element of the program that fell outside the community-based institutional setting of this chapter (see Chapter Eight): directed police patrols at computer-located "hot spots" of gun crime (Moore, 1980). These patrols produced a 65 percent increase in gun seizures not found in the comparison area, where gun crime remained stable (Shaw, 1994; Sherman, Shaw and Rogan, 1995). The single element could be evaluated because none of the other elements had been implemented at that time. Had there been other elements implemented, it would have been scientifically impossible to isolate the effects of this element. Fortunately, the delay in the other program elements allowed the evaluation to discover an apparent effect with important implications.

Subsequent Weed and Seed sites did not have such intensive evaluations. The 50-50 ratio of evaluation to program dollars was tipped overwhelmingly in favor of program dollars. In the five years since the subsequent site funding was awarded, no impact evaluation has been completed. A process evaluation published by NIJ (Roehl, et al, 1996) illuminated the complexity of the program, which has now attracted substantial state and private funding in some sites. A second multi-site evaluation is now in progress, which is slated to produce site-specific impact evaluations at a Scientific Methods Score of either 2 or 3. The ability of that retrospective design to isolate program elements in relation to crime prevention will be difficult given the problem of multiple treatments (Cook and Campbell, 1979). Thus as the program currently stands, there is good scientific theory but no scientific data to show the effectiveness of the program.

The most challenging theoretical element for any inner-city crime prevention program is raising the community rate of adult labor force participation (Wilson, 1996). Chapter Six discusses the evidence on that point in detail. Labor force programs have suffered from a lack of focus on the Weed and Seed strategy, scattering resources across individuals spread out over many disparate communities. More recent private and public efforts to change community labor markets, rather than personal labor skills, fit right into Weed and Seed (see Bloom, 1996). They can easily become an integral part of its multi-risk factor reduction strategy, coupling high enforcement with greater opportunity.

Comprehensive Communities Program

Similar in conception to Weed and Seed, the Comprehensive Communities Program (CCP) is an effort to integrate social programs and policing, public and private organizations to control crime and improve the quality of life. The major difference is a lower funding level (see Chapter One) and a less clear-cut focus on addressing the highest-crime, highest risk factor areas.

CCP is more flexible about specific priorities set by city-wide leadership for specific programs and areas in which to operate them. The scientific evidence is thus less helpful in assessing such a program, given its greater variability. An intensively measured level 2 process and impact evaluation is currently under way (Rocheleau, et al, 1996), but there is no well-controlled test of its crime prevention effectiveness in progress. To the extent that some sites rely on gang programs that are of uncertain safety and effectiveness, as this chapter has shown, controlled tests of those specific program elements would be a high priority.

Title V Community Prevention Grants Program

Since 1992, this program has assisted local juvenile justice agencies to collaborate with other youth-serving agencies to develop an integrated system of services designed to prevent delinquency (see Chapter One). A major prevention component of this strategy is based on the Communities That Care model (CTC; Hawkins, Catalano, & associates, 1992). Consistent with the scientific evidence of concentrated risk factors, but not with the micro-local focus discussed in this chapter, the CTC model recommends a flexible plan for reducing risk factors. The plan is for local jurisdictions to identify risk factors known to be associated with delinquent behavior, to identify protective factors that buffer the effects of the identified risk factors operating within the communities, and to target program interventions on those factors. Like Weed and Seed, this program has a firm foundation in indirect empirical evidence and theoretical support. What it lacks to date is scientifically rigorous crime prevention impact evaluations.

The Title V program is implemented in two phases. During phase one, the assessment and planning phase, communities (defined here as entire jurisdictions, not neighborhoods) interested in participating in the Title V program must form a local prevention policy board and conduct an assessment to identify and prioritize the risk factors operating in their community. On the basis of this assessment, the applicant community then must develop a specific, comprehensive 3-year delinquency prevention plan. This plan serves as the basis for the community's application to the state's juvenile justice advisory group for Title V funding. Phase two of the process involves the implementation, monitoring, and evaluation of the programs and services. A 1996 survey administered by GAO showed that most of the 277 local projects supported by this program appeared to be designed in accord with the CTC model.⁵ For example, 78% reported addressing multiple risk factors in three or more substantive problem areas, and about 90% reported that they used two or more strategies identified in the CTC materials as "promising." Common prevention activities include parent training in effective techniques of conflict resolution and after-school programs.

The CTC model recommends local monitoring of changes in risk and protective factors at the community (city or county) level, but that will yield limited insights on crime prevention effectiveness. A national evaluation of Title V is being planned, but its scientific strength will be limited in the absence of random assignment of funding, or at least of different prevention strategies, to some communities and not others (Farrington, 1997). The scientific possibilities for comparing two different approaches consistently applied within two equivalent groups of communities, especially at the neighborhood level, would appear to be quite strong (Boruch, 1996). But whether it will happen depends in large part on the future of the issues and recommendations presented in Chapter 10.

Based on our review of the evaluations of the programs in the OJJDP "menu" for Title V (Howell, 1995) in Chapters 2,3,4,7 and 8, we can make a limited assessment of the potential effectiveness of this crime prevention program. The framework provided for the Title V incentive grants focuses local jurisdictions on selecting prevention strategies that have some basis in research. It is possible, however, that the array of "promising" activities allowed under the model is too broad, encompassing some ineffective strategies along with the more effective ones. The GAO report describes activities undertaken with Title V funds in six jurisdictions. These descriptions are too general to support a judgement of the delinquency prevention potential of any particular activity, but they seem to encompass a wide range of activities. Some of these, such as social skills training (see Chapter Five) mentoring programs, appear promising. Others, such as peer mediation and sports programs, do not.

Gang Prevention and Intervention

Funding for gang prevention and intervention programs is provided by BJA's Byrne formula grants, OJJDP, and potentially by Weed and Seed and Local Law Enforcement Block Grants. There are currently no restrictions on the kinds of gang programs that are eligible for support. The scientific literature suggests, but at a moderately low level of certainty, that the approach taken to gangs is critically important. It is possible that DOJ funding is supporting programs that reduce gang cohesion, in which case they are more likely to be effective. It is also possible that DOJ funds support programs that work with gangs in ways that may increase their cohesion, in which case they are less likely to be effective. Since the results of the available evidence cannot yet be generalized at a very high level of certainty, it is fairer to say that absent further evaluation evidence, the effects of DOJ-funded anti-gang programs are unknown.

JUMP: Juvenile Mentoring Program

This national discretionary program is a line-item Congressionally earmarked appropriation for both schools and nonprofit organizations to establish mentoring programs for juveniles (See Chapter One). The school-based mentoring evidence discussed in Chapter 5 is less encouraging than the findings from the Big Brothers and Sisters experiment reviewed in this chapter, but the school-based studies were also less rigorous. The \$4 million annual appropriation since 1994 was increased to \$15 million in FY 1997. No impact evaluations of JUMP have been completed, but one was solicited in 1996.⁶ Based on the available scientific evidence, the drug abuse prevention effectiveness of the Big Brothers/Big Sisters model is promising, but the school based model is of unknown effectiveness.

Based on the 1996 evaluation solicitation, it seems unlikely that the effectiveness of JUMP will be measured scientifically in the near future. JUMP is yet another rapidly developing program that would benefit more from Congressional appropriations for evaluation than for expanded operations. The 1996 evaluation was budgeted at \$150,000 per year to assess the effectiveness of a \$4 million annual appropriation covering 41 separate grantees, or about \$3600 of evaluation funding per program grantee. While JUMP is ideal for the kind of level 5 evaluation conducted in the private sector using randomized controls (Tierney and Grossman, with Resch, 1995), the under-funded DOJ evaluation clearly made controlled testing by independent evaluators impossible. The design's reliance on program grantees for data collection compromises the independence and reliability of the data, and probably precludes such methods as obtaining police records on juvenile arrests as an outcome measure. The Congress could correct these limitations by providing twenty percent of program funds for a more limited number of JUMP sites to be evaluated using the same design as the Tierney et al (1995) study.

STOP Formula Grants to Combat Violence Against Women

This program requires that states spend 25% of their funds to prevent violence against women on each of three priority areas (see Chapter One): law enforcement, prosecution, and victim services. None of these fall into community-based crime prevention, but grants under the remaining 25 percent may well do so. The purpose of the money is not just to combat domestic violence (see Chapter Four), but also to prevent stranger violence against women in the community. Hence community-based programs to reduce rape, stalking, purse-snatchings and carjackings would also be relevant here. The initial NIJ process evaluation of the program did not identify any community-based programs (Burt, 1996), nor was our review able to identify any impact evaluations of community prevention programs for stranger violence against women.

IMPROVING EFFECTIVENESS THROUGH BETTER EVALUATIONS

Community-based programs are among the most difficult to evaluate. They may also be the most important. The "small science" approach to evaluations of community programs has prevented the discovery of programs of proven effectiveness in this vital institutional setting. The effectiveness of community prevention might be greatly increased by a substantial investment in more controlled testing of program effects on serious crime. The Department of Labor has invested \$15 million in a randomized test of a single job training program. The prevention of serious crime in communities where it is heavily concentrated should warrant at least that much.

A fast-track strategy for advancing knowledge about community crime prevention is a multi-level randomized trial, with experiments imbedded in experiments. Mentoring programs, for example, can be randomly assigned to half the communities. Then within communities, the program can be provided to half the applicants. Gang prevention strategies for reducing cohesion can be randomly assigned to half of the communities, and then within half of the communities receiving the program it can be randomly assigned to half of the gangs. If "communities" are defined at the level of Census tract, there could be several hundred units of analysis available for this kind of multi-level research design.

The design could also embody elements that would always be delivered to the entire community. Substantial increases in police patrol, for example, could greatly reduce the crime rate in the short run. That, in turn, could assist efforts to attract new employers to the community, creating long-term employment opportunities. That, in turn, could diversify the class and race composition of the neighborhood, reducing hypersegregation on both variables as a risk factor. Drug prevention programs, recreation centers, school and family-based programs could be added as well. While many of these elements are already part of OJP funding plans, the method of testing them in randomly assigned combinations is not.

A broader experiment in community-based mentoring could draw separate samples from systematically different communities, chosen on theoretical grounds. A contemporaneous trial in two segregated inner-city communities of concentrated poverty, two predominantly white but high single-parent family suburban areas, and two racially and economically mixed areas would answer a key question: is whether the effects of the mentoring program vary by community context. An added comparison of Hispanic and African-American poverty areas would also illuminate the role of ethnicity, if any, in conditioning the effects of community-based mentoring. Separate random assignment schedules in each location would allow a strong test of interaction effects, rather

than the multivariate correlational methods used in the Tierney and Grossman with Resch (1995) test.

The importance of testing mentoring in different communities is clear. Many prevention strategies evaluated in this report produce different effects for different kinds of people, and in different community contexts. The Cambridge-Somerville experiment is a caution that mentoring, like gang intervention, may well backfire. It would be a mistake of both science and policy to support community-based mentoring for all communities on a one-size-fits-all basis. While that may well be the ultimate result of such a research program, the possibility of differential effects must be carefully examined.

Additional elements for a national experiment for dealing with high crime communities are suggested in the following chapters. Regardless of the specific elements included, the scientific basis for such an experiment remains the same. While scientists clearly disagree over the best way to handle the difficulties of community-level prevention (Bloom, 1996; Farrington, 1997), there is substantial agreement that we are not learning enough about the relative effectiveness of different strategies for community-based crime prevention.

NOTES

¹Sampson and Lauritsen, 1993: 89.

²While community crime rates have clear correlations with risk factors, there is still no scientifically conclusive evidence of causation, for reasons summarized in Sampson and Lauritsen (1993) at pp. 75-83. Thus the term "cause" in this section is used flexibly to denote a high priority target for a public policy intervention, a risk factor whose elimination might reduce crime.

³Whether this program is properly characterized as a mentoring program or something else is an issue debated within the University of Maryland team, one that illustrates the difficulty of characterizing multi-dimensional programs on the basis of any one dimension.

⁴Control groups and randomized experiments are generally far more possible ethically than many public officials are willing to concede, giving the scarcity of resources. Waiting lists are an excellent opportunity for controlled experiments. In this case, the control group males waited no longer than the applicants on the waiting list.

⁵This section is based largely on a recent (August, 1996) G.A.O. report entitled "Status of Delinquency Prevention Program and Description of Local Projects."

⁶Office of Juvenile Justice and Delinquency Prevention, FY 1996 Discretionary Competitive Program Announcements and Application Kit, p. 25.

REFERENCES

Anderson, Elijah

1978 *A Place on the Corner*. Chicago: University of Chicago Press.

1990 *Streetwise: Race, Class and Change in an Urban Community*. Chicago: University of Chicago Press.

Battin, S., K.G. Hill, J.D. Hawkins, R.F. Catalano, and R. Abbott

1996 *Testing Gang Membership and Association with Antisocial Peers as Independent Predictors of Anti-Social Behavior*. Paper Presented to the American Society of Criminology, Chicago, November.

Bernard, Thomas

1990 *Angry Aggression Among the Truly Disadvantaged*. *Criminology* 28: 73-96.

Bibb, M.

1967 Gang-Related Services of Mobilization for Youth. In M. Klein and B.G. Myerhoff, Eds., *Juvenile Gangs in Context*. Englewood Cliffs, NJ: Prentice-Hall.

Bloom, Howard S.

1996 Building A Convincing Test of Public Housing Employment Program Using Non- Experimental Methods: Planning for the Jobs-Plus Demonstration. Unpublished MS, The Wagner School, New York University.

Boruch, Robert and Ellen Foley

1996 Testing A Program Model in Many Sites: The Site and Other Entities as the Unit of Allocation and Analysis in Controlled Experiments. Draft Paper prepared for the US Department of Education.

Braithwaite, John

1989 *Crime, Shame and Reintegration*. Cambridge: Cambridge University Press.

Brown, R.C., Jr. and D.W. Dodson

1959 The Effectiveness of a Boy's Club in Reducing Delinquency. *Annals of the American Academy of Political and Social Sciences* 322: 47-52.

Bursik, Robert

1989 Political Decision-Making and Ecological Models of Delinquency: Conflict and Consensus. In S. Messner, M. Krohn, and A. Liska, *Theoretical Integration in the Study of Deviance and Crime*. Albany: SUNY Press.

Bursik Robert and Harold G. Grasmick

1993 *Neighborhoods and Crime*. New York: Lexington

Burt, Martha

1996 *The Violence Against Women Act of 1994: Evaluation of the STOP Block Grants to Combat Violence Against Women*. Washington, DC: Urban Institute.

Callahan, Charles, Frederick Rivara and Thomas Koepsell

1995 Money For Guns: Evaluation of the Seattle Gun Buy-Back Program. In Martha Plotkin, Ed., *Under Fire: Gun Buy-backs, Exchanges, and Amnesty Programs*.

Carnegie Council on Adolescent Development

1995 *Great Transitions*. Washington, DC: Author.

Carney, Frank, Hans W. Mattick and John D. Callaway

1969 *Action on the Streets*. NY: Association Press.

Clark, Kenneth

1965 *Dark Ghetto: Dilemmas of Social Power*. NY: Harper and Row.

Cohen, Albert K.

1955 *Delinquent Boys: The Culture of the Gang*. Glencoe: Free Press.

Cohen, Lawrence and Marcus Felson

1979 Social Change and Crime Rate Trends: A Routine Activities Approach. *American Sociological Review* 44: 588-607.

Collins, James F.

1989 Alcohol and Interpersonal Violence: Less Than Meets the Eye. In N. Weiner and M. Wolfgang, Eds., *Pathways to Criminal Violence*. Newbury Park, CA: Sage.

Cook, Thomas D. and Donald T. Campbell

1979 *Quasi-Experimentation: Design and Analysis Issues for Field Settings*. Chicago: Rand-McNally.

Cook, Philip J.

1991 *The Technology of Personal Violence*. In Michael Tonry and Norval Morris, Eds., *Crime and Justice*, Vol. 14. Chicago: University of Chicago Press.

Cook, Philip J. and Mark H. Moore

1995 *Gun Control*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Curry, G. David and Irving A. Spiegel

1988 Gang Homicide, Delinquency and Community. *Criminology* 26: 381-405.

1993 Gang Involvement and Delinquency Among Hispanic and African-American Adolescent Males. *Journal of Research in Crime and Delinquency*. 29: 273-91.

Dicken, C., R. Bryson and N. Kass

1977 *Companionship Therapy: A Replication in Experimental Community Psychology*. *Journal of Consulting and Clinical Psychology* 45: 637-646.

Dunworth, Terence, Peter Haynes and Aaron J. Saiger

1997 *National Assessment of the Byrne Formula Grant Program*. *Research In Brief*. Washington, DC: National Institute of Justice

Esbensen, Finn-Aage and David Huizinga

1993 *Gangs Drugs and Delinquency in a Survey of Urban Youth*. *Criminology* 4: 565-589.

Farrington, David P.

1997 *Evaluating a Community Crime Prevention Programme*. *Evaluation* 3 (forthcoming).

FBI (Federal Bureau of Investigation, U.S. Department of Justice)

1994 *Crime in The United States, 1993*. Washington, DC: USGPO.

Felson, Marcus

1994 *Crime in Everyday Life*. Thousand Oaks, CA: Pine Forge Press.

Fingerhut, Lois and J.C. Kleinman

1990 International and Interstate Comparisons of Homicides Among Young Males. *Journal of the American Medical Association* 263: 3292-3295.

Fo, W.S.O, and C.R. O'Donnell

1974 The Buddy System: Relationship and Contingency Conditioning in a Community Intervention Program for Youth with NonProfessionals as Behavior Change Agents. *Journal of Consulting and Clinical Psychology* 42: 163-169.

1975 The Buddy System: Effect of Community Intervention on Delinquent Offenses. *Behavior Therapy* 6: 522-524.

Fowler, Floyd J., Jr. and Thomas Mangione

1986 A Three-Pronged Effort to Reduce Crime and Fear of Crime: The Hartford Experiment. In Dennis Rosenbaum, editor, *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

Gold, Martin and Hans W. Mattick

1974 *Experiment in the Streets: The Chicago Youth Development Project*. Ann Arbor, MI: Institute for Social Research.

Goldstein, Arnold P., B. Glick, & W. Carthan

1989 *The Prosocial Gang: Implementing Aggression Replacement Training*. Thousand Oaks, CA: Sage.

Goldstein, Paul

1989 *Drugs and Violent Crime*. In N. Weiner and M. Wolfgang, Eds., *Pathways to Criminal Violence*. Newbury Park, CA: Sage.

Goodman, G.

1972 *Companionship Therapy: Studies in Structured Intimacy*. San Francisco, CA: Jossey-Bass.

Green, B.C.

1980 *An Evaluation of a Big Brothers' Program for Father-Absent Boys: An Eco- Behavioral Analysis*. PhD Dissertation, New York University.

Hagedorn, John

1988 *People and Folks: Gangs, Crime and the Underclass in a Rustbelt City*. Chicago: Lakeview Press.

Hawkins, J. David, Richard F. Catalano and Associates

1992 *Communities That Care: Action for Drug Abuse Prevention*. San Francisco, CA: Jossey-Bass.

Hawkins, J. David, Michael W. Arthur, and Richard Catalano

1995 *Preventing Substance Abuse*. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society*. Crime and Justice, Vol. 19. Chicago: University of Chicago Press.

Hill, K.G., J.D. Hawkins, R. Catalano, R. Kosterman, R. Abbott and T. Edwards

1996 *The Longitudinal Dynamics of Gang Membership and Problem Behavior: A Replication and Extension of the Denver and*

Rochester Gang Studies in Seattle. Paper Presented to the American Society of Criminology, Chicago.

Hirsch, A.

1983 Making the Second Ghetto: Race and Housing in Chicago, 1940-1960. Chicago: University of Chicago Press.

Homel, Ross

1994 Personal Communication

Hope, Tim

1995 Community Crime Prevention. In Michael Tonry and David P. Farrington, Eds., Building a Safer Society. Crime and Justice, Vol. 19. Chicago: University of Chicago Press.

Howell, James C., Editor

1995 Guide for Implementing the Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders. Washington, DC: OJJDP.

Forthcoming Promising Programs for Youth Gang Violence Prevention and Intervention. (Draft) In Rolf Loeber and David P. Farrington, Eds., Report of the Study Group on Serious, Violent, Chronic Juvenile Offenders. Washington, DC: OJJDP

Huff, Ronald C.

1989 Youth Gangs and Public Policy. *Crime and Delinquency* 35: 524-537.

Jackson, Pamela Irving

1991 Crime, Youth Gangs, and Urban Transition: The Social Dislocation of Postindustrial Economic Development. *Justice Quarterly* 8: 379-97.

Jones, M.B and D.R. Offord

1989 Reduction of Anti-Social Behavior in Poor Children by Nonschool Skill Development. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 30: 737-750.

Kanter, Rosabeth Moss

1977 *Men and Women of the Corporation*. New York: Basic Books.

Kelling, George L. and Catherine M. Coles

1996 *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities*. NY: Free Press.

Kennedy, David M., Anne M. Piehl, and Anthony A. Braga

1996 *Youth Gun Violence in Boston: Gun Markets, Serious Youth Offenders, and a Use Reduction Strategy*.

Kinlock, Timothy

1991 PhD dissertation, University of Maryland.

Klein, Malcolm

1968 *From Association to Guilt: The Group Guidance Project in Juvenile Gang Intervention*. Los Angeles: University of

Southern California.

1971 *Street Gangs and Street Workers*. Englewood Cliffs, NJ: Prentice-Hall.

1995 *The American Street Gang: Its Nature, Prevalence and Control*. NY: Oxford University Press.

Lavrakas, P.J. and S.F. Bennett

1989 *A Process and Impact Evaluation of the 1983-1986 Neighborhood Anti-Crime Self-Help Program: Summary Report*. Evanston, Ill: Northwestern University, Center for Urban Affairs and Policy Research.

Liebow, Elliott

1967 *Tally's Corner*. Boston: Little, Brown.

Lemann, Nicholas

1991 *The Promised Land: The Great Black Migration and How It Changed America*. New York: Alfred A. Knopf.

Lizotte, Alan, et al.

1996 Paper Presented to the American Society of Criminology, Chicago, November.

Logan, J. and H. Molotch

1987 *Urban Fortunes: The Political Economy of Place*. Berkeley, CA: University of California Press.

McCord, Joan

1978 A Thirty-Year Followup of Treatment Effects. *The American Psychologist* 33: 284- 289.

1992 *Understanding Motivations: Considering Altruism and Aggression*. In J. McCord, Ed., *Facts, Frameworks, Forecasts: Advances in Criminological Theory*. New Brunswick, NJ: Transaction.

Massey, Douglas S. and Nancy A. Denton

1993 *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, Mass: Harvard University Press.

Messner, Steven and K. Tardiff

1986 *Economic Inequality and Levels of Homicide: An Analysis of Urban Neighborhoods*.

Criminology 24: 297-318.

Miczek, Klaus A., Joseph F. DeBold, Margaret Haney, Jennifer Tidey, Jeffrey Vivian, and Elise M. Weerts.

1993 *Alcohol, Drugs of Abuse, Aggression, and Violence*. In Reiss, Albert J., Jr. and Jeffrey Roth, Eds., *Understanding and Preventing Violence*. Vol. 3. Washington, DC: National Academy of Sciences.

Miller, Walter B.

1962 *The Impact of a "Total-Community" Delinquency Control Project*. *Social Problems* 9: 168-191.

Moore, Mark H.

1980 *The Police And Weapons Offenses*. *Annals of the American Academy of Political and Social Sciences* 452: 22-32.

Moore, J. P.

1996 The 1995 Youth Gang Survey. Report to the OJJDP. Tallahassee: National Youth Gang Center.

Powers, E. and H. Witmer

1972 An Experiment in the Prevention of Delinquency: The Cambridge-Somerville Youth Study. Montclair, NJ: Patterson Smith [Original publication 1951].

Quetelet, L.A.J.

1842 A Treatise on Man and the Development of His Faculties. Edinburgh: W. and R. Chambers.

Reiss, Albert J., Jr.

1986 Why Are Communities Important in Understanding Crime? In Albert J. Reiss, Jr. and Michael Tonry, Communities and Crime. Crime and Justice: A Review of Research. Vol. 8. Chicago: University of Chicago Press.

1988 Co-Offending and Criminal Careers. In Michael Tonry and Norval Morris, Eds., Crime and Justice, Vol. 10. Chicago: University of Chicago Press.

Reiss, Albert J., Jr. and Jeffrey Roth, Editors

1993 Understanding and Preventing Violence. Washington, DC: National Academy of Sciences.

Rocheleau, Ann Marie, George L. Kelling, Wesley G. Skogan, Jeffrey R. Roth, and Dennis J. Rosenbaum

1996 Evaluation of the Bureau of Justice Assistance Comprehensive Communities Program: Interim Report. Cambridge, Mass.: BOTEC Analysis Corp.

Roehl, Janice A., Robert Huitt, Mary Ann Wycoff, Antony Pate, Donald Rebovich, and Ken Coyle

1996 National Process Evaluation of Operation Weed and Seed. Research in Brief. Washington, DC: National Institute of Justice.

Roncek, Dennis and P. A. Maier

1991 Bars, Blocks and Crime Revisited: Linking the Theory of Routine Activities to the Empiricism of Hot Spots. Criminology 29: 725-53.

Rosenfeld, Richard

1995 Gun Buybacks: Crime Control or Community Mobilization. In Martha Plotkin, Ed., Under Fire: Gun Buy-backs, Exchanges, and Amnesty Programs. Washington, DC: Police Executive Research Forum.

Sampson, Robert

1986 Crime In Cities: The Effects of Formal and Informal Social Controls. In Albert J. Reiss, Jr. and Michael Tonry, Communities and Crime. Crime and Justice: A Review of Research. Vol. 8. Chicago: University of Chicago Press.

Sampson, Robert and Casey Groves

1989 Community Structure and Crime: Testing Social-Disorganization Theory. American Journal of Sociology 94: 774-802.

Sampson, Robert and Janet Lauritsen

1993 Violent Victimization and Offending: Individual, Situational and Community-Level Risk Factors. In Reiss, Albert J., Jr. and Jeffrey Roth, Eds., *Understanding and Preventing Violence*. Vol 3. Washington, DC: National Academy of Sciences.

Schinke, Steven P., Orlandi, Mario A. and Kristin C. Cole

1992 Boys & Girls Clubs in Public Housing Developments: Prevention Services for Youth at Risk. *Journal of Community Psychology* OSAP Special Issue: 118-128.

Schuerman, L. and Solomon Kobrin

1986 Community Careers in Crime. In Albert J. Reiss, Jr. and Michael Tonry, Eds., *Communities and Crime*. *Crime and Justice: A Review of Research*. Vol. 8. Chicago: University of Chicago Press.

Shaw, James W.

1994 Community Police Against Crime: Violence and Guns. Ph.D. Dissertation, University of Maryland.

Shaw, Clifford R. and Henry McKay

1942 *Juvenile Delinquency and Urban Areas*. Chicago: University of Chicago Press.

Sherman, Lawrence W.

1995 *The Police*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Sherman, Lawrence W., James W. Shaw and Dennis P. Rogan

1995 *The Kansas City Gun Experiment*. *Research in Brief*. Washington, DC: National Institute of Justice.

Skogan, Wesley

1986 Fear of Crime and Neighborhood Change. In Albert J. Reiss, Jr. and Michael Tonry, Eds., *Communities and Crime*. *Crime and Justice: A Review of Research*. Vol. 8. Chicago: University of Chicago Press.

1990 *Disorder and Decline*. NY: Free Press.

Spergel, Irving A.

1986 *The Violent Gang in Chicago: A Local Community Approach*. *Social Service Review* 60.

1995 *The Youth Gang Problem: A Community Approach*. NY: Oxford University Press.

Spergel, Irving and S.F. Grossman

1995 *Little Village Gang Violence Reduction Program*. Paper Presented at the National Evaluation Conference, National Institute of Justice, Washington, DC.

Taylor, Ralph, Stephen Gottfredson and Sidney Brower

1984 Block Crime and Fear: Defensible Space, Local Social Ties and Territorial Functioning. *Journal of Research in Crime and Delinquency* 21: 303-331.

Taylor, Ralph and Stephen Gottfredson

1986 Environmental Design, Crime, and Prevention: An Examination of Community Dynamics. In Albert J. Reiss, Jr. and Michael Tonry, Eds., *Communities and Crime*. *Crime and Justice: A Review of Research*. Vol. 8. Chicago: University of

Chicago Press.

Thompson, D.W. and L.A. Jason

1988 Street Gangs and Preventive Interventions. *Criminal Justice and Behavior* 15: 323- 333.

Thornberry, Terence P.

Forthcoming Gangs and Serious, Chronic and Violent Offenders. Draft. In Rolf Loeber and David P. Farrington, Eds., Report of the Study Group on Serious, Violent, Chronic Juvenile Offenders. Washington, DC: OJJDP

Thornberry, Terence P., Marvin D. Krohn, Alan J. Lizotte, and Deborah Chard-Wierschem.

1993 The Role of Juvenile Gangs in Facilitating Delinquent Behavior. *Journal of Research in Crime and Delinquency* 30: 55-87.

Thrasher, Frederic

1936 The Boys' Club and Juvenile Delinquency. *American Journal of Sociology* 41: 66-80.

Tierney, Joseph P. and Jean Baldwin Grossman, with Nancy L. Resch

1995 Making a Difference: An Impact Study of Big Brothers/Big Sisters. Philadelphia, PA: Public/Private Ventures.

Toby, Jackson

1957 Social Disorganization and Stake in Conformity: Complementary Factors in the Predatory Behavior of Hoodlums. *Journal of Criminal Law, Criminology and Police Science* 48: 12-17.

Torres, Dorothy

1981 Gang Violence Reduction Project: Fourth Evaluation Report. Sacramento, CA: California Youth Authority.

Tyler, Tom

1990 Why People Obey the Law. New Haven: Yale University Press.

Wilson, James Q. and Kelling

1982 Broken Windows: The Police and Neighborhood Safety. *Atlantic Monthly* 249: 29-38.

Wilson, William Julius

1987 The Truly Disadvantaged. Chicago: University of Chicago Press.

1996 When Work Disappears: The World of the New Urban Poor.

Woodson, Robert L.

1981 A Summons To Life: Mediating Structures and the Prevention of Youth Crime.

Cambridge, Mass.: Ballinger.

FAMILY-BASED CRIME PREVENTION

by Lawrence W. Sherman

Family risk factors have a major effect on crime. Family based crime prevention can directly address those risk factors, with substantial success. The more risk factors they address, perhaps, the better. The earlier they start in life, it seems, the better. Programs for infants and young children may be most cost-effective in the long run, even if they are expensive in the short run. Combining home-visit parental support with preschool education reduces crime committed by children when they grow up. Rigorously evaluated pilot projects with tightly controlled prevention services are consistently effective. Family problems later in life are more difficult to address, especially family violence by adults. But it is still possible. The potential of early, adolescent and adult family-based crime prevention is held back only by our failure to invest in more research and development. The need for testing programs that can work on a large scale is particularly great.

Most of these conclusions have been reached independently by diverse scholars from diverse disciplines (Yoshikawa, 1994; Tremblay and Craig, 1995; Hawkins, Arthur and Catalano, 1995; Crowell and Burgess, 1996; Kumpfer, Molgaard and Spoth, 1996; Wasserman and Miller, forthcoming). Given the normal disagreements among social scientists, the level of consensus about these conclusions is striking. But of all these conclusions, the need for further careful evaluations is the strongest point of agreement. Evaluating the varieties of possible transitions from a small pilot test of a program to a large-scale operation is a step that is frequently left out, as it was in the case of Head Start (Lazar, 1992, and Zigler, 1992, both as cited in Yoshikawa, 1994). There is no government institution fully prepared to deliver family-based prevention of the kind found effective in the scientific literature. Making the most out of what we know already will require even more knowledge about how to go from pilot tests to full operations.

Much more is known about making families better at child-raising than about preventing family violence. A recent review of the effectiveness of criminal sanctions in combatting domestic abuse concludes that the evidence in favor of these programs is either weak or absent (Fagan, 1995). Batterer's counseling, mandatory arrest, special prosecution and victim advocacy programs all remain essentially unevaluated. While theoretical inferences support such programs as battered women's shelters to reduce danger during the high-risk aftermath of an incident reported to police, there is no assurance that any of these programs actually increase long-term victim safety. Court orders of protection and other legal steps advised by victims' advocates may even increase risk of serious injury to victims. Mandatory arrest for misdemeanor spouse assault without prosecutorial action or court treatment has been found to be either ineffective or criminogenic in repeated controlled trials, although it is effective in communities of strong social capital.

Perhaps least is known about the extent to which the same family-based programs can prevent both family violence and delinquent acts by children in the family. One home-visit program for infants, for example, reduced child abuse, which is both a crime of domestic violence and a risk factor for later delinquency of abused children. The potential for broadening the outcome measures and objectives of family-based crime prevention is important for public policy analysis. It has great potential, for example, in helping to design a program that might work on a much broader scale than the pilot tests to date, most of which are limited to a few hundred participants or less. It is also one more good reason to invest more heavily in research and development.

This chapter briefly reviews the variety of family-based crime prevention programs. It then considers a few of the major research issues in evaluating and designing family-based prevention. Five major areas of research are then examined in detail, each in relation to an ecological context where families seek or receive help affecting crime and risk factors: homes, pre-schools and schools, clinics, courts, and other contexts. The chapter concludes with a scientific summary of what works, what doesn't, and what's promising, with assessments of what is known about the effectiveness of federally funded programs and suggestions for improving effectiveness through better evaluations.

VARIETIES OF FAMILY-BASED CRIME PREVENTION

Family-based crime prevention is an unintended beneficiary of the vast research enterprise on human development. Much of what we know about it comes from evaluations of programs established for other purposes. Many of these human development programs are highly elaborated, each with its own terminology, literature, and professional community. As programs intended to improve parents' child-rearing skills, children's academic skills, or children's mental health, they have often resulted--almost coincidentally--in reduced crime. This fact underlines the importance of defining prevention not as intention, but as result. It also shows how basic to human experience the factors affecting the risk of crime can be.

Several analyses of risk factors for both serious and general delinquency conclude that family factors are important. While

serious crime is **geographically** concentrated in a small number of high crime communities, it is **individually** concentrated in families with anti-social parents, rejecting parents, parents in conflict, parents imposing inconsistent punishment, and parents who supervise their children loosely (Tremblay and Craig, 1995: 158). Several analysts conclude that these risk factors are cumulative, and that the more of them a prevention program can address the better (Coie and Jacobs, 1993; Yoshikawa, 1994; Tremblay and Craig, 1995; Wasserman and Miller, forthcoming). This hypothesis is consistent with much of the literature, and not falsified by any direct test. Perhaps the best way to explore it is to evaluate rigorously prevention programs addressing different numbers and combinations of risk factors.

Risk Levels and Prevention Strategy

The basic structure of family-based prevention programs depends upon strategic choices with public safety, budgetary and political consequences. The basic choice is between **universal** and **targeted** programs (Institute of Medicine, 1994). Universal programs are offered to, or even imposed upon, all families. In several European countries, for example, all families with newborn children are required to admit trained nurses to their homes to visit the baby. This program applies to everyone without regard to any risk factors. **Targeted** programs are of two kinds. One kind is "**selective**," in which families (or individuals) identified as being at high risk are offered or mandated to receive a service intended to prevent the onset of harm. The other kind of targeted program is called "**indicated**." In the case of crime and delinquency, indicated programs are offered to prevent recurrence of crime by children already manifesting crime or crime risk factors. Because the term "targeted" in crime prevention policy is increasingly unacceptable to African-Americans as too resonant of racially discriminatory practices, this report will substitute the term "focused" to denote the same concept.

The choice between universal and focused programs is complex. Focused programs may make more efficient use of scarce resources, but universal programs may attract greater resource levels per family. It may not be necessary to allocate resources equally to all families within a program. But it may well be necessary to have the program itself be universal in order to make a very high cost investment politically palatable. The failure of Head Start to obtain full funding, for example, may be linked directly to the fact that it is seen as a program for poor children, rather than for all children.

Families with high levels of crime risk factors may also be more likely to accept universal programs than focused ones. This may be particularly important for more intrusive interventions into family life, such as frequent home visitation. Any possible stigma of such intrusion may be limited by the universal character of the program. To the extent that risk factors in some geographic areas are correlated with race, focused programs may be even more problematic. But programs applying to all children and all families avoid any implication of discrimination.

Even though this report generally concludes that crime prevention can be most effective when scarce resources are focused on concentrations of risk factors, family-based crime prevention provides an important exception. What makes sense across cities and even schools may not work at the level of family life. The state's relationship to the citizenry is most sensitive in the institutional setting of the family. Interpreting the policy implications of the scientific evidence reviewed in this chapter can be accomplished most usefully with the issue of universal versus focused programming in mind. **The "elasticity" of demand for such programs may be such that the more expensive they become through universal access, the more likely they are to be fully funded.**

Figure 4-1

Family-Based Crime Prevention by Ecological Context

Ecological Context	Program	Prevention Agent (s)	Delivery
HOME or	Regular visits for	Nurses,	Universal
	emotional, informational, instrumental and educational support for parents of preschool (or older) children	Teachers, Para-professionals, Preschool Teachers	Selective Rarely indicated
	Foster care outplacement for the prevention of	Family services,	Indicated

	physical, sexual abuse or neglect	Social worker	
	Family preservation of families at risk of outplacement of child	Private Family, preservation teams	Indicated
	Personal alarm for victims of serious domestic violence	Police	Indicated
	In-home proactive counseling for domestic violence	Police, Social Workers	Indicated
PRESCHOOL or	Involvement of mothers in parent groups, job training, parent training	Preschool teachers	Universal selective
SCHOOL or	Parent training	Psychologists. Teachers	Indicated Selective; some universal
or	Simultaneous Parent and Child Training	Psychologist, Child Care Workers, Social Workers	Indicated selective
CLINICS	Family Therapy	Psychologists, Psychiatrists, Social Workers	Indicated, Selective
	Medication--psychostimulants for treatment of hyperactivity and other childhood conduct disorders	Psychiatrists, Psychologists, Pediatricians	Indicated
HOSPITALS	Domestic Violence Counseling	Nurses, Social Workers	Indicated
	Low-Birthweight Baby Mothers' Counseling & Support	Nurses, Social Workers	Indicated
COURTS	Prosecution of Batterers	Police, Prosecutors	Indicated
	Warrants for Unarrested Batterers	Police, Prosecutors	Indicated
	Restraining Orders or "Stay-Away" Orders of Protection	Police, Prosecutors, Judges, Victims' Advocates	Indicated
	Hotline Notification of	Probation,	Indicated

	victim about Release of Incarcerated Domestic Batterer	Victim Advocates	
BATTERED WOMEN'S SHELTERS	Safe Refuge during high-risk 2-7 days aftermath of domestic assault; counseling; hotlines	Volunteers; staff	Indicated

The Ecology of Family-Based Prevention

Despite the potentially greater appeal of universal programs, Figure 1 reveals a striking fact: almost all family-based crime prevention is currently offered on a focused basis. Absent an indicated reason to intervene in family life, American government generally leaves families alone. In contrast to many other western nations, the United States performs almost no universal monitoring of families in the home.¹

This pattern creates a distinct ecology of prevention which treats families very differently in different places (Stinchcombe, 1963). The state imposes requirements on the disease-prevention vaccinations children must receive in hospitals and medical clinics, for example, but does not generally empower public health agents to invade the home to deliver vaccinations. The authority of the school teacher is great in a school building, but ambiguous when the teacher visits a private home by parental consent. The realm of the possible in family-based crime prevention programs is defined largely by the ecological context in which the programs might be delivered, and the authority vested in the government to intervene in family life associated with each of those contexts.

These contexts, as presented in Figure 1, include schools, preschools, hospitals, clinics, courts and battered women's shelters, as well as the home itself. All other contexts are in some sense merely windows on the home, opportunities for dialogue between the state and the family that can shape the results of family life for public safety. Hospitals and schools are places where crimes in the home are often detected and reported to police, who then have legal standing to investigate events in the home. They are also places where advice and instructions about reducing risk factors can be given. Absent the indication of existing problems or high risk, however, there are no universal crime prevention mechanisms comparable to medical vaccines.

This chapter is therefore a review of the effectiveness of programs within one strategic realm of family-based crime prevention: **focused** interventions. This represents an existing choice not to develop universal programs. It does not, of course, show whether focused programs are more or less effective than universal programs might be. In order to answer that question, it is necessary for a large-scale program of research and development to compare universal and targeted programs for their relative effectiveness. To the extent that universal programs might detect and prevent more problems than targeted programs, their value remains a major untested hypothesis in family-based crime prevention.

EVALUATING FAMILY-BASED CRIME PREVENTION

Scientific evaluations of family-based crime prevention programs face at least three distinctive problems, compared with other institutional settings. Perhaps foremost is the long time horizon often needed to measure the effectiveness of prevention programs. Also important is the possible variation in effectiveness by intensity or accumulation of risk factors. There are also unique problems in measuring crimes committed by family members against one another, in relation to both privacy and safety for research subjects and accuracy of measurement.

Long Time Horizon

A basic premise of developmental crime prevention is that what happens during infancy can affect the odds of crime two or three decades later. Giving this theory a fair test requires a very long time horizon. Sustaining the test over the time required creates problems of cost, management, and interpretation.

The problem of cost is not as great as it seems. Numerous birth cohort studies of delinquency have been funded intermittently over decades, keeping track of where to find the research subjects for repeated interviews and official record checks (Farrington,

Ohlin and Wilson, 1987). The current OJP limitation of grant periods to two years poses more of a management problem than a cost problem, creating uncertainty about commitments to employ key staff and other planning issues. Relaxing that limitation for five- and ten-year projects would ease those difficulties, and help encourage more tests of developmental crime prevention strategies. The major problem this creates in interpreting available evidence is that there are so few long-term studies to examine.

The problem of management is perhaps more critical to interpretation of long-term findings. The two longest running tests of developmental crime prevention are both reputed to be very well managed programs (Berrueta-Clement et al, 1985; Lally, et al, 1987). Critics have raised the problem of generalizing from the results of small, well-managed programs to large, bureaucratically administered programs. The key question is how accurately we can predict that a long-term program serving tens of thousands of families will have the same effects as a short-term test program serving several hundred families for 3 to five years. In order to answer that question, we require research designs testing much larger scale programs over a longer period of time. That requires not only much greater cost, but a separate political process necessary to sustain the resources for the time horizon required. For example, ten years worth of birth cohorts might be needed to see if the long-term effects of a program operating during the enthusiasm (or confusion!) of an initial launch were the same as a program that was three, five, eight or ten years old.

Finally, the issue of interpretation is compounded by the speed with which our society is changing. By the time the results are in from a two-decade old test, the context of the program may have changed in important ways. Perhaps more qualified preschool teachers were available in the early 1960s than today, for example. Or perhaps the concentration of poverty in inner cities is so much worse in the 1990s than in the early 1960s (Wilson, 1996) that crime prevention benefits found in an earlier study would not stand up to today's more intense risk factors. Early feedback from measures of protective factors (like school conduct assessment) and child abuse might help solve this problem, providing both short- and long-term feedback. Conversely, short-term child abuse interventions such as Olds et al (1986) provide excellent opportunities for long-term followup of delinquency prevention, and even domestic violence prevention. Generating and funding such followup research should be a high priority for OJP. Similarly, short-term followups of drug abuse prevention programs merit much longer term followups, to see whether other factors cancel out early effects of interventions.

Cumulative Risk Factors and Contextual Data

This report's concern for the interdependency of crime prevention institutions is not widely shared in crime prevention research. Many clinic-based studies, for example, do not report precise data on the neighborhoods from which the research subjects are drawn. It is one thing to say that the children are from families on welfare or have teenage mothers. It is another thing altogether to report that 35% of the families in the sample reside in neighborhoods with adult unemployment rates in excess of 70%, and with 60% of households in the census tract below the poverty line (see Chapter two). Very few individual-level experiments report community-level data in the degree of specificity needed to begin to synthesize results and draw broader conclusions about program effectiveness.

Family-based prevention programs may work well in areas of high risk, but only up to a point. For example, clinic-based parent training for parents of aggressive elementary school children may work in all neighborhoods in Oregon, but not in many neighborhoods in Chicago. If there is a tipping point beyond which a parentally focused program may not work, it cannot be identified from the literature without more precise measurement. There is also a problem of consistency of the treatment itself across cities and treatment staff. That may interact, in turn, with the accumulation of risk factors. Some treatment staff or clinics may have greater capacity or experience to deal with concentrated risk factors than others.

Resolving the interaction of risk level with treatment effectiveness requires systematic attention and costly cross-site scientific designs. Planned variations in staff capacity, neighborhood social factors and family variables must be structured into the research design. Controlled experimentation with treatments across sites, as distinct from comparing naturally occurring variation in local treatment capacity, is required to bring a scientific methods score up to level 4 or 5. There is little precedent for this kind of research. But without it there will remain major limitations in generalizing from single-site experiments.

Measuring Crime in the Family

The issues of privacy and retaliation in measuring crimes within families pose a great challenge for research. Continuing disagreements about the interpretation of existing measures have afflicted even the strongest of research designs (Fagan, 1996). The central problems are low completion rates of personal interviews with victims of family crimes who have been treated, low or inconsistent reporting rates of subsequent crimes to police, and unwillingness to disclose crimes committed in the family during interviews in the home while other family members are present (NCVS study).

In several sites of the NIJ spouse assault replication project (SARP), for example, there are different results found from victim interviews and official reports to police. While victim interview data showed that arrested offenders had committed fewer repeat offenses than offenders randomly assigned to a warning, the official data showed the opposite (Dunford, et al, 1990; Berk et al, 1992). In other cities the victim data showed no effect of arrest while the official data showed some evidence of a backfiring effect (Hirschel, et al, 1990; Sherman, et al, 1991). But a major difference between these data was the completion level: official data covered 100% of the sample while the victim interview rates were as low as 23%, and averaged 41% in sites reporting a deterrent effect from victim interviews. Thus the effects of arrest may have interacted with victim willingness to be interviewed, biasing the sample towards victims who had enjoyed a protective effect from arrest.

The measurement theory challenging official data on family violence is that experimentally assigned criminal sanctions may encourage victims to call police more readily, whereas experimentally assigned warnings may discourage victims from calling police. Thus the higher rates of reported reoffending with the arrested subjects is arguably due to a measurement artifact. This theory does not explain why there are fewer repeat offenses reported about **employed** offenders randomly assigned to arrest compared to those assigned to a warning, and why the measurement artifact would only apply to unemployed offenders. A further theory could suggest that partners of employed males are less likely to call police than partners or unemployed males after an arrest has been made for fear of the employed batterer's losing his job. But none of these theories have been tested directly.

Possible solutions to these problems may lie in focusing scarce resources on prevention and measurement of injuries treated in hospital emergency rooms. Hospital cooperation with data collection on an anonymous basis could then provide more reliable measures of domestic violence (Sherman and Strang, 1996), although even then questions will remain.

PREVENTION AT HOME

Perhaps the most promising results in all areas of crime prevention are found in the evaluations of home visitation programs. While these programs are often combined with other institutional elements, such as preschool, there is a large and almost uniformly positive body of findings on this practice. Other prevention programs delivered in the home context, such as personal alarms for domestic violence victims and family preservation services, have been subject to far less research. These programs, however, generally operate on an indicated basis after crime problems have developed rather than on the selective basis of the home visitation programs. Combining these two findings may suggest even more reason for testing universal home-based prevention programs, to see if possible benefits of child-centered programs may be extended to family crimes involving adults.

Home Visitation Programs

Home visitation varies enormously in dosage levels, content, skill, and context. Yet there are common effects reported across all these variations. These common effects may be linked to a common core of treatment content, for which dosage levels may matter more than other dimensions. The common core of home visitation is a visitor who cares about child-raising sitting down in a home with a parent and a child. Visitors can be nurses, social workers, preschool teachers, psychologists or paraprofessionals. They can provide cognitive information, emotional support, or both. They can actively teach parents, with hands on the children. Or they can passively watch and listen, merely giving parents a good listening to. They can be trained in health (like nurses), human development (like psychologists and social workers), cognitive and social skills instruction (like preschool teachers) or some mixture of these subjects (like paraprofessionals). They can be experienced or novice, enthusiastic or burned out, assertive or hesitant. But no matter who they are or what they do, they provide a bridge between the parent, usually a mother, and the outside world.

Figure 2 summarizes the results of 18 different evaluations of programs that included a home visitation component. The Figure and this discussion draws primarily on the material in Yoshikawa's (1994) review, as well as Tremblay and Craig's (1995) and the draft OJJDP review prepared by Wasserman and Miller (forthcoming). Based on the limited information provided in the secondary reviews, the primary studies appear to merit level 4 to 5 scientific methods scores by the standards of this report, although some might drop to a 3 if they suffer large attrition problems. All of them show positive effects of home visits on either some measure of crime by children when they enter adolescence (N = 2 experiments), child abuse during or shortly after the period of home visits (N = 5 experiments), or risk factors for delinquency (N = 10 experiments, 1 meta analysis). While the meta-analysis of Head Start evaluations (McKey, et al, 1985) shows that the measured effects wear off, that analysis includes the lowest dosage of home visits of any of the experiments: as few as two per year. In contrast, the substantial reductions in later delinquency in the two long-term followup studies are associated with weekly home visits for periods up to five years.

Figure 4-2

Evaluations of Home Visitation Programs

(All studies ranked Level 4 or 5 on Scientific Methods Score)

(Secondary Review Sources: Yoshikawa, 1994 unless otherwise indicated; Tremblay & Craig, 1995; Wasserman & Miller, Forthcoming)

Primary Source of (Secondary Child source if not Yoshikawa)	Effects	N of Visits, Time	Visitors, Visited	Other Service	Age
EFFECTS ON CRIME					
1) Berrueta-Clement et al 1984 High/Scope Preschool	Lower adult arrests by age 24 Exp = 7% Control = 31% (N = 121)	Weekly, 2-3 years, 30 weeks per yr (60 to 90 visits)	Teachers, High risk African-American children & their mothers	Pre-school; Parent Groups	3-5
2) Lally, et al 1987 Syracuse University Family Development Research Program	Lower arrests by age 15 Exp = 6% Control = 22% (N = 119)	Weekly, 5 years (260 visits)	Paraprofs, Low income, mostly African-American children & their mothers	Pre-school; pre-natal	0-5
3) Olds, et, al, 1986, 1988 University of Rochester Prenatal/Early Infancy Project	Lower Child Abuse by age 2 Exp = 19% Control = 4% (N = 300)	Bi-weekly over 122 weeks from late pregnancy (up to 60 visits)	Nurses, first born infants of high-risk low income white mothers	Doctor Visits	0-2
4) Barth, Hacking & Ash 1988	Lower child abuse removals from home of exps. (N = 50)	Bi-weekly over 26 weeks after birth (12 visits)	Paraprof, children of mothers at risk for abusing them	Taught Parent Skills	0-6
5) Gray, et al, 2.5 1979	Fewer Injuries of Experimentals (N = 50)	Weekly over an average of 130 weeks (130 visits)	Nurses, children and high risk mothers	Doctor visits	0- yrs
6) Infant Health Program (Tremblay & Craig)	Less child abuse & neglect of experimentals (N = 985)	? 3 years	? , High risk children	pre-school	0-3

7) Larson 1980 15 Montreal Home Visitation Study (Wasserman & Miller)	Fewer Injuries of Experimentals (N = 95)	10 visits, most effect from 1 in pregnancy, 9 over 15 mos.	BA Psychologist, -- infants of Canadian mothers in Montreal	--	0- mos.
EFFECTS ON CRIME of RISK FACTORS Child	Effects	N of Visits, Time	Visitors, Visited	Other Service	Age
8) Seitz, et al 2.5 1982 years Yale Child Welfare Project	Less anti-social behavior in school at age 10 by exp boys (N = 30)	Mean = 28 visits over 2.5 years	nurse, social worker or psychologist, low ses first-borns and mothers	Doctor Visits	0-
9) Johnson & YRS Walker 1987 Houston Parent-Child Development Center	Less anti-social behavior in school at age 10 by exp children (N = 113)	25 visits first year of life for experimentals	Paraprofessional, Low ses only children of Mexican-American families	Pre- school and parent classes 2d YR	1-3
10) Wasik et al mos 1990 Project Care	Higher cognitive scores up to 54 mos. with Home visits + cognitive day care than with only home visits (N = 62)	Biweekly from 0-3; monthly 4-5 months of age	Teachers and paraprofs, infants of low ses parents	see column 2	0-5
11) Achenbach et mos al 1990 Vermont Intervention Project	Experimental children had greater cognitive skills by age 7 (N = 56)	11 home visits, 0-3 mos	Reg. Nurse, Low Birth weight children	None	0-3
12) McKey et al yrs 1985	Head Start Meta-analysis shows effects wear off (N= 26 studies)	Varies, minimum 2 visits per year	Preschool teachers; children of families in poverty	Pre school	3-4
13) Gutelius et natal al 1977 3	Experimental children higher	Yr 1=18+ visits Yr 2=12+ visits	Nurses, first children of	None	pre- to

years	on cognitive scores to 3 yrs. (N = 95)	Yr 3= 8+ visits	unmarried mothers		
14) Barrera et al 1986	Experimental mothers more responsive to age 1 LBW child (N = 83)	Weekly 0-4 mos Biweekly 5-9 mos Monthly 10-12 mos	Paraprof, Mothers of LBW infants	None	0-1
15) Ross 1984	Mothers more responsive, children better cognition age 1 (N = 80)	Biweekly 0-3 mos Monthly 4-12 mos	Nurses, low ses families with LBW infants	None	0-1
16) Jacobson & Frye 1991	Exp. Mothers and Infants more attached at age 1 (N = 46)	Monthly in pregnancy Weekly 0-2 mos Monthly 3-12 mos	Paraprof, firstborn children of low-ses mothers	None	Pre-1 Yr
17) Lieberman et al 1991	Exp. children less anxious at age 2 (N = 93)	Weekly (52)	Social Worker (MA, MSW), low ses anxious and secure Hispanic children	None	1-2
18) Lyons-Ruth et al 1990	Exp. mothers and infants more attached at 18 mos (N = 76)	Weekly from intake at 0-9 mos up to completion at 18 mos	Paraprof and MA level; children of high risk mothers	None	9-18

While the two long-term experiments both included preschool programs (also called "day care" in some studies), positive effects were found in 11 of the experiments from home visitation without preschool. Some of the home visitations included doctor's office visits or some other contexts for instruction and observation outside the home, but most did not. None of the five experiments showing that home visitation reduced child abuse included involvement in preschool.

The consistent finding of beneficial effects of home visits without preschool is important for several reasons. One reason is theoretical: it shows that the visits are not simply a spurious correlate of the effects of preschool programs on both the children and their mothers, who in some studies are heavily involved in the preschool programs and who show beneficial effects themselves in reduced welfare support and longer time between pregnancies. The fact that one trial (Wasik, et al, 1990) found stronger effects from home visits with cognitively oriented day care than from home visits to comparison families (of which over half were in some other kind of day care) does not contradict the independent effects of home visits. Yoshikawa (1994) and others have concluded that home visits are likely to be more effective in combination with early education, but the empirical evidence may be still too preliminary to reach a conclusion either way.

Even if home visits were more effective in combination with other prevention efforts, the evidence of their independent effect has practical implications. The Hawaii state Healthy Start program, for example (U.S. Advisory Board, 1995: 129), which

reaches over half of all Hawaiian newborns, operates on a \$7 million annual budget as a home visit program only. The evidence reviewed in Figure 2 suggests that the Hawaiian program is likely to be effective at reducing child abuse, as would federal funding of home visit programs nationally. Whether they would be effective at preventing delinquency or serious crime in later life by the children visited cannot be determined without longer-term studies. Child abuse and neglect is a risk factor for delinquency, however, associated in one prospective study with a 50 percent increase in prevalence and a 100% increase in frequency of adolescent arrests (Widom, 1989). Thus if the results of the home visitation experiments can be generalized to other settings, they could clearly reduce a delinquency risk factor.

The effect sizes in these evaluations are particularly impressive. Both of the long-term delinquency prevention effects are on the magnitude of a relative reduction of three-quarters less prevalence of official criminal histories. Similarly, the Rochester University study found a 79% relative reduction (4% compared to 19%) in child abuse. It is unlikely that an effect of this magnitude could be replicated nationally across all child abuse cases because the same effect size is not observed in low-risk as in high risk families. Such large effects are also unlikely to persist beyond the first two years of life. But applying the effect size to the estimated 675,000 physical child abuse cases annually would reduce that number to 142,000, or prevent 533,000 serious crimes (Reiss and Roth, 1993: 228). If the 1 million neglect cases are included as well, then an additional 800,000 serious crimes might be prevented by home nurse visitation. Perhaps the most immediate question in advancing the capacity to generalize from controlled trials to national effects is the generalizability of the Rochester University results from a rural white upstate New York sample. A long-term trial of a similar approach among 1,100 African-American families in Memphis (National Research Council, 1993: 172) may soon report crucial results on this point.

Foster Care and Family Preservation

Families in which child abuse is proven pose a major dilemma between family preservation and prevention of recidivism. The many documented deaths and injuries of children after prior reports of abuse underline the seriousness of the dilemma. But the potential benefits of keeping thousands of families together must be weighed against the cost. The current state of the evaluation science of these two alternatives does not allow precise estimation of the costs and benefits. But a recent review of the evidence by a National Academy of Sciences panel finds that the larger problem is not the choice between family preservation and foster care. The problem is that in so many cases neither course is taken.

The review found a national survey showing that more than one-third of confirmed cases of child maltreatment received no therapeutic or support services (McCurdy and Daro, 1993, as cited in National Research Council, 1993: 268). This result occurs after 50 percent of the reported cases of maltreatment are found unsubstantiated, and the child protective services agency is required to decide whether children can remain safe in the home during treatment of the family. The officials making these decisions are often understaffed, with poor training and high turnover. In 1991 in New York City, for example, 77 percent of the workers investigating child abuse reports transferred to other agencies, resigned or were laid off (Dugger, 1992, as cited in National Research Council, 1993: 268).

When children are placed in foster care due to abuse, it is not clear what their risks of further abuse become. Few studies of abuse rates of the estimated 200,000 children placed in foster care each year distinguish between abuse of the estimated 50% of children who were maltreated before going into foster care and the other half who were not (Tatara, 1989, 1992, as cited in National Research Council, 1993: 271). Studies comparing rates of abuse in foster care to other settings are methodologically weak. One study almost two decades old did find that reported abuse by all foster parents is lower than that by the general population, and much lower than rates of re-abuse by abusive parents (Bolton, et al, 1981, as cited in National Research Council, 1993: 230). But even if foster care creates a protective factor against further abuse, many cities report major shortages in the availability of foster parents relative to the numbers of children judged to need it (Kammerman and Kahn, 1989, as cited in National Research Council, 1993: 271).

When children are left in their family homes after documented maltreatment, they may or may not be at higher risk of further abuse and later delinquency. A review of four major federally funded studies of the effectiveness of treatment across 3,253 families with abuse and neglect problems found that even early and costly services are "not very successful" (Cohn and Daro, 1987, as cited in National Research Council, 1993: 255). Yet the scientific literature in this area is characterized by many of the limitations of general concern in this report (National Research Council, 1993: 254):

the research generally does not include controlled experiments, has limited sample size, uses questionable measures to assess performance, and common assessment strategies have not been used across different interventions, making it difficult to know what works for whom.

The scientific methods used to evaluate family preservation programs have been stronger, but the results have been no more

encouraging than for standard in-home treatment. Family preservation are often intense (20 to 30 hours per week), brief (often 6 weeks) programs designed to prevent foster care placement through a variety of strategies. These include strengthening family bonds, improving family skills, and providing stability in crisis situations. Rigorous experimental and quasi-experimental designs evaluating these programs show equivocal results, both on prevention of outplacement and longer-term outcome measures (National Research Council, 1993: 264-65). The studies have not yet disaggregated the problem by different kinds of family problems, which could produce different results. The National Research Council Panel on Child Abuse and Neglect concluded that these programs are of unknown effectiveness. But the strategy remains popular because of its significant costs savings, an estimated \$27,000 in tax dollars for each outplacement prevented. No estimate of the risks of death and injury associated with that cost saving are available.

Domestic Violence Alarms and Visitation

Two home-based strategies for secondary prevention of domestic violence have shown increasing use over the past decade. Personal radio alarms are indicated for extremely serious cases, while home visitation has been employed as a followup strategy after police response to a domestic disturbance call.

The personal alarm is usually a small panic button worn as a necklace. Pressing the button directly activates a message at police headquarters to dispatch a police car on an urgent basis to the home of the wearer, who uses it to signal that a batterer is on the premises (Sherman, 1992: 242; Farrell, 1995: 518-19). While the system is expensive to maintain, it can be allocated rationally based upon known risk factors. Police serving the Liverpool, England area rotate the available alarms across the most recent and highest-risk victims of serious attacks, based on their finding that repeat attacks were most likely to occur within thirty days after the last attack. This finding of highest risk of repeat victimization in the first 24 hours and first 30 days after the last incident has been replicated in a sample of 40,000 cases in an around Melbourne, Australia (Strang and Sherman, 1996), and is an important basic research finding of indirect evidence in support of the use of personal alarms. Unfortunately, the many documented cases of domestic homicide of women who had been issued alarms shows that the system is not foolproof. While it seems unlikely to increase the risk of attack, there is no impact evaluation presently available to address the question of whether alarms are safe and effective.

The strategy of home visitation after a police contact for domestic violence or disturbances also focuses on the high-risk time period in the immediate aftermath of a police response to a domestic disturbance in the home. The strategy has been evaluated in three tests using strong scientific methods. An NIJ-funded Dade County (Florida) police experiment in the late 1980s randomly assigned four responses to misdemeanor assault cases in which there was legally sufficient evidence to make an arrest: arrest, warning, arrest with followup visitation, and warning with followup visitation. The design was thus two separate controlled tests of followup visitation by police, one test following an arrest and one test following a warning (Pate, et al, 1991). The home visits consisted of a police detective reviewing the family's history of domestic violence problems, their legal options, and social service agencies to which the detective could refer them for further assistance. The visit was a one-time treatment, with no attempt to provide a theoretically based psychological treatment. The very rigorous test of the strategy found no effects of home visits on several diverse measures of repeat domestic violence over a six-month followup period, including police offense reports, arrest reports, and victim interviews, analyzed by prevalence, frequency, and time to failure. The results were the same for visits after an arrest and visits after a warning.

A second controlled experiment included both arrest cases (21%) and non-arrest cases (79%) in the same sample randomly assigned to receive home visitation (or not) by two person police-social worker teams (Davis and Taylor, forthcoming). The home visits were observed by researchers as lasting from ten to thirty minutes, depending on the victim's receptiveness and whether the batterer was present. The team tried to educate the victim, and the batterer if present, about the seriousness of domestic violence and encourage the family to seek change through the courts or other services. Specific information was provided about how to go to court for restraining orders, and to social services including battered women's shelters, substance abuse treatment, relocation to another address, and home security. No difference in repeat violence between experimentals and controls were reported in victim interviews (response rate = 72%), but homes assigned to the experimental group generated twice as many domestic calls to police. The authors interpret this as evidence that visitation increases reporting but not violence; an alternative interpretation (untested in the analysis) is that visitation increased repeat calls, with the homes with no victim interviews accounting for a substantial portion of the total increase in the experimental group.

However the data are interpreted, there are now three strong tests of the police home visits strategy for preventing domestic violence. All three of the tests falsify the hypothesis that this strategy is effective.

Effects on Domestic Violence of Proactive Home Visitation after Reactive Police Contacts

Study	Scientific Methods Score	Home Visitation Providers	Results
Pate et al 1991	5 (N= 447)	Police Detectives	Visits after a warning had no effect on repeat violence over a 6 month followup period as reported by victim interviews or documented in official records
Pate et al 1991	5 (N= 442)	Police Detectives	Visits after an arrest had no effect on repeat violence over a 6 month followup period as reported by victim interviews or documented in official records
Davis and Taylor forthcoming	5 (N= 436)	Police-social worker teams	Visits in domestic violence public housing "hot spots" had no effect over a six month followup period on repeat violence reported by victims; calls to police about domestic incidents from experimental group almost twice as high as from control homes

PREVENTION LINKS BETWEEN PARENTS AND PRESCHOOL OR SCHOOL

Outside the home, the preschool and the school provide major opportunities for family-based crime prevention. Many of the prevention effects associated with early infancy home visits are impossible to separate from the simultaneous provision of a strong linkage between parents and preschool. As children age, the school takes over more of the child's day (see Chapter Five), but many schools continue to seek parental involvement in reducing a child's behavioral risk factors for delinquency. Without duplicating the coverage of school-based prevention in the next chapter, this section explores the evidence on family-based prevention delivered through school settings.

Developmentally, the family-school linkage can begin as early as infants are left in educationally enriched day care for even part of the day. For children whose parent or parents are employed, the availability of such care can be a crucial factor allowing the parents to work. For children who have at least one parent out of the labor force, the link to day care or preschool can be an important means of helping that parent find work. The daily structure of commuting to a child care center, and of spending part of each day or week there, can help establish patterns essential for participation in mainstream society. Effects of maternal participation in preschool in studies reviewed by Yoshikawa (1994) included increased employment, reduced welfare dependency, and increased time between giving birth. To the extent that these effects were also linked to home visitation, however, the greatest certainty about generalizing from these results lies in framing them as a combined preschool-home visitation effect.

School setting programs for parent training and family-based prevention with older children also combine several different treatments. The recent review by Tremblay and Craig shows generally positive effects of these programs on delinquency or, more often, risk factors for delinquency with indicated or selective samples. Many of the evaluations suffer from small samples,

short (or no) followup periods, and other methodological weaknesses. But the consistency of the results suggests that school-family outreach to train parents of problem children could be an effective means of preventing delinquency in certain kinds of areas.

Children at Risk. Unfortunately, the results of the moderately strong evidence in Figure 4-4 were not confirmed by a very strong test of a very expensive program linking schools and families of very high-risk youth to a wide range of services in very high risk neighborhoods. The Urban Institute's four-year NIJ-funded evaluation of the Children at Risk program in Austin (TX),

Figure 4-4

Effects of Parent Training in School Settings

(Secondary Review Source: Tremblay and Craig, 1995; Scientific Methods Not Scored)

Primary Source	Type	Sample	Treatments	Effects
Tremblay et al 1994	Indicated	160 boys aged 7 years at outset	2 Years of parent training, social skills training	6-Year Followup showed lower self-reported (ES= .25) and official (ES = .07) delinquency, better school adjustment
Hawkins et al 1992	Universal	1,659 boys and girls aged 6 at outset	4 years of training of parents, teachers, students	5 month followup showed lower self-reported delinquency (ES= .16), better parenting, attachment to family & school
Pepler et al 1991	Indicated	40 boys & girls aged 8 years	12 weeks of parent and student training	3 month followup showed better control over some disruptive behaviors, not others
Horn et al 1990	Indicated	42 boys & girls aged 7 to 11 years	12 weeks of parent training and child self-control therapy	8 month followup showed better social control, less hyperactivity and conduct problems
Kolvin et al 1981	Selective	574 Children age 7 years	3 to 15 months of parent counseling, group therapy	20 to 32 month followup showed less anti-social behavior and neurotic problems

Bridgeport (Conn), Memphis, Savannah and Seattle was a randomized trial with 671 experimentals and controls, plus 203 youth in comparison neighborhoods (Harrell, 1996). Eligible subjects were referred to the program between ages 11 and 13 while attending 6th or 7th grade at the middle school in the study neighborhood in each city, where they were required to live. Referrals from school, police or courts were based on indicators of at least three school risk factors (such as truancy), one family risk factor (such as parental violence), or one personal risk indicator (such as prior arrests or gang membership). Service protocols were locally determined in each site, including some help from each of the following services: social work, family services, tutoring or educational services, recreational after-school and summer programs, mentoring, gifts and special events, community policing and juvenile courts. Half the sample was African-American and one third was Hispanic. Funding from private and DOJ sources for the program cost between \$11 and 20 million.

The preliminary findings from the evaluation so far have shown that these intensive and expensive interventions combined had virtually no effect. The findings are based on self-reported behavior by the experimental and control adolescents, with a 75% response rate after four years from the original randomly assigned sample. No differences were detected in attrition patterns by treatment group, which gives the analysis a scientific methods score = 5. The interviews show no difference within the high-risk areas between experimentals and controls on self-reported delinquency, drug use in the past month or entire lifetime, or sexual activity. A small difference in weapon carrying favored the treatment group. Further analyses still to be reported include officially measured crime and delinquency from police and court records, which will cover 100% of the experimental sample and not just the survey respondents (Harrell, 1996). Thus the conclusions could change. Even with the best possible results from official data, however, further findings on the effectiveness of services costing about \$35,000 per child will be unable to provide clear evidence of effective crime prevention.

The CAR findings from self-reported delinquency do not provide much guidance on how to prevent crime effectively in the places where prevention is needed the most. But the negative findings may not generalize to lower-risk families, adolescents, schools or neighborhoods. Figure 4-3 suggests that multi-treatment school outreach to parents might be effective with other samples. Similar results suggest the same about family therapy clinics working with families of children showing risk factors, either in the clinical setting or with the clinicians working with families in the home.

PREVENTION IN CLINICS

One key factor in the Children at Risk evaluation may have been the low parental involvement with the adolescent (Harrell, personal communication, 1996). Where parents can be successfully engaged in the question of how to raise their children more effectively, the results may be more encouraging. Figure 4-5 summarizes Tremblay and Craig's review of twelve evaluations of family therapy. Only one of these has a delinquency measure, but that one finds a prevention effect of moderate effect size. The other studies, while weaker, consistently report reductions in risk factors associated with family therapy by clinics.

Figure 4-5

Effects of Family Therapy Interventions By Clinical Staff

(Secondary Review Source: Tremblay and Craig, 1995; Scientific Methods Not Scored)

Primary Source	Type	Sample	Treatment	Effects
Therapy Delivered in Clinics				
Kazdin et al 1992	Indicated	97 boys & girls around 10 years old at outset	6 to 8 months of cognitive-behavioral parent training	1-Year Followup showed lower self-reported delinquency (ES=.25), anti-social behavior and parental stress
Dishion et al 1992	Selective	58 boys and 61 girls	12 weeks of parent	During treatment child's

		aged 10 to 14 at outset	training, self-regulation	Anti-social conduct and parent's negative discipline declined; home conduct worse
Yu et al 1986	Indicated	35 boys aged 7 to 12 years	20 weeks of parent and student training in problem-solving	During treatment boys improved on problem-solving, externalizing and social competence
Horn et al 1990	Indicated	42 boys & girls aged 7 to 11 years	12 weeks of parent training and child self-control therapy	8 month followup showed better social control, less hyperactivity and conduct problems
Kolvin et al 1981	Selective	574 Children age 7 years	3 to 15 months of parent counseling, group therapy	20 to 32 month followup showed less anti-social behavior and neurotic problems
Clinical Therapy Delivered at Home				
McNeil et al 1991	Indicated	30 children X = 4.9 years old	14 weeks parent training	less aggression & opposition by children during treatment
Packard et al 1983	Indicated	34 mother-child pairs, child age X = 4.3	2 weeks of parent training	11 week followup showed less problem behavior
Shure & Spivak 1979	Indicated	10 boys, 10 girls age X = 4.3	3 months of Social problem-solving and parent training	Less impulsivity, better problem-solving during treatment
Webster-Stratton et al 1988, 1990	Indicated	171 fathers & mothers of children aged X = 4.5	4 months of parent training	3 year followup showed better parenting, less child hyperactivity
Strain et al 1982	Indicated	40 boys & girls aged 3 to 5	17 weeks child & parent training	3 to 9 year followup showed less oppositional behavior and more compliance

Dadds et al 1987	Indicated	24 families with children aged X = 4.2	6 weeks of parent training, problem-solving	6 month followup showed less oppositional, more compliance behaviors by children
Strayhorn and Weidman 1991	Selective	84 children aged X = 3.7 years	5 months parent training	1 year followup shows better parenting, less hyperactivity, no effect on hostility

A recent analysis by Kumpfer (forthcoming) also shows beneficial effects of parent training in "clinics" more broadly defined, including recreation rooms of public housing and other apartment complexes. Kumpfer's work attends to the practical issues of incentives and transportation in obtaining high parental attendance rates at training sessions focused on prevention of substance abuse by both parents and children; when such issues are properly addressed, she even finds high attendance rates in high-risk areas.

PREVENTION IN COURT

When prevention practices in all other settings fail, families often rely on the criminal justice system to stop the crime. This is especially true for problems of family violence. Compared to what is known about human development and developmental crime prevention, however, the science of domestic violence has little knowledge to offer for effective policymaking. But the opportunities for advancing evaluations of legal efforts at violence prevention are great, once the limitations of the current state of knowledge are fully understood.

The basic science of domestic violence and the law offers several well-known facts (Crowell and Burgess, 1996): domestic violence is widespread and highly under-reported to authorities. When police are called, they find no evidence of actual physical violence in over half of all "domestic" calls, and make no arrests in the majority of cases where such evidence is available. The vast majority of arrests that are made are for misdemeanor assaults with limited evidence of injury, for which prosecutors drop charges in the majority of the cases (Sherman, 1992). While the suspect is gone from the scene when police arrive in 40% of the cases in which police do have sufficient evidence to arrest, few courts or police agencies bother to issue arrest warrants unless the victim requests one by making a burdensome trip to court. Rising arrest rates for simple assault in the early 1990s has placed even more workload pressure on courts and prosecutors, for which there is some evidence that the odds of prosecution per arrest will decline. Odds of conviction per arrest for misdemeanor domestic assault are as low as 1 percent, with odds of incarceration per arrest as low as zero per 400 cases (Sherman, 1992: 337).

The prevention program often recommended in response to these facts of under-enforcement of the law is full, or fuller, enforcement. The premise of this policy is two-fold, both moral and empirical. The moral premise is that full enforcement is the proper response to all crimes, from drug possession to homicide, even though there is ample evidence that under-enforcement of the law by 50 percent or more cuts across both felonies and misdemeanors of almost all kinds (Reiss, 1971; Black, 1980; Smith and Visher, 1981). From this perspective, the crime prevention effects of fuller enforcement are not dispositive.

Fuller enforcement is also claimed, however, to have preventive effects. The empirical premise is that increasing certainty and severity of punishment will create either general or specific deterrence of domestic violence. "General" deterrence refers to prevention of crimes by people in the community generally regardless of whether they have been caught and punished for a crime. "Specific" deterrence denotes the preventive effects of punishment on people who have been caught. Both hypotheses are widely accepted as true by legislators, but hotly debated by evaluation scientists (Zimring and Hawkins, 1973; Blumstein, et al, 1978).

Rigorous scientific impact evaluation evidence is unavailable about most of the criminal law strategies for preventing domestic violence (Crowell and Burgess, 1996; Fagan, 1996). Police have been the component of the legal system most willing to engage

in rigorous impact evaluations. Other agencies of the criminal justice system have repeatedly refused to allow careful testing of their effectiveness; prosecutors in Milwaukee and judges in Minneapolis are just two examples over the past decade. As a result, a great deal is known about the effects of one police decision, while little is known about most other criminal justice practices.

The National Institute of Justice has pioneered in supporting rigorous tests of domestic violence responses. This include the six offender-present and one offender-absent experiment in arrests for misdemeanor domestic assault (Scientific Methods Score = 5), reviewed in Chapter Eight. These studies find no consistent support for the specific deterrent hypothesis, in the general absence of any referrals, prosecutions or convictions after an arrest; they do find arrest is effective for employed offenders (Sherman, 1992) and absent offenders for whom police issue a warrant (Dunford, 1991). A frequent conclusion from these findings is that arrest must have followup actions in order to be effective. That hypothesis, however, remains untested. So does the general deterrence hypothesis that mandatory arrest in a city will prevent domestic violence city-wide. The hypothesis that allowing victims to decide whether or not an arrested batterer should be prosecuted will prevent violence, however, has also been tested by an NIJ-funded controlled experiment (Scientific Methods = 5). The Indianapolis Domestic Violence Prosecution Experiment (Ford, 1993) randomly assigned cases in the prosecutor's office to a policy of either "no-drop" or victim decision. The victim decision policy produced a lower repeat violence rate, also falsifying the hypothesis that full enforcement offers greater prevention.

The hypothesis that mandatory referral of arrested batterers to counseling or therapy will help prevent repeat violence has also been tested with NIJ support, although with weaker scientific methods than the evaluations described above. This test provides moderately strong evidence of a negative effect. Harrell (1991) found in a matched comparison of arrested batterers referred to court ordered treatment and those not referred to treatment that the treated group had higher repeat violence rates. Crowell and Burgess (1996: 122), however, cite several weaker studies that find the opposite conclusion. The strongest design appears to be Goldkamp's (1996) evaluation of the Dade County Domestic Violence Court program combining substance abuse treatment with domestic violence counseling, a randomized experiment not yet reported with significance tests or other statistics (SMS = 3); preliminary results suggest a reduction in same-victim domestic violence by offenders in the combined treatment, compared to offenders given only one or the other treatment approaches. The effects of court-ordered treatment seem likely to vary widely by the specific approach to treatment, the skills of the individual therapists, the background of the batterers, and other factors making it difficult to generalize from a few weak evaluation designs (Fagan and Browne, 1993).

Most domestic violence evaluations have been focused on noninjurious violence, and very little is known about the prediction or prevention of serious injury. One of the major practices to be evaluated is the effectiveness of court orders of protection. According to an NIJ-funded study by the National Center for State Courts (1996) in Wilmington, Denver and the District of Columbia, women who seek orders of protection suffer very high rates of serious injury prior to obtaining the order. According to a matched control evaluation of women granted orders in Denver and Boulder, the one-year recidivism rates are lower against women who obtain the orders (Harrell, et al, 1993), thus supporting the full enforcement deterrence hypothesis. In the absence of any other reported impact evaluations of restraining orders, this level three study makes the use of such orders at least "promising."

PREVENTION IN OTHER SETTINGS

The effects of practices in other settings on families and their crime risks may be quite substantial. Churches, employers, landlords and neighbors may all play roles that are not yet well understood. This section addresses only a few of the other settings affecting families: battered women's shelters, hospitals, and gun shops.

Battered Women's Shelters. The number of battered women's shelters in the US was recently estimated at 1,200 (Plichta, 1995, cited in Crowell and Burgess, 1996: 101). These shelters, and 600 other related programs, offer a wide array of services to families and women suffering intimate violence. The core of a shelter's service, however, is providing a safe haven during the high risk period in the immediate aftermath of a domestic violence incident (Farrell, 1995; Strang and Sherman, 1996). There is evidence that current levels of this service are insufficient to meet the demand; an estimated 300 women and children per week were turned away from New York City shelters in March of 1995 due to lack of space (O'Sullivan et al, 1995, as cited in Crowell and Burgess, 1996: 102).

Whether shelters actually reduce violence against women is an important question for evaluation. The logical basis for predicting that result is the reduction of risk after the passage of time with the offender unable to gain access to the victim. Berk et al (1986), however, found quasiexperimental (Scientific Methods Score = 4) evidence that unless the shelter clients took other steps to seek help beyond staying in the shelter, their rates of repeat violence after leaving the shelter were actually higher than a similar group who had not gone to a shelter. Among women who did take additional steps, however, the shelter stay had a measured protection effect against repeat violence lasting about 6 weeks. The relatively small sample size (N = 155) and Santa Barbara (CA) site for this analysis (N = 155) may limit the generalizability of the findings, but the results suggest the clear need

for impact evaluations of all crime prevention programs.

Hospitals. Little is known about the identification and reporting of family violence in hospitals. A recent NIJ grant to the Illinois Criminal Justice Information Authority will examine the possible data collection opportunities in hospital emergency rooms, which could lead to operational indicators as well as research findings. A clear interpretation of the number domestic violence cases reported to police is impossible as long as increased reports might reflect growing confidence in the police, rather than more violence in the home (Davis and Taylor, forthcoming; Sherman and Strang, 1996). Hospital measures over time may provide a community with its most reliable indicator of progress or decline in the effectiveness of its efforts to deal with the problem.

Gun Shops also play a crucial role in family violence, and most of some 2,000 domestic homicides a year. The 1996 Lautenberg Act imposed a federal ban on gun ownership among persons convicted of domestic violence misdemeanors. We may estimate the likely effect of implementing this law by noting that an estimated 100,000 to 150,000 persons are convicted annually of domestic violence misdemeanors.² Moreover, the risk of a domestic homicide is approximately eight times higher among people who have had police encounters for misdemeanor offenses than among people who have not in Milwaukee, and 18 times higher in Victoria (Melbourne), Australia (Strang and Sherman, 1996). While this risk is nonetheless a very low 1 in 33,000 person-years, it still amounts to 5 murders per year among people newly convicted of domestic violence. If the prior convictions were included for 20 years, that could amount to 100 murders per year committed by persons previously convicted of domestic violence misdemeanors. How many of those murders would be prevented by the Lautenberg law is impossible to predict. But the indirect evidence on risk factors suggests that the law does address a major risk factor for serious domestic injury and death.

CONCLUSIONS: WHAT WORKS, WHAT DOESN'T, WHAT'S PROMISING

This section discusses the following conclusions, and their research and policy implications:

What Works

- o Long-term frequent home visitation combined with preschool prevents later delinquency
- o Infant weekly home visitation reduces child abuse and injuries
- o Family Therapy by clinical staff for delinquent and pre-delinquent youth

What Doesn't

- o Home visits by police after domestic violence incidents fails to reduce repeat violence

What's Promising

- o Battered women's shelters for women who take other steps to change their lives
- o Orders of Protection for battered women

The Effectiveness of DOJ-Funded Local Prevention Programs

Over the last three decades, the Congress has left family-based crime prevention largely in the hands of other federal agencies besides the Department of Justice (DOJ). This began to change with the rising concern over domestic violence in the 1980s.³ The passage of the Violence Against Women Act (VAWA) as Title IV of the 1994 Crime Act was a major increase in the role of DOJ in the family (although the VAWA also addresses crimes committed by strangers). Most recently, the Office of Justice Programs has identified infant home visitation as an important strategy to include in comprehensive community prevention programs such as Weed and Seed and various OJJDP initiatives. The evidence suggests that DOJ's increasing responsibility for national crime rates logically draws it to the major risk factors for crime, which must clearly include the family.

In what may be a period of transition towards more explicit focus on family-based prevention, Congress has created a number of funding programs that offer opportunities to develop that role. These may be divided into developmental and family violence prevention. The developmental programs are funded primarily by OJJDP and the Executive Office of Weed and Seed with

discretionary funds, while the family violence funding is concentrated in the Violence Against Women Grants Office.

Safe Kids, Safe Streets (OJJDP, with VAWGO and EOWS). This funding program will provide about \$1.4 million per year for five years to each of six communities. Informed by much of the research reviewed in this chapter, the program is specifically aimed at prevention of child abuse and neglect and related risk factors for delinquency. The strategies supported by the program include family strengthening, mental health services and treatment. A national process evaluation is underway to determine exactly what strategies each site selects, and a national impact evaluation is planned for future years.⁴ To the extent that the local grantees elect to employ approaches to family based prevention reviewed in this chapter, there is evidence that the funding can be effective in preventing crime. To the extent that the local grantees focus on the highest risk pre-adolescents in the highest-risk neighborhoods, however, the preliminary results from the Children at Risk Program may indicate that the state of the prevention art is not yet up to such a severe challenge (Harrell, 1996).

Title V Incentive Grants for Local Delinquency Prevention (OJJDP). This program distributed \$20 million in FY 1995 for local programs encouraged to adopt the Communities That Care model (Hawkins, et al, 1992). The program was initially developed and field tested by OJJDP in the early 1980s, and has established a substantial record of evaluation results. The CTC model recommends consideration of parent training as well as family therapy for high-risk adolescents and early childhood home-based and center-based strategies. This review finds all those approaches can be effective.⁵

Operation Weed and Seed (EOWS). This program is currently planning to conduct a field test of the Rochester University model of early infancy home nurse visitation. The location of such a test within Weed and Seed neighborhoods would provide an excellent replication of the original Elmira study. Results from the Memphis replication currently underway could also inform the Weed and Seed approach to this model, which has such strong evidence of reducing child abuse among high-risk rural white families.

Congressional Action on Universal Home Visitation. The evidence reviewed in this chapter suggests that substantial crime prevention effects could be obtained from greater federal investment in early infancy and pre-school home visitation. For reasons discussed in this chapter, a **universal** approach to such a program is more likely to succeed than a selective approach based upon risk factors. The latter approach is more cost-efficient but potentially stigmatizing. While further research is needed to compare the crime prevention benefits of early prevention to costly federal programs such as prison construction, such research could inform the Congress of where it can find the maximum crime prevention for each taxpayer dollar. While appropriations for Head Start have never been able to meet the demand for the program, that may reflect its use on a selective basis. A universal home visitation program that promises to reduce crime may be more feasible than fully funding Head Start. Controlled testing of visitation with and without Head Start, however, is required in order to determine whether visitation alone can create lasting benefits without reinforcement for both parent and child through the pre-school environment.

Universal home visitation for children may also have the benefit of helping to prevent or at least detect domestic violence. Visitation has been found ineffective in the immediate aftermath of a police response. But it may well be effective at reducing unreported cases, especially in families where police are never called. While this would not be a central goal of universal early infancy visitation, it could be a side benefit. That hypothesis also provides a linkage between DOJ efforts to prevent crime developmentally and among members of the family.

STOP (Services, Training, Officers, Prosecutors) Formula Grants (VAWGO). By far the largest OJP expenditure on issues affecting crime in families is the STOP Grant funding program, which distributed \$23 million in fiscal 1995 and has been appropriated \$145 million for FY 1997.⁶ This money, which addresses all violence against women and not just family violence, is appropriated on the basis of population. How the money is used is up to the states, within the broad initial guidelines of 25% allocations to each of three areas (Burt, 1996: vi): law enforcement, prosecution, and victim services. Much of it appears to go for training, model policies, equipment, and other support materials.

To the extent that this funding can be effective in reducing family violence, it could be more so if the funds were allocated on the basis of some crime risk indicator. Possible criteria include the number of women murdered by men in each state, or total women murdered (which would have less reporting bias than other crimes against women like rape). Like police patrol funding (see Chapter Eight), the population based formula may put the money equally in places that need it desperately and places that do not.

As the major source of federal funds that could be used to combat family violence, STOP might provide a vehicle for increasing prosecution and adjudication of domestic violence arrests. The full enforcement hypothesis remains an unanswered question, even though there is clear evidence that it is not supported with certain kinds of offenders. In order to test the effects of higher levels of prosecution and sentencing, the funding required for the extra courtroom work must be provided. A review of the FY

1995 grant awards made by the States, however, suggests that the funds are not being used to support increased volume of court case processing--unlike the competitive Grants to Encourage Arrest Policies. Most of the purposes are for support services such as training. The effects of training of police and prosecutors on crime prevention have not yet been evaluated. But the effects of increased prosecution are also unknown. The general absence of scientific tests of most local practices in domestic violence prevention provides very little guidance to Congress, DOJ and the states on how this funding can be spent most effectively to prevent domestic violence.

Grants to Encourage Arrest Policies (VAWGO). A review of grant award abstracts for the FY 1996 grants suggests that these grants are supporting diverse local programs. The most direct operational activity is increased capacity for prosecution, with DOJ funds used to hire prosecutors and bring charges in cases that would otherwise be dropped. Some jurisdictions even commit to 100% prosecution. Thus the program may provide a realistic possibility in many communities to link arrest to a high certainty of prosecution, a response that has never been evaluated but which could be very different from arrest alone. Until evaluations of that kind are conducted, the effectiveness of increased prosecution a crime prevention practice will remain unknown.

These grants also support training, data bases and other approaches designed to increase arrests made by police officers. Here again, the current state of evaluation science has little guidance to offer one way or another about any expenditures to encourage domestic violence arrests. The potential value for impact studies across a range of options for such programs would be to identify those which appear most cost-effective.

Rural Domestic Violence and Child Abuse Enforcement Assistance grants (VAWGO). The absence of scientific evidence on the effectiveness of local practices in rural areas, and with child abuse cases, also limits the assessment that can be made of this funding based on scientific evidence. The 1993 National Academy of Sciences Panel found the problem of child abuse to lack rudimentary science on many of these questions. To the extent that the Olds et al (1986) experiment prevented rural child abuse successfully, the Congress may wish to open the scope of acceptable funding for this program to include prevention as well as enforcement. Alternatively, the use of nurses legally obligated to report abuse might qualify as child abuse enforcement. If local programs funded by DOJ use their money in that fashion, it seems reasonably likely to be effective in rural white low-income communities or families.

National Stalker and Domestic Violence Reduction. This \$6 million three-year program establishes a data base as part of the National Crime Information Center that will cover various offenses and offenders in domestic and family violence and stalking. In addition to the data base funding from the STOP Block grants, these funds will help create the capacity for implementing the 1996 Lautenberg Act extending the Brady Bill to misdemeanor domestic violence. While the latter Act prohibits persons convicted of such misdemeanors from owning a gun, there is currently no data base available in most states to identify such persons. This gap results from the absence of special statutes for "domestic" offenses, which are generally prosecuted under generic laws against assault. Whether a misdemeanor assault conviction reflects domestic violence is not a part of the court record, and can only be determined retrospectively by examining police records. The latter are often kept in paper files rather than computers, making the task very difficult in retrospect. But if new data bases can capture the data prospectively, it may be possible to implement the law with these funds by the 21st Century. It seems unlikely to happen without these DOJ funds.

No empirical test of the effect of a handgun ban for domestic violence misdemeanant has ever been conducted. Ongoing NIJ evaluations of the Brady bill may provide some idea. Other uses of the data bases created by VAWA funding could have even greater preventive effect, such as public access to a registry of convicted batterers. Such a registry could have a far greater deterrent effect than arrest alone, and could also help warn potential victims to avoid relationships with previously convicted batterers. Whether any of these hypothesized effects would occur, however, can only be determined by a program of rigorous research and development.

Office of Victims of Crime. This office, funded by fines collected by federal courts, provides grants in support of some of the local practices reviewed in this chapter. Support for battered women's shelters is a notable example. The potential value of these programs in preventing crime suggests that this Office might be included in the overall scope of DOJ crime prevention activity.

Improving Funding Effectiveness Through Better Evaluations

As the Congress recognized in its passage of the Violence Against Women Act of 1994, the research agenda for family-based crime prevention is substantial. A great many key questions about local practices remain unanswered, while tens of millions of cases are processed annually. This final section considers three high priority areas: home visitation, police arrest policies, and orders of protection.

Early Infancy Home Visitation. This Chapter's primary recommendation is the same as the 1993 Report of the National Research Council (1993) on Child Abuse and Neglect:

"Research on home visiting programs focused on the prenatal, postnatal, and toddler periods has great potential for enhancing family functioning and parental skills and reducing the prevalence of child maltreatment." (National Research Council, 1993: 191-92). "The panel recommends that evaluations of home visiting programs include descriptions of what goes on in visits..and direct observations of home visitors in action." (NRC 1993: 193).

The theoretically powerful early infancy visitation model raises a host of unanswered questions about its effectiveness. Before formulating or proposing a national policy, DOJ needs to procure randomized experiments testing the basic model under different conditions: high and low crime neighborhoods, different training for the visitors, different frequency and length of visitation, and different combinations of other interventions such as preschool with parental involvement. The funding of visitation programs as part of existing DOJ programs creates an opportunity to implement this proposal. The absence of a randomized controlled trial, however, would gravely limit what can be learned from an impact evaluation. The feasibility of a rigorous experiment has been demonstrated in Elmira and Memphis, and DOJ can build upon that precedent.

Police Arrest Policies. Given the growing use of arrest for domestic violence and the continuing debate over the interpretation of the previous NIJ experiments, it would be very helpful to continue the program of research that produced them. Collaborative experiments with prosecutors and courts would seem to be the highest priority, to test the hypothesis that full enforcement by the criminal justice system is an effective prevention approach. Alternative sanctions, such as reintegrative shaming conferences (Braithwaite and Daly, 1993), also need to be tested against more customary measures like probation and fines. Even stigmatic shaming such as court-ordered display of bumper stickers or t-shirts proclaiming the offender to be a batterer (Kahan, 1997) could be tested against its theoretical competition in reintegrative shaming (Braithwaite, 1989). More sophisticated research designs can also now be employed to control for contextual effects of neighborhood labor force participation rates, rather than the less policy-relevant individual employment status.

Orders of Protection. Given the high risks of serious injury suffered by many domestic violence victims who receive orders of protection, the need for further research is great. The most theoretically promising strategy for further testing would be a randomized trial of the personal panic alarm in a big city jurisdiction. A large city would minimize the ethical problems with the creation of a control group, since there would be far too many victims for most jurisdictions to give them all a panic alarm. Randomized tests of women who volunteer for an evaluation of a randomized trial based upon informed consent may also lead to a strong test of orders of protection without any additional tools, which is by far the most common condition under which they are issued.

NOTES

¹This discussion is limited to government, rather than a broader range of institutions, by the content of the available research. All of the available program evaluations examine the effects of government programs, broadly defined to include schools and publicly supported health care. Other institutions, such as churches and charities, no doubt provide crime prevention services (also broadly defined) to families. But in the current social structure of American life, it seems unrealistic to expect private resources to fund the level of intervention that research suggests is needed to appreciably reduce serious crime rates. While churches and other private groups may be ideal for administering such efforts under government contracts, the level of resources associated with the evaluated programs far exceeds those likely to be raised from solely non-public sources.

²This calculation employs the FBI count of 1.86 million arrests for all assaults in 1995, less 75% for non-domestic assaults, adjusted by the arrest probability of 22% for domestic and 13% for non-domestic assaults observed in the Indiana University police observation study (Oppenlander, 1982), and multiplied by a conviction probability estimate of 20% given a domestic arrest (Sherman, 1992).

³Attorney General's Task Force on Family Violence, Report. 1984.

⁴OJJDP Fact Sheet #38, June 1996.

⁵OJJDP, 1995 Report to the Congress: Title V Incentive Grants for Local Delinquency Prevention Programs.

⁶This program is not just focused on families, but aims to prevent all forms of violence against women including stranger violence. Since most violence against women is caused by relatives and intimates, however, much of these funds are appropriately focused on family violence.

REFERENCES

Achenbach, T.M., V. Phares, C. Howell, V.A. Raugh, and B. Nurcombe

1990 Seven Year Outcome of the Vermont Intervention Program for Low-Birthweight Infants. *Child Development* 61: 1672-1681.

Barth, R.P., S. Hacking and J.R. Ash

1988 Preventing Child Abuse: An Experimental Evaluation of the Child-Parent Enrichment Project. *Journal of Primary Prevention* 8: 201-217.

Berk, Richard, Phyllis J. Newton, and Sarah F. Berk

1986 What A Difference A Day Makes: An Empirical Study of the Impact of Shelters For Battered Women. *Journal of Marriage and the Family* 48: 431-490.

Berk, Richard A., Alec Campbell, Ruth Klap, and Bruce Western

1992 The Deterrent Effect of Arrest in Incidents of Domestic Violence: A Bayesian Analysis of Four Field Experiments. *American Sociological Review* 57: 698-708.

Barrera, M.E., P.L. Rosenbaum, and C.E. Cunningham

1986 Early Home Intervention With Low Birth-Weight Infants and Their Parents. *Child Development* 57: 20-33.

Berreuta-Clement, J.R., L.J. Schweinhart, W.S. Barnett, A.S. Epstein, and D.P. Weikart

1985 *Changed Lives: The Effects of the Perry Preschool Program on Youths Through Age 19*. Ypsilanti, MI: High Scope Press.

Black, Donald

1980 *The Manners and Customs of the Police*. NY: Academic.

Blumstein, Alfred, Cohen, Jacqueline, and Daniel Nagin (eds).

1978 *Deterrence and Incapacitation: Estimating The Effects of Criminal Sanctions on Crime Rates*. Washington, DC: National Academy of Sciences.

Bolton, F.G., R.H. Lanier, and D.S. Gia

1981 For Better or Worse? Foster Parents and Foster Children in an Officially Reported Child Maltreatment Population. *Children and Youth Services Review* 3: 37-53.

Braithwaite, John

1989 *Crime, Shame and Reintegration*. Cambridge: Cambridge University Press.

Braithwaite, John and Kathleen Daly

1993 Masculinities, Violence and Communitarian Control. Paper Presented to the National Conference on Violence. Canberra: Australian Institute of Criminology.

Burt, Martha

1996 The Violence Against Women Act of 1994: Evaluation of the STOP Block Grants to Combat Violence Against Women. Washington, DC: Urban Institute.

Coie, J.D. and M.R. Jacobs

1993 The Role of Social Context in the prevention of Conduct Disorder. *Development and Psychopathology* 5: 263-275.

Crowell, Nancy A. and Ann W. Burgess

1996 Understanding Violence Against Women. Washington, DC: National Academy of Sciences.

Dadds, M.R., S. Schwartz, and M. Sanders

1987 Marital Discord and Treatment Outcome in Behavioral Treatment of Child Conduct Disorders. *Journal of Consulting and Clinical Psychology* 55: 396-403.

Davis, Robert C. and Bruce G. Taylor

Forthcoming A Proactive Response to Family Violence: The Results of a Randomized Experiment. *Criminology* 1997.

Dishion, T.J., G.R. Patterson, and K.A. Kavanagh

1992 An Experimental Test of the Coercion Model: Linking Theory, Measurement and Intervention. In J. McCord and R.E. Tremble, Eds., *Preventing Anti-Social Behavior: Interventions from Birth Through Adolescence*. NY: Guilford.

Dugger, C.W.

1992 Shortage of Trained Caseworkers Imperils Young Victims of Abuse. *New York Times*. December 28.

Dunford, Franklyn W.

1990 System-Initiated Warrants for Suspects of Misdemeanor Domestic Assault: A Pilot Study. *Justice Quarterly* 7: 631-653.

1992 The Measurement of Recidivism in Cases of Spouse Assault. *Journal of Criminal Law and Criminology* 83: 120-136.

Dunford, Franklyn W., David Huizinga, and Delbert S. Elliott

1990 The Role of Arrest in Domestic Assault: The Omaha Police Experiment. *Criminology* 28: 183-206.

Fagan, Jeffrey

1996 The Criminalization of Domestic Violence: Promises and Limits. Research Report. Washington, DC: National Institute of Justice.

Fagan, Jeffrey and Angela Browne

1993 Violence Between Spouses and Intimates: Physical Aggression Between Women and Men in Intimate Relationships.

Farrell, Graham

1995 Preventing Repeat Victimization. In Michael Tonry and David P. Farrington, Eds., *Building A Safer Society*. Crime and

Justice, Vol. 19. Chicago: University of Chicago Press.

Farrington, David P., Lloyd Ohlin and James Q. Wilson

1986 Understanding and Controlling Crime: Toward a New Research Strategy. New York: Springer-Verlag.

Ford, David

1993 The Indianapolis Domestic Violence Prosecution Experiment. Department of Sociology: Indiana University, Indianapolis.

Goldkamp, John S.

1996 The Role of Drug and Alcohol Abuse in Domestic Violence and Its Treatment: Dade County's Domestic Violence Court Experiment. Executive Summary. Philadelphia, PA: Crime and Justice Research Institute.

Gray, J.D., C.A. Cutler, J.G. Dean, and C.H. Kempe

1979 Prediction and Prevention of Child Abuse and Neglect. *Journal of Social Issues* 35: 127-139.

Gutelius, M.F., A.D. Kirsch, S. MacDonald, M.R. Brooks, and T. McErlean

1977 Controlled Study of Child Health Supervision: Behavioral Results. *Pediatrics* 60: 294-305.

Harrell, Adele

1991 Evaluation of Court-Ordered Treatment of For Domestic Violence Offenders. Washington, DC: Urban Institute.

1996 Findings of the Evaluation of the Children at Risk Program. Paper Presented at the University of Maryland, College Park.

Harrell, Adele, B. Smith and L. Newmark

1993 Court Processing and the Effects of Restraining Orders for Domestic Violence Victims. Washington, DC: The Urban Institute.

Hawkins, J. David, Michael W. Arthur and Richard F. Catalano

1995 Preventing Substance Abuse. In Michael Tonry and David P. Farrington, Eds., *Building A Safer Society*. Crime and Justice, Vol. 19. Chicago: University of Chicago Press.

Hirschel, David, Ira W. Hutchison III, Charles W. Dean, Joseph J. Kelley, and Carolyn E. Pesackis

1990 Charlotte Spouse Assault Replication Project: Final Report. Charlotte, NC: University of North Carolina at Charlotte.

Horn, W.F., N. Ialongo, G. Greenberg, T. Packard, and C. Smith-Winberry

1990 Additive Effects of Behavioral Parent Training and Self-Control Therapy With Attention Deficit Hyperactivity Disordered Children. *Journal of Clinical Child Psychology* 19: 98-110.

Institute of Medicine

1994 Reducing Risks of Mental Disorders: Frontiers for Preventive Intervention Research. Washington, DC: National Academy of Sciences.

Jacobson, S.W. and K.F. Frye

1991 Effect of Maternal Social Support on Attachment: Experimental Evidence. *Child Development* 62: 572-582.

Johnson, D.L., and T. Walker

1987 Primary Prevention of Behavioral Problems in Mexican-American Children. *American Journal of Community Psychology* 15: 375-385.

Kahan, Donald

1997 Its A Shame There is None. *Wall Street Journal*, January.

Cohn, A.H. and D. Daro

1987 Is Treatment Too Late: What Ten Years of Evaluative Research Tells Us. *Child Abuse and Neglect* 11: 433-442.

Kammerman, S.B., and A.J. Kahn

1989 *Social Services for Children, Youth and Families in the U.S.* NY: The Annie E. Casey Foundation.

Kazdin, A.E., T.C. Siegel, and D. Bass

1992 Cognitive Problem-Solving Skills Training and Parent Management Training in the Treatment of Anti-Social Behavior in Children. *Journal of Consulting and Clinical Psychology* 60: 733-747.

Kolvin, I., R.F. Garside, A.R. Nicole, A. MacMillen, F. Wolstenhome, and I.M. Leitch

1981 *Help Starts Here.* NY: Tavistock.

Kumpfer, Karol

Forthcoming Report of Family-Based PEPS, Center for Substance Abuse Prevention

Kumpfer, Karol, Virginia Molgaard and Richard Spoth

1996 The Strengthening Families Program for the Prevention of Delinquency and Drug Use. In Ray DeV Peters and Robert J. McMahon, Eds., *Preventing Childhood Disorders, Substance Abuse and Delinquency.* Thousand Oaks: Sage.

Lally, J.R., P.L. Mangione and A.S. Honig

1988 The Syracuse University Family Development Research Project: Long-Range Impact of an Early Intervention with Low-Income Children and Their Families. In D.R. Powell, Ed., *Annual Advances in Applied Developmental Psychology, Vol. 3: Parent Education as Early Childhood Intervention: Emerging Directions in Theory, Research, and Practice.* Norwood, NJ: Ablex.

Lazar, I.

1992 Discussion. In F.L. Parker, R. Robinson, S. Sambrano, C. Piotrkowski, J. Hagen, S. Randolph, and A. Baker, Eds., *Conference Proceedings: New Directions in Child and Family Research: Shaping Head Start in the 90s.* NY: National Council of Jewish Women Center for the Child.

Lieberman, A.F., D.R. Weston, J.H. Pawl

1991 Preventive Intervention and Outcome With Anxiously Attached Dyads. *Child Development* 62: 199-209.

Lyons-Ruth, K., D.B. Connell, H.U. Grunebaum and S. Botein

1990 Infants at Social Risk: Maternal Depression and Family Support Services as Mediators of Infant Development and Security of Attachment. *Child Development* 61: 85-98.

McCurdy, K. and D. and Daro

1993 Current Trends in Child Abuse Reporting and Fatalities: The Results of the 1992 Annual Fifty State Survey. Working Paper 808. April. Chicago, IL: National Committee for Prevention of Child Abuse.

McKey, R.H., L. Condelli, H. Ganson, B.J. Barrett, C. McConkey, and M.C. Plantz.

1985 The Impact of Head Start on Children, Families and Communities: Final Report of the Head Start Evaluation, Synthesis and Utilization Project [DHHS Publication No. 85- 31193]. Washington, DC: USGPO.

McNeil, C.B., S. Eyberg, T.H. Eisenstadt, K. Newcomb, and B. Funderburk

1991 Parent-Child Interaction Therapy With Behavioral Problem Children: Generalization of Treatment Effects to the Social Setting. *Journal of Clinical Child Psychology* 20: 140-51.

National Center for State Courts

1996 The Effectiveness of Civil Protection Orders: Executive Summary. Williamsburg, VA: National Center for State Courts.

National Research Council

1993 Understanding Child Abuse and Neglect. Washington, DC: National Academy of Sciences.

O'Sullivan, C., J. Wise, and V. Douglass

1995 Domestic Violence Shelter Residents in New York City: Profile, Needs and Alternatives to Shelter. NY: Victim Services Agency.

Olds, D.L., C.R. Henderson, R. Chamberlin, and R. Tatelbaum

1986 Preventing Child Abuse and Neglect: A Randomized Trial of Nurse Home Visitation. *Pediatrics* 78: 65-78.

1988 Improving the Life-Course Development of Socially Disadvantaged Mothers: A Randomized Trial of Nurse Home Visitation. *American Journal of Public Health* 78: 1436-1445.

Packard, T., E.A. Robinson, and D. Grove

1983 The Effect of Training Procedures on the Maintenance of Parental Relationship Building Skills. *Journal of Clinical Child Psychology* 12: 181-186.

Pate, Antony, Edwin E. Hamilton and Sampson Annan

1991 Metro-Dade Spouse Abuse Replication Project: Draft Final Report. Washington, D.C.: Police Foundation.

Pepler, D.J., G. King and W. Byrd

1991 A Social Cognitively-Based Social Skills Training Program for Aggressive Children. In D.J. Pepler and K.H. Rubin, Eds., *The Development and Treatment of Childhood Aggression*. Hillsdale, N.J.: Erlbaum.

Plichta, S.B.

1995 Domestic Violence: Building Paths for Women to Travel to Freedom and Safety. College of Health Sciences, Old Dominion University.

Reiss, Albert J. Jr.

1971 *The Police and the Public*. New Haven: Yale University Press.

Reiss, Albert J. Jr., and Jeffrey A. Roth, eds.

1993 *Understanding and Preventing Violence*. Washington, DC: National Academy of Sciences.

Ross, G.H.

1984 Home Intervention for Premature Infants of Low-Income Families. *American Journal of Orthopsychiatry* 54: 263-70.

Schure, M.B. and G. Spivak

1979 Interpersonal problem-Solving, Thinking and Adjustment in the Mother-Child Dyad. In M.W. Kent and J.E. Rolf, Eds., *Primary Prevention of Psychopathology*. Hanover, NH: University Press of New England.

Seitz, V., L.K. Rosenbaum, and N.H. Apfel

1985 Effects of Family Support Intervention: A Ten-Year Follow-Up. *Child Development* 56: 376-391.

Sherman, Lawrence W.

1992 *Policing Domestic Violence: Experiments and Dilemmas*. NY: Free Press.

Sherman, Lawrence W., Janell D. Schmidt, Dennis P. Rogan, Patrick R. Gartin, Ellen G. Cohn, Dean J. Collins and Anthony R. Bacich

1991 From Initial Deterrence to Long-Term Escalation: Short-Custody Arrest for Poverty Ghetto Domestic Violence. *Criminology* 29: 821-50.

Sherman, Lawrence W. and Heather Strang

1996 *Policing Domestic Violence: The Problem-Solving Paradigm*. Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Smith, Douglas and Visher, Christy

1981 Street-Level Justice: Situational Determinants of Police Arrest Decisions. *Social Problems* 29: 167-78.

Stinchcombe, Arthur

1963 Institutions of Privacy in the Determination of Police Administrative Practice. *The American Journal of Sociology* 69: 150-160.

Strain, P.S., P. Steele, T. Ellis, and M.A. Timm

1982 Long-Term Effects of Oppositional Child Treatment With Mothers as Therapists and Therapist-Trainers. *Journal of Applied Behavior Analysis* 15: 163-169.

Strang, Heather and Lawrence W. Sherman

1996 Paper Presented to the American Association for the Advancement of Science, Baltimore, MD, February.

Strayhorn, J.M. and C. Weidman

1991 Follow-up One Year After Parent-Child Interaction Training: Effects on Behavior of Preschool Children. *Journal of the American Academy of Child and Adolescent Psychiatry* 30: 138-143.

Tatara, T.

1989 Characteristics of Children in Foster Care. Division of Child, Youth and Family Services Newsletter (American Psychological Association) 12: 16-17.

1992 Characteristics of Children in Substitute and Adoptive Care: A Statistical Summary of the VCIS National Child Welfare Data Base. Based on FY 82 through FY 8 Data. March.

Tremble, R.E., L. Kurtz, L.C. Masse, F. Vitaro, and R.O. Pihl

1994 A Bimodal Preventive Intervention for Disruptive Kindergarten Boys: Its Impact Through Mid-Adolescence. Unpublished MS. Montreal: University of Montreal Research Unit on Children's Psycho-Social Maladjustment.

Tremble, Richard and Wendy Craig

1995 Developmental Crime Prevention. In Michael Tonry and David P. Farrington, Eds., *Building A Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

US Advisory Board on Child Abuse and Neglect

1995 Annual report. Washington, DC: DHHS.

Wasik, B.H., C.T. Ramey, D.M. Bryant and J.J. Sparling

1990 A Longitudinal Study of Two Early Intervention Strategies: Project CARE. *Child Development* 61: 1682-1696.

Wasserman, Gail. A. and Laurie S. Miller

forthcoming The Prevention of Antisocial Behavior. Draft. In Rolf Loeber and David P. Farrington, Eds., *Report of the OJJDP Study Group on Serious, Chronic, and Violent Juvenile Offenders*. Washington, DC: OJJDP.

Webster-Stratton, C.

1990 Long-Term Follow-Up of Families With Young Conduct Problem Children: From Preschool to Grade School. *Journal of Clinical Child Psychology* 19: 144-49.

Webster-Stratton, C., M. Kolpacoff, and T. Hollinsworth

1988 Self-Administered Videotape Therapy for Families With Conduct Problem Children: Comparison With Two Cost-Effective Treatments and a Control Group. *Journal of Consulting and Clinical Psychology* 56: 558-66.

Widom, Cathy Spatz

1989 Child Abuse, Neglect, and Violent Criminal Behavior. *Criminology* 27: 251-271.

Wilson, William Julius

1996 *When Work Disappears: The World of the New Urban Poor*. NY: Alfred A. Knopf.

Yoshikawa, Hirokazu

1994 Prevention as Cumulative Protection: Effects of Early Family Support and Education on Chronic Delinquency and Its Risks. *Psychological Bulletin* 115: 28-54.

Yu, P., G. E. Harris, B.L. Solovitz, and J.L. Franklin

1986 A Social Problem-Solving Intervention for Children at High Risk for Later Psychopathology. *Journal of Clinical Child Psychology* 15: 30-40.

Zigler, E.

1992 Head Start Falls Behind. *The New York Times*, June 27, p. 23.

Zimring, Franklin E. and Gordon Hawkins

1973 *Deterrence*. Chicago: University of Chicago Press.

Chapter 5

SCHOOL-BASED CRIME PREVENTION

by Denise C. Gottfredson¹

Schools have great potential as a locus for crime prevention. They provide regular access to students throughout the developmental years, and perhaps the only consistent access to large numbers of the most crime-prone young children in the early school years; they are staffed with individuals paid to help youth develop as healthy, happy, productive citizens; and the community usually supports schools' efforts to socialize youth. Many of the precursors of delinquent behavior are school-related and therefore likely to be amenable to change through school-based intervention.

Figure 5-1 shows several school-related precursors to delinquency identified by research. These factors include characteristics of school and classroom environments as well as individual-level school-related experiences and attitudes, peer group experiences, and personal values, attitudes, and beliefs. School environment factors related to delinquency include availability of drugs, alcohol, and other criminogenic commodities such as weapons; characteristics of the classroom and school social organization such as strong academic mission and administrative leadership; and a climate of emotional support. School-related experiences and attitudes which often precede delinquency include poor school performance and attendance, low attachment to school, and low commitment to schooling. Peer-related experiences, many of which are school-centered, include rejection by peers and association with delinquent peers. And individual factors include early problem behavior, impulsiveness or low levels of self-control, rebellious attitudes, beliefs favoring law violation, and low levels of social competency skills such as identifying likely consequences of actions and alternative solutions to problems, taking the perspective of others, and correctly interpreting social cues. Several recent reviews summarize the research literature linking these factors with crime (Gottfredson, Sealock, & Koper, 1996; Hawkins, Catalano, & Miller, 1992; Howell, Krisberg, Wilson & Hawkins, 1995).

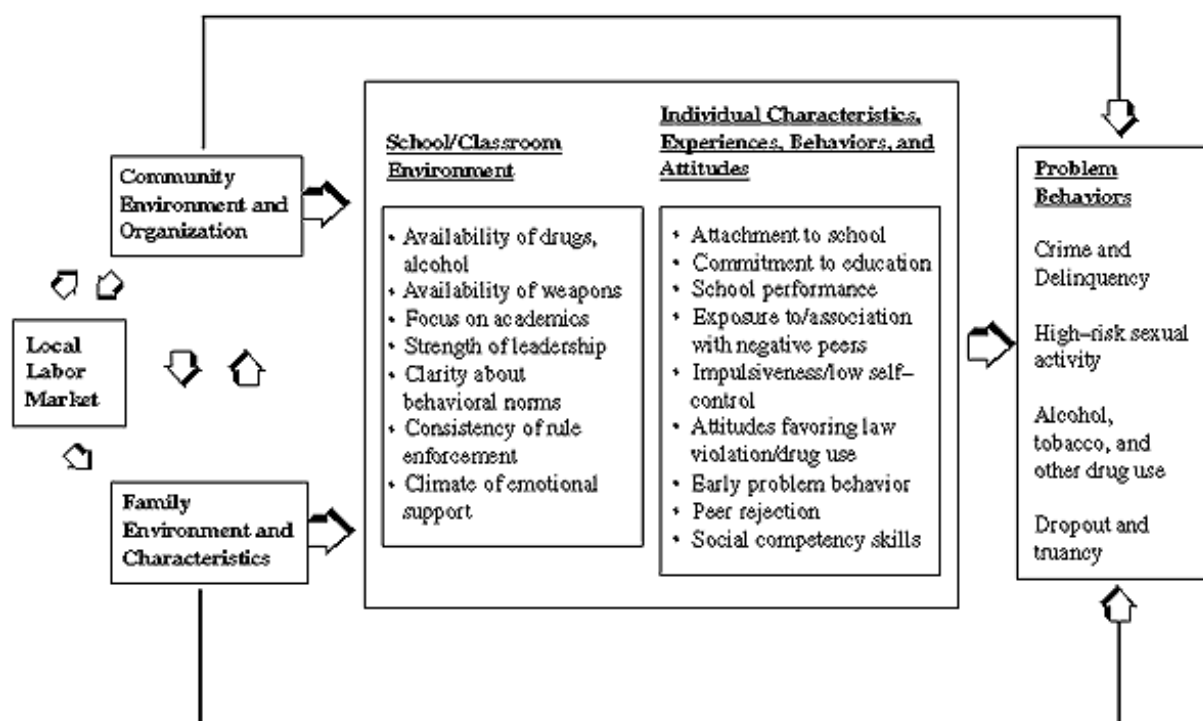
Figure 5-1: School-Related Predictors of Problem Behavior

Figure 5-1 also draws attention to fact that schools operate in larger contexts which influence their functioning as well as their outcomes. By far the strongest correlates of school disorder are characteristics of the population and community contexts in which schools are located. Schools in urban, poor, disorganized communities experience more disorder than other schools (Gottfredson & Gottfredson, 1985). Research has also demonstrated that the human resources needed to implement and sustain school improvement efforts -- leadership, teacher morale, teacher mastery, school climate, and resources -- are found less often in urban than in Figure 1: Christina's Figure 5-1 other schools (Gottfredson, Fink, Skroban, and Gottfredson, in press). It is precisely those schools whose populations are most in need of prevention and intervention services that are least able to provide those services. Although schools can not be expected to reverse their communities' problems, they can influence their own rates of disorder. Controlling on relevant characteristics of the larger community, characteristics of schools and the way they are run explain significant amounts of variation in school rates of disorderly behavior (Gottfredson & Gottfredson, 1985).

National priorities for children focus on schools as a locus for the prevention of diverse social problems including crime. The Department of Health and Human Services' Healthy People 2000 goals include increasing high school graduation rates and reducing physical fighting, weapon-carrying, substance use, and pregnancy among adolescents. National Education Goal 6 states that every school will be free of drugs, violence, and the unauthorized presence of firearms and alcohol, and will offer a disciplined environment conducive to learning by the year 2000. The 1986 Drug-Free Schools and Communities Act legislation provided substantial funds to states to develop and operate school-based drug prevention programs. In 1994 this legislation was modified to authorize expenditures on school-based violence prevention programs as well.

This substantial national interest in schools as a prevention tool is not matched by federal expenditures in this area. Table 5-1 shows that federal expenditures on school-based substance abuse and crime prevention efforts are modest,² particularly when compared with federal expenditures on control strategies such as policing and prison construction.³ Perhaps more troubling, the meager federal expenditures on school-based prevention are not well spent. The single largest federal expenditure on school-based prevention (Safe and Drug-Free Schools and Communities monies administered by the U.S. Department of Education) funds a relatively narrow range of intervention strategies, many of which have been shown either not to work

Table 5-1. Partial List of Federal Expenditures on School-based Prevention

Federal Program	Agency	Funding level	Strategies
Safe and Drug-Free	DOE	FY95:	State and local education agency

programs: instruction, Schools & and staff training, Communities red-ribbon week; Program community service.		466.98M	student assistance programs, teachers curriculum development and acquisition; before-after-school programs and
Note: Prior to Instruction 1994, this program education programs, funded drug programs in schools. The 1994 legislation authorized expenditures on violence prevention programs and curricula as well.			Governor's state and local programs: (D.A.R.E.), replication of other drug high-risk youth programs
High-Risk Youth programs; violence Demonstration Program	DHHS [CSAP]	FY95: 65.2M	Various. In-school and after-school and drug prevention.
Youth Violence (violence Prevention Program competency; cognitive recreation, mediation and conflict processes, parent	DHHS [CDC]	FY95: 10.7M	Various. Projects include instruction prevention, self-control, social behavioral methods, tutoring, mentoring, campaigns to change norms, peer resolution, changes in school management training)
Community Schools achievement enhancement Youth Services and Supervision Program	DHHS [Admin-ist ration for Children, Youth, & Families]	FY95: 10M	Various. Prevention and academic during the non-school hours.
Learn & Serve curriculum. Attempt America dropout. Character Program	Corporatio n for National Service	FY95: 32M FY96: 32M	Community service tied to the school to engage youths in school to prevent education.
D.A.R.E. (Drug lessons); Abuse Resistance (D.A.R.E. + PLUS; Play	DOJ/DOI [BJA]	FY95: 1.75M FY96: 1.75M	Instruction (core program and booster A recent extention of the program

Education) includes and	DOE	(To D.A.R.E. America)	and Learn under Supervision) also after-school program.
		Plus annual funds from Byrne Block Grant	
		Plus approx. 10M annually through Safe and Drug Free Schools program	
G.R.E.A.T. (Gang Resistance Education and Training)	DOJ/ TREAS [ATF/NIJ]	FY95: 16.2M Plus 265K (eval)	Instruction
C.I.S. (Cities in risk students and Schools)	DOJ [OJJDP]	FY95: 592K FY96: 340K	School-based supportive services for at- their families
JUMP (Juvenile Mentoring Program)	DOJ [OJJDP]	FY96: 15M	Mentoring
L.R.E. (Law-related education)	DOJ [OJJDP]	FY95: 2.7M FY96: 1.2M	Instruction, character education

Note: M=million; K=thousand

(e.g., counseling) or to have only small effects (e.g., drug instruction). School-based prevention monies administered by OJP also fail to capitalize on the full range of empirically-tested, effective strategies.

This chapter is intended to provide information for use in setting federal research agendas and guiding funding decisions about what works, what does not work, what is promising, and how delinquency prevention efforts can be strengthened. It begins by clarifying the outcomes sought in school-based prevention programs. It then classifies school-based prevention activities within two broad approaches -- environmental and individual-focused -- into more specific program types. Next it reviews research related to each type of activity, comments on the quality of the available information about the efficacy of each type of activity, and summarizes knowledge about what works, what does not work, and what is promising. It ends with a summary of findings and recommendations for OJP funding of school-based prevention interventions and further research.

The Nature of School-Based Prevention

Measures of effectiveness. School-based prevention programs include interventions to prevent a variety of forms of "problem behavior," including theft, violence, illegal acts of aggression, alcohol or other drug use; rebellious behavior, anti-social behavior, aggressive behavior, defiance of authority, and disrespect for others. These different forms of delinquent behavior are highly correlated and share common causes. Many of the programs considered in this chapter were not specifically designed to prevent the problem behaviors, but instead to affect presumed causal factors such as school drop-out, truancy, or other correlates which are expected to increase protection against or decrease risk towards engaging in problem behaviors at some later date. This focus on non-crime program outcomes is entirely appropriate given the young ages of many of the targeted students. Different outcomes have different salencies for different age groups. Positive program effects on reading skills for six-year-olds may be as important in terms of later crime prevented as reducing marijuana use for sixteen-year-olds. Many prevention

researchers and practitioners also assume a link between less serious problem behaviors and later more serious crime. They are satisfied when their interventions demonstrate effects on the early forms of problem behavior. This developmental perspective underlies many school-based prevention efforts today and may explain the wide variety of outcome measures used to assess the effectiveness of these programs, some of which are summarized in Figure 5-2.

Studies of the effects of school-based prevention on serious violent crime are rare. Of the 149 studies examined for this review, only 9 measured program outcomes on murder, rape, robbery or aggravated assault. Only 15 measured outcomes on serious property crimes such as burglary, larceny-theft, and motor vehicle theft. More (25) measured less serious or unspecified criminal behavior. Far more common are studies assessing program effects on alcohol, tobacco, or other drug use (77 studies) and other less serious forms of rebellious, anti-social, aggressive, or defiant behaviors (79 studies). Most studies measure the risk or protective factors directly targeted by the program (e.g., academic achievement, social competency skills).

Figure 5-2: Common Outcome Measures for School-based Prevention Programs
Alcohol and other drug use: Ingestion of alcoholic beverages and ingestion of any illicit drug are considered substance abuse. Dimensions of use that are often measured distinctly in evaluations of prevention programs include age of first use (age at onset); status as having used alcohol or another drugs at least once; and current use, including frequency of use and amount typically used. Substance use is most often measured using youth self-reports in evaluations of school-based prevention programs.

Delinquent and criminal behavior: Delinquent or criminal behavior is any behavior which is against the law. Delinquency is criminal behavior committed by a young person. Laws, and therefore the precise definition of behaviors in violation of the law, vary slightly from state to state. Crime and delinquency includes the full range of acts for which individuals could be arrested. It includes crimes against persons ranging in seriousness from murder to robbery to minor assault. It includes an array of crimes against property ranging from arson to felony theft to joyriding. Crime and delinquency also includes possession, use, and selling of drugs. For juveniles, it includes status offenses such as running away. Dimensions of crime that are often measured distinctly in evaluations include age of first involvement, status as a delinquent ever in one's life, current criminal activity, and frequency of delinquent involvement. Delinquency is more often measured using youth self-reports than official records of arrest or conviction in evaluations of school-based prevention programs.

Withdrawal from school: Leaving school prior to graduation from the 12th grade and truancy are often used as measures of success in prevention programs. The precise definition of truancy differs according to location. For practical purposes it is often measured as the number of days absent from school.

Conduct problems, low self-control, aggression: These characteristics are so highly related to delinquent behavior that they may be considered proxies for it. Studies of school-based prevention often measure these characteristics in addition to or in lieu of actual delinquent behavior because (1) the subjects are too young to have initiated delinquent behavior, (2) the questions are less controversial because they are not self-incriminating, or (3) teachers and parents are more able to rate youth on these characteristics than on actual delinquent behavior, which is often covert. Conduct problem behavior subsumes a variety of behaviors: defiance, disrespect, rebelliousness, hitting, stealing, lying, fighting, talking back to persons in authority, etc. Low self control is a disposition to behave impulsively, and aggression involves committing acts of hostility and violating the rights of others.

Risk and protective factors: As noted in the text, the effectiveness of prevention programs is often assessed by examining program effects of a variety of factors which are known to elevate or reduce risk for delinquent involvement at a later date. These factors are discussed above and shown in Figure 1.

Because Congress has asked for a review of scientific literature on crime prevention, studies including evaluations on crime, delinquency, alcohol or other drug use, or other forms of antisocial behavior are highlighted. Studies with demonstrated effects on risk and protective factors related to delinquency are also mentioned. Many substance abuse prevention programs are summarized in the chapter because substance use is one aspect of the adolescent problem behavior syndrome, is itself a form of criminal behavior for adolescents, and is highly correlated with more serious forms of criminal behavior. A distinction between substance use (including alcohol, marijuana, and harder drug use) and all other forms of delinquency is maintained throughout the report. Programs are considered to influence substance use or delinquent behavior if their evaluations demonstrate effects on any measure of each outcome, regardless of its type or seriousness level.

Categories of school-based prevention. Programs included in this chapter are located primarily in school buildings (even if

outside of school hours) or are implemented by school staff or under school or school system auspices. Programs targeting all grade levels -- kindergarten, elementary, and secondary -- are included. Excluded from this chapter are school-based programs intended to alter family conditions or practices (these are covered in the family chapter), and school-based attempts to secure the school boundaries from intruders, weapons, and drugs. These are considered in the chapter on place-based strategies.

Figure 5-3 describes four categories of school-based prevention focusing on altering school or classroom environments and Figure 5-4 describes five categories of school-based prevention focusing on changing the behaviors, knowledge, skills, attitudes, or beliefs of individual students. Classifying any particular school-based prevention activity is a difficult task because most school-based prevention programs contain a mix of different types of activities. In the 149 studies examined for this review, most (94%) contained multiple components (i.e., components falling into more than one of the major categories of program activity shown in the figures). About 40% of the studies contained components in four or more different categories. Table 5-2 shows the major types of activities and the percentage of studies whose evaluated programs contained each type of activity. It shows that the school-based programs described in most studies include an instructional component and a component intended to alter classroom management strategies. These common strategies are often combined with attempts to teach students new ways of thinking and dealing with potential social problems. Other fairly common approaches in these studies are behavior modification and attempts to change the normative climate of the school.

The multi-component strategy found in most studies of school-based prevention is perfectly reasonable given the nested nature of the schooling experience and the multiple routes to problem behavior. Student behavior is most directly influenced by the attitudes, beliefs, and characteristics of the student and his or her peers. Individually-targeted interventions such as instructional or behavior modification techniques that teach students new ways of thinking and acting may be effective in changing these individual factors. But *several* of these individual factors (e.g., low self-control, academic failure experiences, and attitudes favorable to drug use) are likely causes of problem behavior and are best targeted through a set of inter-related program components rather than through a single intervention. Moreover, students interact in the context of classrooms, each of which has its own normative climate encouraging or discouraging certain behaviors. And classrooms exist in school environments which establish larger contexts for all activities in the school. An instructional program teaching students to resolve conflicts non-violently is not likely to be as effective for reducing violence in a school or classroom setting in which fights are regularly ignored as in one which immediately responds to such incidents. The interconnections among different prevention components and the interdependence of different contexts should be considered in the design of prevention programs (Elias, Weissberg, et al., 1994).

Most recent reviews of school-based prevention are organized by developmental level (e.g., elementary, junior high, senior high) rather than by program type. Despite the difficulties inherent in classifying prevention activities, it is nevertheless a useful activity because only by decomposing different sets of activities into their major parts can we (a) describe the activities; (b) describe how the mix of activities varies across location (e.g., urban, suburban, rural) and developmental level; and (c) design evaluations of specific constellations of components. Also, several evaluations of relatively narrow programs are available and can provide information about the potential of each activity as a piece of a larger, more potent, prevention strategy. Ongoing research jointly sponsored by the Bureau of Justice Assistance and National Institute of Justice will cross-classify program types by developmental level and school location to provide a more comprehensive picture of which school-based prevention activities are used in which locations for which grade levels.

Figure 5-3: Environmental Change Strategies for School-Based Prevention
Environmental Change Strategies

Building School Capacity: Interventions to change the decision-making processes or authority structures to enhance the general capacity of the school. These interventions often involve teams of staff and (sometimes) parents, students, and community members engaged in planning and carrying out activities to improve the school. They often diagnose school problems, formulate school goals and objectives, design potential solutions, monitor progress, and evaluate the efforts. Activities aimed at enhancing the administrative capability of the school by increasing communication and cooperation among members of the school community are also included.

Setting Norms for Behavior, Rule-Setting: School-wide efforts to redefine norms for behavior and signal appropriate behavior through the use of rules. It includes activities such as newsletters, posters, ceremonies during which students declare their intention to remain drug-free, and displaying symbols of appropriate behavior. Some well-known interventions in this category are "red ribbon week" sponsored through the Department of Education's Safe and Drug-Free Schools and Communities program and school-wide campaigns against bullying. The category also includes efforts to establish or clarify school rules or discipline codes and mechanisms for the enforcement of school rules.

Managing Classes: Using instructional methods designed to increase student engagement in the learning process and hence increase their academic performance and bonding to the school (e.g., cooperative learning techniques and "experiential learning" strategies); and classroom organization and management strategies. The latter include activities to establish and enforce classroom rules, uses of rewards and punishments, management of time to reduce "down-time," strategies for grouping students within the class, and use of external resources such as parent volunteers, police officers, or professional consultants as instructors or aides.

Regrouping Students: Reorganizing classes or grades to create smaller units, continuing interaction, or different mixes of students, or to provide greater flexibility in instruction. It includes changes to school schedule (e.g., block scheduling, scheduling more periods in the day, changes in the lengths of instructional periods); adoption of schools-within-schools or similar arrangements; tracking into classes by ability, achievement, effort, or conduct; formation of grade level "houses" or "teams;" and decreasing class size. Alternative schools for disruptive youths are also included in this category.

Figure 5-4: Individual-Change Strategies for School-Based Prevention

Individual-Change Strategies:

Strategies to Change Student Knowledge, Skills, Attitudes, Beliefs, or Behaviors

Instructing Students: The most common strategy used in schools. These interventions provide instruction to students to teach them factual information, increase their awareness of social influences to engage in misbehavior, expand their repertoires for recognizing and appropriately responding to risky or potentially harmful situation, increase their appreciation for diversity in society, improve their moral character, etc. Well-known examples include Drug Abuse Resistance Education (D.A.R.E.), Law-related Education (L.R.E.), and Gang Resistance Education and Training (G.R.E.A.T.).

Behavior Modification and Teaching Thinking Strategies: Behavior modification strategies focus directly on changing behaviors and involve timely tracking of specific behaviors over time, behavioral goals, and uses feedback or positive or negative reinforcement to change behavior. These strategies rely on reinforcers external to the student to shape student behavior. Larger or more robust effects on behavior might be obtained by teaching students to modify their own behavior using a range of cognitive strategies research has found lacking in delinquent youth. Efforts to teach students "thinking strategies" (known in the scientific literature as cognitive-behavioral strategies) involve modeling or demonstrating behaviors and providing rehearsal and coaching in the display of new skills. Students are taught, for example, to recognize the physiological cues experienced in risky situations. They rehearse this skill and practice stopping rather than acting impulsively in such situations. Students are taught and rehearsed in such skills as suggesting alternative activities when friends propose engaging in a risky activity. And they are taught to use prompts or cues to remember to engage in behavior.

Peer Programs: Peer counseling, peer mediation, and programs involving peer leaders.

Other Counseling and Mentoring: Individual counseling and case management and similar group-based interventions, excluding peer counseling. Counseling is distinguished from mentoring, which is generally provided by a lay person rather than a trained counselor is not necessarily guided by a structured approach.

Providing Recreational, Enrichment, and Leisure Activities: Activities intended to provide constructive and fun alternatives to delinquent behavior. Drop-in recreation centers, after-school and week-end programs, dances, community service activities, and other events are offered in these programs as alternatives to the more dangerous activities. The popular "Midnight Basketball" is included here.

Table 5-2. Percentage Studies Including Each Intervention Strategy

Program Strategy	Percentage Studies
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	Including
Instructing Students	78
Managing Classrooms	66
Teaching Thinking Strategies	49
Setting Norms for Behavior, Rule-Setting	33
Behavioral Modification	27
Peer Counseling, mediation, and leaders	16
Counseling	14
Providing Recreational, Enrichment, and Leisure Activities	10
Building School Capacity	10
Regrouping Students	5
Mentoring	3

Methods

Search and summary methods used in this chapter are described in more detail in the methods appendix. Briefly, a library search was conducted to locate all published studies of school-based prevention programs. This list was augmented with additional studies cited in recent reviews of prevention programs. In all, 149 studies were located and classified into the program categories described above. Studies of multi-component programs were assigned to the category which best described the program. For categories containing a manageable number of studies, all studies were coded for methodological rigor and effect sizes were computed⁴ (when possible) for measures of delinquency and substance use. For categories containing more studies than could be coded in the short time available to produce this report, recent high-quality secondary reviews were summarized and two or three of the most rigorous studies were coded using the same procedures as for the smaller categories.

The following paragraphs discuss in more detail three issues specific to this chapter.

Effect sizes. Program effects are expressed whenever possible in this chapter as "effect sizes" (ES), a measure of change due to the treatment as a proportion of the standard deviation for each measure employed. ESs usually range from -1 (indicating that the treatment group performed one standard deviation lower than the comparison group) to +1 (indicating that the treatment group performed one standard deviation higher than the comparison group). Rosenthal and Rubin (1982) show that ESs can be translated for ease of interpretation into the equivalent of percentage differences by simply dividing the ES by 2 and multiplying by 100. The resulting figure represents the relative percentage difference in success (or failure) rates between the experimental and control groups. For example, an ES of .5 might indicate that the success rate for the treatment group is 25 percentage points above that of the comparison group. Lipsey & Wilson (1993), summarizing effect sizes from 156 reviews of 9,400 interventions in the social and behavioral sciences and education, reported an average effect size of .47 (SD=.28) for many different types of programs and many different outcomes. By comparison, Lipsey (1992) showed the average effect size in 397 studies of delinquency treatment and prevention was .17 (SD=.44). Delinquent behavior appears more difficult to change than more conventional behaviors. The practical significance of an effect size depends largely on the seriousness of the outcome for the population. Lipsey argues that even small ESs (e.g., .10) for serious crime have practical significance.

Level of analysis. Most studies of school-based prevention share a methodological shortcoming: Data that should be analyzed at the classroom or school level are instead analyzed at the individual level. School-based prevention programs are usually administered to intact classrooms or schools and these larger units are usually assigned to treatment and control conditions. But most studies, conducted with limited funding, involve relatively small numbers of classes or schools. The largest study reviewed

in this chapter involved only 56 schools, and most involve fewer than 10. Investigators usually analyze their data as though individuals were assigned to treatment and comparison conditions. Resulting estimates of the effects of school-based prevention practices are imprecise. Corrections are seldom or never made for the correlated error terms that result when observations are clustered in larger units. Effect sizes are usually underestimated because they use the larger individual-level standard deviation estimates rather than the smaller standard error estimates for classrooms or schools. This shortcoming can be corrected in future studies only with increased funding for studies to allow for larger numbers of schools and classrooms.

Scientific vs. programmatic rigor. The scientific rigor of studies summarized in this chapter was classified using the coding scheme described in the methods appendix. The programmatic rigor of prevention programs is not as easily quantified because the same level of consensus does not exist about the elements of programmatic rigor. We can be reasonably certain, however, that longer-term, multi-component strategies located in natural school settings, using staff readily available to the schools, employing methods that are acceptable to regular school staff are most likely to produce the strongest and most durable effects. A conundrum for school-based prevention research is that such rigorous programs are the most difficult to study using rigorous methods. Long-term interventions are more likely to suffer from attrition problems. In natural setting it is not always possible to randomly assign subjects to treatment and control conditions, thus lowering confidence in the interpretation of any differences observed as due to the effects of the intervention. The most rigorous programs, therefore, are usually not studied with the highest level of scientific rigor.

Studies of School-based Prevention

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) launched a large-scale school-based demonstration project in the early 1980s, funding eighteen different school-based delinquency prevention models in fifteen cities. Program models ran the gamut from alternative schools employing behavior modification for high-risk youths, to counseling classes, to enhancing management processes in schools. Seventeen of the projects were included in the national evaluation of the initiative, also funded by OJJDP. Gottfredson (1987), summarizing the evaluation, concluded that the initiative was successful in demonstrating that some school-based preventive interventions reduce delinquency. Schools in the initiative became significantly safer and less disruptive over the course of the initiative. The initiative as a whole demonstrated that school-based prevention can work, but evaluations of specific program models showed great variability in their effectiveness. Reports on many of the specific program models included in the initiative have made their way into the scientific research literature and will be summarized at appropriate points later in this chapter.

Changing School and Classroom Environments

Correlational evidence suggests that the way schools are run predicts the level of disorder they experience. Schools in which the administration and faculty communicate and work together to plan for change and solve problems have higher teacher morale and less disorder. These schools can presumably absorb change. Schools in which students notice clear school rules and reward structures and unambiguous sanctions also experience less disorder. These schools are likely to signal appropriate behavior for students (Corcoran, 1985; Gottfredson, 1987; Gottfredson & Gottfredson, 1985; Gottfredson, Gottfredson, & Hybl, 1993). Schools in which students feel as though they belong and that people in the school care about them also experience less disorder (Duke, 1989). These schools are probably better at controlling behavior informally. Intervention studies have tested for a causal association between each of these factors and delinquency or substance use among students. Four major strategies for changing school and classroom environments are summarized below: (1) building school capacity to manage itself; (2) setting norms or expectations for behavior and establishing and enforcing school rules, policies, or regulations; (3) changing classroom instructional and management practices to enhance classroom climate or improve educational processes; and (4) grouping students in different ways to achieve smaller, less alienating, or otherwise more suitable micro-climates within the school.

Building School Capacity

Program Development Evaluation (PDE; G. Gottfredson, 1984a; Gottfredson, Rickert, Gottfredson, and Advani, 1984) is a structured organizational development method developed to help organizations plan, initiate, and sustain needed changes. Researchers and practitioners collaborate, using specific steps spelled out in the program materials, to develop and implement programs. A spiral of improvement is created as researchers continuously provide data feedback during the implementation phase to the practitioners and work with them to identify and overcome obstacles to strong program implementation. The method -- first developed for use with schools participating in the OJJDP alternative education initiative -- was intended to solve the problem that evaluations up until that time had found few efficacious delinquency prevention models. The developer assumed that the poor showing was due to weak evaluations, failure to inform program design with research knowledge and social science theory, and weak program implementation.

PDE was used in a comprehensive school improvement intervention -- project PATHE -- that altered the organization and management structures in seven secondary schools between 1981 and 1983 as part of OJJDP's alternative education initiative (D. Gottfredson, 1986; scientific methods score=4). District-level administrators used PDE to develop a general plan for all seven schools, and then used PDE to structure specific school-level planning interventions. These efforts increased staff and student participation in planning for and implementing school improvement efforts. Changes resulting from the planning activity included efforts to increase clarity of rules and consistency of rule enforcement and activities to increase students' success experiences and feelings of belonging. These activities targeted the entire population in each school.

The evaluation of the project compared change on an array of measures from the year prior to the treatment to one year (for four high schools)⁵ and two years (for five middle schools) into the intervention. One school at each level was a comparison school selected from among the non-participating schools to match the treatment schools as closely as possible. The students in the participating high schools reported significantly less delinquent behavior⁶ (ES=-.16) and drug use (ES=-.19), had fewer suspensions (ES=-.27), and fewer school punishments (ES=-.18) after the first year of the program. Students in the comparison high school did not change significantly on these outcomes. A similar pattern was observed for the middle schools after two years. As serious delinquency increased significantly in the comparison school, it decreased (nonsignificantly) in the program middle schools (ES=-.27). Changes in drug use (ES=-.13) and school punishments (ES=-.15) also favored the program schools. Suspensions also declined significantly in the program middle schools, but a similar decline was observed in the comparison school. Several indicators of the school climate directly targeted by the program (e.g., safety, staff morale, clarity of school rules, and effectiveness of the school administration) also increased in the program schools, with effect sizes ranging from .16 to .63.

D. Gottfredson (1987; scientific methods score=4) reported the results of a similar effort -- The Effective Schools Project -- in a difficult Baltimore City junior high school. PDE was used with a team of school and district-level educators to plan and implement changes to instructional and discipline practices. School-wide and classroom-level changes were made to the disciplinary procedures to increase the clarity and consistency of rule enforcement, and to substitute positive reinforcement strategies for strategies that relied solely on punishment. Instructional innovations including cooperative learning and frequent monitoring of class work and homework were put in place, an expanded extracurricular activities program was added, and a career exploration program which exposed youth to positive role models in the community, took them on career-related field trips, and provided instruction on career-related topics was undertaken.

The evaluation of the project involved a comparison of pre-treatment measures to post-treatment measures taken two years later for the one treatment school and a second school which was intended to receive the program but instead chose to develop a school improvement plan with minimal assistance from the researchers (and without using the PDE method). Indicators of organizational health (e.g., staff morale, cooperation and collaboration between faculty and administration, and staff involvement in planning and action for school improvement) improved dramatically in the treatment school. Only the Planning & Action scale improved in the comparison school. Significant reductions from pre- to post-treatment on delinquency (see footnote 3, ES=-.33) and increases in classroom orderliness (ES=.57) were observed for the treatment school. A reduction in student reports of rebellious behavior in the treatment school was observed (not significant) while a significant increase was observed in the comparison school (ES=-.22).

Kenney & Watson (1996; scientific methods score = 3) report on an intervention to empower students to improve safety in schools. This study, funded by NIJ in 1993, involved 11th grade students (N's range from 372 to 451) in the application of a problem-solving technique to reduce problems of crime, disorder, and fear on the school campus. As part of their government and history class, students implemented a four-step problem-solving method commonly used in problem-oriented policing interventions to identify problems, analyze possible solutions, formulate and implement a strategy, and evaluate the outcomes of the intervention. The investigators anticipated that empowering students to serve as change agents in the school would produce safer schools. Among the problems selected by the students to work on were streamlining lunch-room procedures and monitoring the restrooms. These place-oriented strategies are discussed in Eck's chapter in this volume.

Baseline surveys used by the planning groups to identify school problems were used also as baseline measures for the evaluation of the project. Change over a two-year period was examined for the treatment and one comparison school. The study found that students in the treatment school reported significantly less fighting and less teacher victimization and were less fearful about being in certain places in the school at the end of the two-year period compared with their baseline. Students in the comparison school did not change on these outcomes. A few of the items measuring teacher fear and victimization experiences were significantly lower at the end of the program, but positive effects were more evident in student than on teacher reports. The positive findings for this program on measures of fighting, fear, and victimization experiences are consistent with the Gottfredson et. al. research showing that building school capacity for initiating and sustaining change reduce delinquency and drug use. All three studies were of acceptable methodological rigor, with scientific methods scores of 3 or 4. The size of the effects on delinquency and substance use ranged from small (-.13) to moderate (-.33), with larger effects (up to .57) observed for

less serious forms of misbehavior.

Norms for Behavior and Rule-Setting

Research on the correlates of school disorder summarized earlier in this chapter suggests that a constellation of discipline management-related variables -- clarity about behavioral norms, predictability, consistency and fairness in applying consequences for behaviors -- are inversely related to rates of teacher and student victimization in schools. Several studies have attempted to intervene in schools to increase the clarity and consistency of rule enforcement. Others have deliberately involved students in the development and enforcement of the rules in an attempt to increase the perceived validity and fairness of the rules. Still others have attempted to establish or change school norms using campaigns, ceremonies, or similar techniques.

Gottfredson, Gottfredson, & Hybl (1993; scientific methods score=4) tested a discipline management intervention in six urban middle schools. This program (BASIS) included the following components:

Increasing clarity of school rules and consistency of rule enforcement through revisions to the school rules and a computerized behavior tracking system;

Improving classroom organization and management through teacher training;

Increasing the frequency of communication with the home regarding student behavior through systems to identify good student behavior and a computerized system to generate letters to the home regarding both positive and negative behavior; and

Replacing punitive disciplinary strategies with positive reinforcement of appropriate behavior through a variety of school- and classroom-level positive reinforcement strategies.

School teams of administrators, teachers, and other school personnel were responsible for implementing the program. When all six participating schools were compared with the two non-randomly selected comparison schools, significant changes in the expected direction were observed from the beginning to the end of the program on the measures most directly targeted: classroom orderliness, classroom organization, classroom rule clarity, and fairness of school rules. Student reports of rebellious behavior, a scale measuring minor delinquent acts, increased significantly over the three year time frame for students in both treatment and comparison schools, and slightly more so in treatment schools (ES=.27) than in the comparison schools (ES=.19). This increase was probably due to the county-wide aging of the middle school student population which resulted when the implementation of higher grade-to-grade promotion standards resulted in a huge increase in grade retentions. Implementation data showed that the components of the program were implemented with high fidelity to the original design in only three of the six program schools. In these three schools, teachers reports of student attention to academic work increased significantly (ES=.09) and their ratings of student classroom disruption decreased significantly (ES=-.12). The increase in rebellious behavior was smallest (ES=.11) in the these schools, although the difference between these "high implementation" treatment schools and the control schools was small (difference in ES=.08).

In another three-year discipline management study implemented in nine schools, Mayer, Butterworth, Nafpaktitus, & Sulzer-Azaroff (1983; scientific methods score=5) demonstrated positive effects for a program that trained teams of school personnel to use behavioral strategies for reducing student vandalism and disruption. Each team also met regularly to plan and implement programs on a school-wide basis that would teach students alternative behavior to vandalism and disruption. These included lunch-room and playground management programs and classroom management programs that stressed the use of specific positive reinforcement. Graduate student consultants worked with each teacher about twice per week and conducted about two team meetings per month during the school year. The study showed that rates of student off-task behavior decreased significantly and vandalism costs plummeted in the project schools. These results replicated results from an earlier pilot study (Mayer & Butterworth, 1978; scientific methods score=4). Note that the school team approach used in this study resembles that used in the PDE method described above.

An impressive program of research on an intervention designed to limit conflict in schools undertaken in Norway (Olweus, 1991, 1992; Olweus & Alsaker, 1991; scientific methods score=3) suggests that school-wide efforts to redefine norms for behavior reduce delinquency. Olweus noted that certain adolescents -- "bullies" -- repeatedly victimized other adolescents. This harassment was usually ignored by adults who failed to actively intervene and thus provided tacit acceptance of the bullying. A program was devised to alter environmental norms regarding bullying. A campaign directed communication to redefining the behavior as wrong. A booklet was directed to school personnel, defining the problem and spelling out ways to counteract it. Parents were sent a booklet of advice. A video illustrating the problem was made available. Surveys to collect information and register the level of the problem were fielded. Information was fed back to personnel in 42 schools in Bergen, Norway. Among

the recommended strategies to reduce bullying were: establishing clear class rules against bullying; contingent responses (praise and sanctions); regular class meetings to clarify norms against bullying; improved supervision of the playground; and teacher involvement in the development of a positive school climate.

The program was evaluated using data from approximately 2,500 students (aged 11 to 14) belonging to 112 classes in 42 primary and secondary schools in Bergen. The results indicated that bullying decreased by 50 percent (exact ESs can not be computed from the information provided in the published reports, but they appear to range from approximately -.10 to -.50 for different grade levels, genders, and measures of bullying). Program effects were also observed on self-reports of delinquent behavior -- including truancy, vandalism, theft. These effects on delinquency were smaller in magnitude (ESs below -.2 except for one of the 10 comparisons whose ES was approximately -.42).

Encouragement to adopt norms against drug use during adolescence has also been identified as an essential element of drug abuse prevention (Institute of Medicine [IOM], 1994). Curricula that promote norms against drug use often include portrayals of drug use as socially unacceptable, identification of short-term negative consequences of drug use, provision of evidence that drug use is less prevalent among peers than children may think, encouragement for children to make public commitments to remain drug-free, and the use of peer leaders to teach the curriculum (IOM, 1994, page 264). These activities are present in 29% of drug prevention curricula (Hansen, 1992), but always in conjunction with other components such as conveying information about risks related to drug use and resistance skills training. Norm-setting and public pledges to remain drug-free are usually elements of the most effective drug education curricula, but meta-analyses have not been able to disentangle the effects of the various components. In a study designed to do just that, Hansen & Graham (1991; scientific methods score=4) found that positive effects on marijuana use and alcohol use were attributable more to a normative education than to a resistance skills training component.

In summary, programs aimed at setting norms or expectations for behavior, either by establishing and enforcing rules or by communicating and reinforcing norms in other ways (e.g., campaigns), have been demonstrated in several studies of reasonable methodological rigor to reduce alcohol and marijuana use and to reduce delinquency. Note, however, that studies in which school rules were manipulated also used school teams to plan and implement the programs, so it is not possible to separate the specific effects of the school rule and discipline strategies from the more general effects of encouraging teams of school personnel to solve their schools' problems.

Managing Classes

Effective Instructional Practices Summarized in Brewer et al. (1995) Smaller kindergarten and first grade classrooms

Within-class and between-grade ability grouping in elementary grades

Nongraded elementary schools

Behavioral techniques for classroom management

Continuous progress instruction (e.g., instruction in which students advance through a defined hierarchy of skills after being tested for mastery at each level usually with teachers providing instruction to groups of students at the same instructional level)

Computer-assisted instruction

Tutoring

Cooperative learning

Most of students' time in school is spent in classrooms. How these micro-environments are organized and managed may influence not only the amount of disorderly behavior that occurs in the class but also important precursors of delinquency and drug use, including academic performance, attachment and commitment to school, and association with delinquent peers.

Classroom organization and management strategies are found in most school-based prevention studies. They are usually incorporated into both the school-wide interventions summarized above and (less often) into the instructional interventions described later. For example, cooperative learning strategies were used in Project PATHE (Gottfredson, 1986), the Effective Schools Project (Gottfredson, 1987), and Project STATUS (Gottfredson, 1990), all of which demonstrated reductions in delinquent behavior. Classroom management techniques were used in Project BASIS (Gottfredson, Gottfredson, & Hybl, 1993). In all of these projects, the classroom instruction and management strategies were elements of broader, school-wide organization development or discipline management projects (or in the case of STATUS, a law-related education curricular intervention), thus making it impossible to isolate the effects of the classroom strategies. Classroom management innovations constitute the

major intervention in the studies summarized in this section.

The literature on effective instructional processes is vast. Most of this literature assesses effectiveness on academic outcomes rather than on behavioral outcomes. Brewer et al. (1995) summarize existing meta-analyses of instructional strategies and conclude that the strategies shown in the box on the preceding page increase academic performance, which is related to delinquency and drug use. These instructional strategies should be considered promising elements of prevention efforts at the classroom level, although their effects on delinquency and substance use have not been demonstrated.

Table 5-3 summarizes evidence from two long-term interventions intended to test the efficacy of upgrading classroom instructional and management methods on subsequent substance use and delinquent behavior. The Seattle Social Development Project (Hawkins et al., 1988; 1991; 1992; O'Donnell et al, 1995) used cooperative learning strategies, proactive classroom management, and interactive teaching. Proactive classroom management consisted of establishing expectations for classroom behavior, using methods of maintaining classroom order that minimize interruptions to instruction, and giving frequent specific contingent praise and encouragement for student progress and effort. Interactive teaching involved several instructional practices generally accepted as effective (e.g., frequent assessment, clear objectives, checking for understanding, and remediation). Cooperative learning used small heterogeneous learning groups to reinforce and practice what the teacher taught. Recognition and team rewards were provided to the teams, contingent on demonstrated improvement. Parent training in family management practices was also provided. This program was implemented with support from OJJDP continually from first through sixth grades in several elementary schools beginning in 1981. In addition, the classroom management strategies were implemented without the parent training in a one-year study of seventh graders (Hawkins, Doueck, & Lishner, 1988). Several of the project reports are summarized in Table 5-3. The evaluations demonstrated consistent significant positive effects on attachment and commitment to school, and the absence of such effects on belief in moral order and attitudes about substance use. For the long-term project including parent training, measures of alcohol and marijuana use generally favored the treatment students, but were marginally significant and sometimes significant only for girls. Measures of aggressive behavior favored the treatment group in second grade, but only for males. By fifth grade, measures of school misbehavior and minor delinquency initiation showed no significant effects for the full sample. By sixth grade, a lower delinquency initiation was observed for the treatment group, but only for low income males participating in the program. For low-achieving seventh graders who received the classroom portion of the program with no parent training, no significant effects were observed on measures of delinquency and drug use, although the treatment group had significantly fewer suspensions from school. Table 5-3. Studies of Classroom Management

Author protective factors (year)	Scientific methods score/ Number of cases	Effect size for measure of problem behavior	Effects on risk and
Hawkins, Von Cleve, & behaviors, anxiety, Catalano (1991) [NS] [results for second graders after two years of program]	3 N=458 boys & girls	Aggressive behavior (teacher reports) [favors treatment, significant for males only, ES=-.34 for males] Externalizing problem behavior (teacher reports) [favors treatment, significant for males only, ES=-.29 for males]	Internalizing problem social withdrawal
Hawkins, Catalano, Commitment to school, Morrison, O'Donnell, Family management Abbott, & Day (1992)	2 N= 853 boys	Alcohol use [favors treatment, almost significant (Attachment to school, Attachment to family, [significantly favors

treatment]			
[results for fifth scores [significantly favors graders after four years of program] order, Attitudes favoring	& girls	p<.1), ES=-.12]	Achievement test control]
O'Donnell, Hawkins, Catalano, Abbott, & Day (1995)	2	Alcohol use [favors treatment for girls only; almost significant (p<.1) for girls only, ES=-.40 for girls]	Belief in moral substance use [NS]
[significantly favors [results for sixth and girls] graders after six years of program] treatment, significant for scores [favors treatment, only] [NS]	N= 49 boys and 57 girls (analyzed separately by gender)	girls only; almost significant (p<.1) for girls only, ES=-.34 for girls]	Attachment to school treatment. p<.05 for Commitment to school treatment for boys Grades [favors boys only]
substance use [NS]		Marijuana use [favors treatment for girls only; almost significant (p<.1) for girls only, ES=-.34 for girls]	Achievement test significant for boys Belief in moral order
Hawkins, Doueck, & Lishner (1988)	3	Minor delinquency initiation [favors treatment, almost significant (p<.1) for boys only, ES= -.54 for boys]	Attitudes favoring
6 items, 2 [results for seventh treatment group] graders after one year of program] [significantly favors	N=160 low-achieving boys and girls	Self-reported delinquency [NS; ES's range from .04 to .14 favoring control]	Achievement test School attachment [of significantly favor
Battistich, Schaps, Watson, & Solomon (1996)	3	Drug use [NS; ES=-.11 favoring treatment]	Commitment to school treatment]
		Times suspended [significantly favors treatment, ES=-.37]	
		Alcohol use [significantly favors treatment, ES=-.12]	NA

[fifth and sixth graders assessed after each year of a two-year program]	1745, depending on the year	Marijuana use [NS] Delinquency [10 items, NS]	
Solomon, Watson, friendly behaviors Delucchi, Shaps, & treatment] Battistich (1988)	3 N=67	Negative behaviors observed in classrooms [NS]	Supportive and [significantly favors Spontaneous pro-
social behavior [Kindergarten through treatment] fourth grade classrooms assessed after each year of a five-year program]			[significantly favors

A second major classroom intervention (CDP, the Child Development Project) was conducted with several cohorts of elementary school students in 12 elementary schools for 2 consecutive years beginning in 1992 (Battistich et al, 1996). It included the following components:

"Cooperative learning" activities intended to encourage student discussion, comparison of ideas, and mutual challenging of ideas on academic and social topics;

A "values-rich" literature-based reading and language arts program intended to foster understanding of diversity;

"Developmental discipline," a positive approach to classroom management that stresses teaching appropriate behavior rather than punishment, involving students in classroom management, and helping them to learn behavior management and conflict resolution skills;

"Community-building" activities aimed at increasing appreciation for diversity or students' sense of communal involvement and responsibility; and

"Home-school" activities to foster parent involvement in their children's education.

A similar program was conducted in three elementary schools for 5 consecutive years beginning in 1982 (Solomon et al, 1988). The evidence from evaluations of these efforts is also summarized in Table 5-3. The program increased pro-social behaviors but did not decrease negative behavior among students in grades K through 4. It had no effect on delinquency or marijuana use, but alcohol use among the treatment youths in grades 5 and 6 was significantly lower than among the control students (Battistich et al, 1996; ES=-.12). In this study, supplementary analyses which take into account varying levels of implementation across schools showed that marijuana use and two of the ten delinquency items were significantly lower among treatment youths in the schools with the highest level of implementation, but these results are ambiguous because the high implementation schools also have strikingly higher levels of marijuana use and delinquency at all time-points. Regression to the mean is not ruled out as an alternative explanation for the observed pattern of results.

In all but one study, classroom management strategies were combined with family-based strategies, making it impossible to determine the unique effects of the classroom intervention. Program effects were not as positive in the one study that used only the classroom strategies. Both the CDP and Seattle projects found evidence of positive effects on substance use initiation, but the effects were sometimes only marginally significant and were not as consistent across different substances and gender groups as would be expected. Also, although these strategies appear effective for increasing positive behaviors and a number of protective factors, little promise for reducing delinquency is demonstrated. Classroom organization and management strategies should be combined with other more potent components and tested more rigorously.

Regrouping Students

Four studies have examined interventions which group students to create more supportive or challenging environments for high-risk youths. Felner, Ginter & Primavera (1982) and Felner & Adan (1988) studied the School Transitional Environment Project (STEP), a one-year program for students making the transition to high school. Incoming students were assigned to small "schools within the school" consisting of 65 to 100 students. Students remained in intact small groups for their home room period and their academic subjects, and these classrooms were physically close together. The role of the home room teacher was redefined so as to include more responsibility for meeting the administrative, counseling, and guidance needs of the students. Reyes & Jason (1991) implemented a similar program which also contained an attendance monitoring component. D. Gottfredson (1990) studied another school-within-a-school intervention -- Student Training Through Urban Strategies (STATUS), one of the programs in OJJDP's alternative education initiative. This program grouped high-risk youths to receive an integrated social studies and English program which involved a law-related education curriculum and used instructional methods emphasizing active student participation. Students stayed together for two hours each day. These studies are summarized in Table 5-4.

STEP increased protective factors (school attendance, persistence, and achievement) in the Felner studies, but its replication in Reyes & Jason was largely a failure. STATUS reduced delinquency and drug use (ESs range from -.07 to -.42) and changed in the desired direction several risk and protective factors related to delinquency. STATUS involved innovative teaching methods (many of which are reviewed in the classroom management section above), a law-related education curriculum, and the innovative school-within-a-school scheduling. It is not possible to disentangle the effects of these components. However, the major intermediate outcome through which the law-related education curriculum was expected to reduce delinquency -- belief in the validity of laws -- was the only outcome that did not favor the treatment group. We have seen above that classroom management strategies alone or in combination with family interventions do not reduce delinquency. It is unlikely, therefore, that the positive effects found in the STATUS program were due solely to the instructional and classroom management methods or to the law-related education curriculum. The study suggests that the combination of innovative grouping and scheduling with the other two components is promising.

Table 5-4. Summary of Studies using Reorganization of Grades or Classes

Author protective factors (year)	Scientific methods score/ Number of cases	Effect size for measure of problem behavior	Effects on risk and
Felner, Ginter & three years following Primavera (1982); controls vs. 21% of Felner & Adan (1988) (significant [results for ninth graders directly point-average -- following a one-year treatment at end of one program, with follow-up at end of year one and three years following program]	4 N=172 students	NA	School dropout during the program -- 43% of treatment dropped out difference) Absenteeism and grade- significantly favors year of treatment and following treatment
Gottfredson (1990) influence, grades, and	4	Delinquency -- favors treatment group in both	Negative peer attachment to school -

- significantly favor [results at end of both schools one-year program in one junior and one senior favors treatment high school] schools, NS	N=123 junior high and 124 senior high students	schools, significant for high school only [ES's -.33 and -.42]	treatment group in School attendance -- students in both Drug Involvement -- significantly favors Number of months treatment group in both significantly favors school only Belief in rules -- both schools, NS Educational students in high junior high, NS. Achievement test significantly favors Grade point average, At the end of one
enrolled in school -- treatment students, high favors control students, expectations -- favors treatment school, control students in			
Reyes & Jason (1991) scores -- one of three tests treatment [results for ninth graders at end of absences, and dropout -- one-year program] year of treatment, NS	4 N= 154	NA	

In summary, programs which group high-risk students to create smaller, more tightly-knit units for instruction show promise for reducing delinquency, drug use and drop-out. These programs are risky in light of other research that shows negative effects of grouping high-risk youths for peer counseling or other therapeutic services (to be reviewed shortly), but the studies summarized in this section suggest that it may be beneficial to group high-risk for instruction in the context of "schools-within-schools" which offer a strong academic program, use effective instruction and classroom management strategies, and supportive staff.

A note on alternative schools. Alternative schools for disruptive youths are often proposed as a solution to the problem of disorder in schools. OJJDP's alternative education initiative sponsored five such schools, all small schools for students who had not flourished in the regular school setting. After reviewing the content of these programs, G. Gottfredson (1987) concluded that they are far too variable in nature, student composition, structure, and purpose to warrant any blanket statement about their effectiveness. He reviews two of the five models -- one based on a theory that intense personal involvement of the educators with the youth would reduce delinquency through increased bonding, and the other based on the theory that rigorous discipline and behavior modification techniques would result in decreased delinquency. The evaluation of the first program found remarkable improvements in several risk factors for delinquency, including commitment to school, attachment to school, and belief in rules. It also found significantly less self-reported drug use (but not self-reported delinquency or arrest records) among alternative school students than among controls. The evaluation of the second alternative school implied that the program was effective for increasing several measures of academic persistence, but that students liked school less and reported significantly more delinquent behavior than the comparison students. The varied models employed in alternative schools suggest that the question, "are alternative schools effective?" is too simplistic. The components of the interventions involved in alternative schools must be disentangled in future evaluations.

Individual-Change Strategies

Strategies that aim to alter students' delinquent behavior or their knowledge, skills, beliefs, behaviors or attitudes directly related to delinquent behavior are summarized below. These strategies include instruction with specific content related to delinquency or drug use; methods aimed at changing thinking strategies (cognitive or cognitive-behavioral training); behavior modification; peer counseling, mediation, and leaders; other counseling; mentoring; and "alternatives" programs which provide opportunities for recreation, enrichment or leisure.

Instructing Students

The most common school-based prevention strategy is instruction. Most schools provide instruction aimed at reducing drug use or delinquency, often in the form of the programs like Drug Abuse Resistance Education (D.A.R.E.), Law-related Education (L.R.E.), and Gang Resistance Education and Training (G.R.E.A.T.), which enjoy substantial federal subsidy. The content of interventions that provide instruction to students is varied. The box at the right shows some of the topics covered in instructional programs.

Topics Covered in Instructional Programs

- General health or safety;
- Alcohol, tobacco, and other drugs: information about and consequences of use;
- Violence prevention;
- Character/moral development;
- Law;
- Recognizing and resisting social influences to engage in misbehavior and risky situations, being assertive;
- Identifying problem situations, generating alternative solutions, evaluating consequences;
- Setting personal goals, self-monitoring, self-reinforcement, self-punishment;
- Attributing the cause of events or circumstances to ones own behavior;
- Interpreting and processing social cues, understanding non-verbal communication, negotiating, managing anger, controlling stress, anticipating the perspectives or reactions of others.

The following pages summarize what is known about the effectiveness of drug education, broader social competency development curricula, violence prevention curricula, and law-related education. The first two of these curriculum types have been studied extensively and several excellent secondary reviews are available. These secondary reviews will be summarized and only the most rigorous studies will be singled out for discussion. Instructional programs funded by OJP (D.A.R.E. and Law-related education) and a gang prevention program recently evaluated with N.I.J. funding (G.R.E.A.T.) will also be summarized here.

Alcohol and other drug education. Several meta-analyses and reviews of the effectiveness of school-based drug prevention instruction have been conducted (Botvin, 1990; Botvin et al, 1995; Dryfoos, 1990; Durlak, 1995; Hansen, 1992; Hawkins, Arthur, & Catalano, 1995; Institute of Medicine, 1994; Tobler, 1986, 1992). Botvin (1990) traces the historical development of these programs. He shows that "information dissemination" approaches which teach primarily about drugs and their effects, "fear arousal" approaches that emphasize the risks associated with tobacco, alcohol, or drug use, "moral appeal" approaches which teach students about the evils of use, and "affective education" programs which focus on building self-esteem, responsible decision-making, and interpersonal growth are *largely ineffective* for reducing substance use. On the contrary, approaches which include resistance-skills training to teach students about social influences to engage in substance use and specific skills for effectively resisting these pressures alone or in combination with broader-based life-skills training do reduce substance use. The box to the right shows the typical content of these instructional programs. Curricula which focus on general life-skills are typically longer than those which focus only on social resistance skills.

Typical Content of Social Influence and Life-Skills Instruction

Components of Social Resistance Skills Instruction:

- Increasing student awareness of the social influences promoting substance use
- Teaching skills for resisting social influences from peers and the media
- Correcting normative expectations concerning the use of substances

Additional Skills Targeted in Life-Skills Instruction:

Problem-solving and decision-making

Self-control or self-esteem

Adaptive coping strategies for relieving stress or anxiety

Interpersonal skills

Assertiveness

This section summarizes substance abuse curricula having an emphasis on social competency skill development. Two such school-based instructional prevention programs which have been scrutinized using rigorous methods are ALERT (Ellickson & Bell, 1990, Ellickson, Bell, & McGuigan, 1993) and Life Skills Training (L.S.T., Botvin & Eng, 1982; Botvin, Baker, Botvin et al, 1984; Botvin, Baker, Renick et al, 1984; Botvin, Batson et al, 1989). ALERT is essentially a social resistance-skill curriculum consisting of eight lessons taught a week apart in the seventh grade, followed by three eighth grade "booster" lessons. L.S.T. is a more comprehensive program focusing on resistance skills training as well as the general life skills mentioned above. This program consists of 16-sessions delivered to seventh grade students followed by eight session "boosters" in grades eight and nine. This section ends with a discussion of D.A.R.E., an OJP-funded substance abuse prevention program whose content is not as focused on social competency development as the other programs summarized.

The ALERT study (scientific methods score=5) was a multi-site experiment involving the entire seventh grade cohort of 30 junior high schools drawn from eight urban, suburban, and rural communities in California and Oregon. These 30 schools were randomly assigned to treatment and control conditions. Results are reported using individuals as the unit of analysis, although the investigators reported that results from school-level analyses supported the same conclusions with more positive results. Program effects were assessed directly after the seventh grade programs as well as before and directly after the eighth grade booster. Students were followed up again when they were in 9th, 10th, and 12th grades. The program had positive effects for both low- and high-risk students and was equally effective in schools with high and low minority enrollment. The program's most consistent effects were found for marijuana use. It reduced the use of marijuana among students at each risk level, with the strongest effects for the lowest risk group: those students who had not initiated either cigarette or marijuana use at the time of the baseline measurement. In this group, 8.3% of the ALERT students compared with 12.1% of the control students (ES=-.08) had initiated marijuana use by the end of the eighth grade booster. Small but statistically significant positive effects on the amount of marijuana used were observed for the other risk groups directly after the seventh grade sessions, but these effects were no longer statistically significant (and were not practically meaningful) by the end of the booster session. For all groups, small positive program effects were initially observed for alcohol use, but they too eroded by grade 8. The follow-up studies showed that once the lessons stop, so did the program's effects on drug use. Although some effects on cognitive risk factors persisted through grade 10, they were not sufficient to produce reductions in drug or alcohol use.

L.S.T. has also undergone rigorous test in an ongoing series of studies first published in 1980, conducted by Botvin and his colleagues. The more recent studies examined the effect of the program on alcohol and marijuana use (in addition to cigarette use) and tracked long-term program effects. Botvin, Baker, Renick, Filazzola & Botvin (1984; scientific methods score=3) examined the effectiveness of a 20-session course delivered to 7th graders from 10 suburban New York junior high schools. The subjects were primarily white, from middle-class families. Schools were randomly assigned to receive the program as implemented by older students, by regular classroom teachers, or to serve as controls. All analyses were reported using individuals as the unit of analysis. Results measured immediately after the program showed that program students compared with control students were significantly less likely to report using marijuana (ES=-.10) and engage in excessive drinking, but these positive effects were found only for the peer-led condition. Botvin, Baker, Filazzola & Botvin (1990; scientific methods score=4) reported on the one-year follow-up of this study. This study contrasts not only the teacher- and peer-led conditions, but also the presence or absence of a 10-session booster course delivered during eighth grade. As with the ALERT study, the results showed that the effects of the program diminished without the booster. In the peer-led condition with the booster session, significant effects were maintained at the end of the eighth grade on the amount of alcohol used and marijuana use (ESs ranged from .04 for used in last day to .16 for used in last month). Again, positive effects were found only for the peer-led condition.

In a larger study involving 56 public schools, the same 20-session 7th grade program, 10-session booster session in eighth grade, and an additional 5-session booster in the ninth grade was studied for long term effects on substance use at 12th grade (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995; scientific methods score=5). In this study, the 56 schools (serving mainly white, middle-class populations) were stratified according to baseline levels of cigarette smoking and geographic location and randomly assigned to experimental conditions. All results were reported using individual students as the level of analysis. This study involved only teacher-led classrooms. The 12th grade results for the full sample of 3,597 subjects revealed significant positive effects on the prevalence of drunkenness (ESs range from -.08 to -.10), but not for other measures of alcohol use. Significant effects were not reported for marijuana use, although the effect size for the prevalence of weekly marijuana use is as

large (-.09) as the effects sizes for the significant effects on excessive drinking. The lower base rate for marijuana use reduces the likelihood of finding statistically significant results for this outcome. When only subjects who received a reasonably complete version of the program were examined, the results were more positive. Additional research (Botvin, Batson, Witts-Vitale, Bess, Baker, & Dusenbury, 1989; Botvin, Dusenbury, James-Ortiz, & Kerner, 1989) showed that the positive effects generalize to African American and Hispanic American populations.

D.A.R.E., developed in 1983 by the Los Angeles Police Department and the Los Angeles Unified School District, is the most frequently used substance abuse education curriculum in the United States. According to D.A.R.E. America (Law Enforcement News, 1996), the program is now used by seventy percent of the nation's school districts and will reach 25 million students in 1996. About 25,000 police officers are trained to teach D.A.R.E. It is also popular in other countries, forty-four of which have D.A.R.E. programs. The complete array of D.A.R.E. activities currently on the market includes "visitation" lessons in which police officers visit students in kindergarten through fourth grade for brief lessons on topics such as obeying laws, personal safety, and the helpful and harmful uses of medicines and drugs; a 17-week core curriculum for fifth or sixth graders (to be described shortly); a 10-week junior high school program focusing on resisting peer pressure, making choices, managing feelings of anger and aggression, and resolving conflicts; and a 10-week senior high program (co-taught with the teacher) on making choices and managing anger. In addition, D.A.R.E. offers an after-school program for middle-school-aged students, called D.A.R.E. + PLUS (Play and Learn Under Supervision). This provides a variety of fun activities for students during the after-school hours. Programs for parents and special education populations are also available.

The core 17-lesson curriculum delivered to students in grades 5 or 6 has always been the most frequently used form of the program. The great majority (81%) of school districts with D.A.R.E. implement the core curriculum, while 33% use the visitations, 22% the junior high, 6% the senior high, and 5% the parent curriculum (Ringwalt et al, 1994). The core curriculum is the only part of the program that had undergone rigorous outcome evaluation.

The core D.A.R.E. program is taught by a uniformed law enforcement officer. The original 17-lesson core curriculum focuses on teaching pupils the skills needed to recognize and resist social pressures to use drugs. It also contains lessons about drugs and their consequences, decision-making skills, self-esteem, and alternatives to drugs. Teaching techniques include lectures, group discussions, question and answer sessions, audiovisual materials, workbook exercises, and role-playing. The curriculum was revised in 1993 to substitute a lesson on conflict resolution and anger management skills for one on building support systems.

Several evaluations of the original 17-lesson core have been conducted.⁷ Many of these are summarized in a meta-analysis of D.A.R.E.'s short-term effects (Ringwalt et al, 1994), sponsored by NIJ. This study located 18 evaluations of D.A.R.E.'s core curriculum, of which 8 met the methodological criterion standards for inclusion in the study. The study found:

1. Short-term effects on drug use are, except for tobacco use, nonsignificant.
2. The sizes of the effects on drug use are slight. Effect sizes average .06 for drug use and never exceed .11 in any study. The effects on known risk factors for substance use targeted by the program are also small: .11 for attitudes about drug use and .19 for social skills.
3. Certain other programs targeting the same age group as D.A.R.E. -- upper elementary pupils -- are more effective than D.A.R.E. "Interactive" programs which emphasize social skill development and social competencies and use interactive teaching strategies have effect sizes for increasing social skills, reducing attitudes favorable to use, and reducing drug use at least three times as large as D.A.R.E. Other programs which emphasize knowledge about drugs and affective outcomes (such as self-esteem) and are primarily delivered by an expert are no more effective than D.A.R.E. Note, however, that even the more effective programs show only small effect sizes (ES=.18) for reducing drug use.

Four more recent reports, three of them longitudinal, have also failed to find positive effects for D.A.R.E. Lindstrom (1996), in a reasonably rigorous study (scientific methods score= 3) of approximately 1,800 students in Sweden, found no significant differences on measures of delinquency, substance use, or attitudes favoring substance use between students who did and did not receive the D.A.R.E. program. Sigler & Talley (1995) (scientific methods score= 2) found no difference in the substance use of seventh grade students in Los Alamos, New Mexico who had and had not received the D.A.R.E. program 11 months before. Rosenbaum, Flewelling, Bailey, Ringwalt, & Wilkinson (1994; scientific methods score= 4) report on a study in which twelve pairs of schools (involving nearly 1,600 students) were randomly assigned to receive or not receive D.A.R.E. Although some positive effects of the program were observed immediately following the program, by the next school year no statistically significant differences between the D.A.R.E. and non-D.A.R.E. students were evident on measures of the use of cigarettes or alcohol. Also, only one of thirteen intervening variables targeted by the program showed a positive effect. Clayton, Cattarello, and Johnstone (1996; scientific methods score= 4) reported on long-term effects for D.A.R.E. Thirty-one schools were randomly assigned to receive or not receive D.A.R.E. All students in the sixth grades in these schools were pre-tested prior to the program,

post-tested shortly after the program, and resurveyed each subsequent year through the 10th grade. Although positive effects were observed during the seventh grade on some risk factors for substance use, no significant differences were observed between the D.A.R.E. and control schools on measures of cigarette, alcohol, or marijuana use either during seventh grade or at any later point. These studies and recent media reports have criticized D.A.R.E. for (a) focusing too little on social competency skill development and too much on affective outcomes and drug knowledge; (b) relying on lecture and discussion format rather than more interactive teaching methods; and (c) using uniformed police officers who are relatively inexperienced teachers and may have less rapport with the students.

To the untrained eye, the content and methods used in D.A.R.E. are not strikingly different from those used in the more effective programs such as Life Skills Training (summarized above) and Social Problem Solving (summarized below). But more subtle differences exist: L.S.T. and S.P.S. provide broader and deeper coverage of and more practice for students in the development of social competency skills. For example, while all three programs contain lessons on identifying social influences to use drugs and problem-solving, the non-D.A.R.E. programs provide more lessons on these topics and also include lessons on communication skills or emotional perspective taking. Weissberg's S.P.S. program is able to address self-control skills in greater depth because it completely omits lessons on self-esteem and factual information about drugs. The instructional methods are also different: L.S.T. and S.P.S. were carefully designed to make use of cognitive-behavioral methods including *frequent* role-playing, rehearsal of skills, and behavioral modeling. These methods are main features of the programs. D.A.R.E., even with the addition of more "interactive" techniques, lacks a major emphasis on the use of these carefully developed, research-based teaching techniques.

Although the content and method differences described above probably account for some of the discrepancy between the effects found for the different types of instructional programs, the largest difference among the programs is D.A.R.E.'s use of uniformed officers to deliver the program, a feature that remains in the revised D.A.R.E. and whose effects on the efficacy of the program are unknown.

D.A.R.E. proponents challenge the results of the scientific D.A.R.E. evaluations. Officials of D.A.R.E. America are often quoted as saying that the ample public support for the program is a better indicator of its utility than scientific studies. They criticize D.A.R.E. studies for (a) looking only at the original D.A.R.E. model; (b) focusing on the absence of effects on alcohol and drug use among fifth and sixth graders when the base rates are so low that effects would naturally be difficult to detect; and (c) failing to study the longer term effects of D.A.R.E. which are expected to be more substantial. Each of these points is addressed below.

In 1993, D.A.R.E. added more coverage of social competency skills and more interactive teaching techniques to its core curriculum (Ringwalt et al, 1994). These changes were expected to bring the program more in line with the competition. No outcome evaluation of this revised curriculum has been reported, but it appears unlikely that the revision will change the results much because the largest difference between the earlier and revised program is the substitution of a single lesson on reducing violence for one on building support systems. Ringwalt et al. (1994) show that even in the revised core curriculum for D.A.R.E., only 9 of the 17 lessons cover social skill development.

D.A.R.E. is indeed atypical in its focus on elementary school-aged youths. As Hansen (1992) demonstrated, the percentage of fifth graders estimated to have used tobacco, alcohol or marijuana in the past month ranges between about 1 and 8 percent nationally. While lifetime use estimates (the outcome measure often used in D.A.R.E. evaluations) are certainly higher, the relatively low prevalence rates mean that larger samples may be required in studies of D.A.R.E. than in studies of programs targeting slightly older students. But D.A.R.E. evaluations can not be summarily dismissed on the basis of these criticisms because some have involved samples whose base rates for substance use are much higher than the national average and others have involved samples with sufficient power to detect meaningful differences even in low-base-rate populations. For example, the Rosenbaum et al. (1994) study involved nearly 1,600 students in a sample whose base rate for lifetime alcohol use was 55%. Half of the studies summarized in the Ringwalt et al. (1994) study had sample sizes larger than 1,000, and none could be described as small-sample research. Also, the Ringwalt et al. (1994) meta-analysis relied not only on statistical significance tests, which are misleading when the number of cases is not sufficiently large to detect the expected effect, but also on effect sizes to assess the magnitude of the effects regardless of statistical significance. Inferences based on effect sizes are not as prone to misinterpretation as those based on significance levels.

D.A.R.E. proponents also argue that D.A.R.E.'s effects are delayed -- i.e., that effects appear when students reach higher grades. The three recent longer-term evaluations of D.A.R.E. (Clayton, Cattarello, & Johnstone, 1996; Sigler & Talley, 1995; Rosenbaum, Flewelling, Bailey, Ringwalt, & Wilkinson, 1994; summarized above) do not support this contention. The absence of long-term effects is not surprising given the more general finding that effects for instructional substance use prevention programs decay rather than increase over time in the absence of continued instruction.

In summary, using the criteria adopted for this report, D.A.R.E. does not work to reduce substance use. The programs's content,

teaching methods, and use of uniformed police officers rather than teachers might each explain its weak evaluations. No scientific evidence suggests that the D.A.R.E. core curriculum, as originally designed or revised in 1993, will reduce substance use in the absence of continued instruction more focused on social competency development. Any consideration of the D.A.R.E.'s potential as a drug prevention strategy should place D.A.R.E. in the context of instructional strategies in general. No instructional program is likely to have a dramatic effect on substance use. Estimates of the effect sizes of even the strongest of these programs are typically in the mid- to high-teens. D.A.R.E.'s meager effects place it at the bottom of the distribution of effect sizes, but none of the effects are large enough to justify their use as the centerpiece of a drug prevention strategy. Rather, such programs should be embedded within more comprehensive programs using the additional strategies identified elsewhere in this chapter.

Broader social competency development curricula. Other curricula focus specifically on social competency development, without an emphasis on substance abuse prevention per se. Weissberg's social competence promotion program, for example, covers the entire array of social competency skills without tying them directly to any specific problem behavior. Problem-specific modules aimed at preventing anti-social and aggressive behavior, substance use, and high-risk sexual behavior are available. The program ranges in length from 16- to 29-sessions, depending on the version.

Caplan, Weissberg, Grober, Sivo, Grady, & Jacoby (1992; scientific methods score=4) studied the effect of a 20-session version of Weissberg's social competence promotion program aimed at stress management, self-esteem, problem-solving, substances and health information, assertiveness and social networks on 282 sixth and seventh graders in an inner-city and a suburban middle school in Connecticut. Classrooms were randomly assigned to receive the program or not. Results were reported using individuals as the unit of analysis. Students in program classes improved relative to students in the control classrooms on measures of problem-solving ability and stress management. Teacher ratings of the participating students improved relative to the controls on measures of conflict resolution with peers and impulse control, both important protective factors for later delinquency, and popularity. Students' self-reports of their behavioral conduct were not affected by the program, and effects on self-reports of intentions to drink alcohol and use drugs were mixed. No significant difference was found for a self-report measure of frequency of cigarette, alcohol, and marijuana use, but program students reported significantly less excessive drinking than controls (ESs range from .26 to .32). The program was as effective for students in the inner-city and the suburban schools. The sample size in this study was likely too small to detect as statistically significant any small differences between the treatment and comparison students.

In another study involving 447 students from 20 classes in four urban, multi-ethnic schools, Weissberg & Caplan (1994; scientific methods score=4) evaluated a similar 16-session social competence promotion program for students in grades five through eight. This version of the program did not include lessons on substance use. It focused on teaching students:

impulse-control and stress-management skills,

thinking skills for identifying problem situations and associated feelings,

establishing positive pro-social goals,

generating alternative solutions to social problems, anticipating the likely consequences of different actions, choosing the best course of action, and successfully enacting the solution.

Random assignment to treatment and control conditions was not accomplished in this study. Program students improved more than controls on problem-solving abilities and pro-social attitudes towards conflict resolution. Teacher ratings indicated that the training improved impulse control, problem-solving, and academic motivation and decreased teasing of peers, important risk and protective factors for later delinquency. Self-reported delinquency of a relatively minor form (stealing, starting fights, vandalism, skipping school, etc.) also increased less for the program participants (2.8% increase) than for comparison students (36.8% increase) between the beginning and the end of the program. No significant effects were observed for self-reports of substance abuse in this study. Weissberg & Greenberg (in press) summarize another study which shows that the positive effects of the program are maintained in the year after the program only when the training is continued into the second year

Greenberg, Kusche, Cook & Quamma (1995; scientific methods score = 4) report on the PATHS (Promoting Alternative Thinking Strategies) curriculum on emotional competence for elementary school-aged children. This project used a 60-lesson version of the curriculum composed of units on self-control, emotions, and problem-solving. Lessons were sequenced according to increasing developmental difficulty and included didactic instruction, role-playing, class discussion, modeling by teachers and

peers, social and self-reinforcement, and worksheets. Extensive generalization techniques were included to assist teachers in applying skills to other aspects of the school day. Specifically, the curriculum included:

A Feelings and Relationships Unit -- 35 lessons on emotional and interpersonal understanding. The lessons cover approximately 35 different affective states and were taught in a developmental hierarchy beginning with basic emotions (e.g., happy, sad, angry) and proceeding to more complex emotional states (e.g., jealous, guilty, proud).

Self-control and initial problem-solving -- The development of self-control, affective awareness and communication, and beginning problem-solving skills were integrated during the Feelings Unit with the introduction of the Control Signals Poster (CSP), which had a red light to signal "Stop - Calm Down," a yellow light for "Go Slow - Think," a green light to signal "Go - Try My Plan," and at the bottom, the words "Evaluate - How Did My Plan Work?" In a series of lessons, the children were taught skills to use with the different signals of the poster. For purposes of generalization, a copy of the CSP was placed in the classroom and teachers were coached on how to use this model for active problem-solving during the classroom day.

Interpersonal Cognitive Problem-Solving -- 20 to 30 lessons sequentially covering eleven problem-solving steps, similar to those discussed above as part of Weissberg's program above.

Generalization procedures -- A variety of generalization techniques were included throughout the curriculum to foster transfer of the skills and ideas taught.

The intervention teachers attended a 3-day training workshop and received weekly consultation and observation from project staff. The PATHS lessons were taught approximately

3 times per week, with each lesson lasting 20-30 minutes. The weekly consultations were intended to enhance the quality of implementation through modeling, coaching, and providing ongoing feedback regarding program delivery.

The social competency promotion intervention was field-tested in Washington state using random assignment of schools serving "regular education" students to treatment and control conditions as well as random assignment of classrooms of "special needs" children (in different school than the regular education students) to treatment and control conditions. In all, 286 students participated in the study. Students were in the first and second grades at the time of the pre-test, and in the 2nd and 3rd grades at the time of the first post-test, which occurred approximately one month after the end of the intervention. Two additional follow-up assessments were conducted to examine maintenance of effects one and two years after the intervention.

Immediate positive effects of the program were observed for both regular and special education students on measures of the specific social competency skills targeted. Greenberg (1996) reports on the longer-term effects of the program. At the final follow-up, significant differences favoring the regular education treatment students emerged on teacher ratings of externalizing behaviors, a measure of serious conduct problems highly related to later delinquent behavior. Intervention students in both groups also self-reported significantly lower rates of conduct problems at the later follow-up points.

Violence-prevention instruction. Brewer, Hawkins, Catalano, & Neckerman (1995) provide a comprehensive summary of conflict resolution and violence prevention curricula. These instructional programs are designed to improve students' social, problem-solving, and anger management skills, promote beliefs favorable to nonviolence, and increase knowledge about conflict and violence. Brewer et al. (1995) summarize evaluations of eight violence prevention curricula. Target populations for these programs range from pre-K through grade 10. The quality of the evaluations of these programs is uniformly poor. No study used random assignment of subjects to treatment and comparison conditions. Only four of the studies assessed program effects on aggressive or violent behavior, and two of these studies suffered from serious methodological flaws. The other two studies reported positive results on measures of aggressive behavior, but no corresponding positive changes on attitudes towards violence.

Perhaps the most rigorous evaluation is for the Washington (DC) Community Violence Prevention Program (Gainer, Webster, & Champion, 1993; scientific methods score=3), a 15-session curriculum focusing on social information processing deficits and belief systems associated with aggressive behavior, modeled after the *Viewpoints* program that had received positive evaluations in a correctional institutional setting (Guerra & Slaby, 1990). The program was evaluated with 5th and 7th graders in three inner-city schools. Students receiving the course were compared with students from the same schools and grade levels during the following year. Program effects on violent behavior were not assessed, and effects on social problem solving skills and attitudes about violence were mixed. Some measures showed significantly positive effects, some significantly negative effects, and some no difference.

Gang Resistance Education And Training (G.R.E.A.T.) was developed in 1991 by the Phoenix Police Department to reduce adolescent involvement in criminal behavior and gangs. Although not specifically designed as a violence prevention program, its emphasis on gang membership, a major correlate of violent crime, justifies its inclusion here. The Bureau of Alcohol, Tobacco, and Firearms has funded officer training for this program, and as of July, 1996, more than 2,000 officers from 47 states and the District of Columbia had completed training. In 1994, NIJ began funding an evaluation of G.R.E.A.T.. It currently supports a three-year study to assess the short- and long-term effects of the program on students in six sites. A less rigorous preliminary assessment of effects one-year following the program in 11 cities was also recently completed with NIJ funding. Results from this preliminary study are summarized below.

G.R.E.A.T. is a brief (9-week) instructional program taught to middle school students by trained, uniformed law enforcement officers. The program teaches students about the impact of crime on its victims and the community; cultural differences; conflict resolution skills; how to meet basic needs without joining a gang; and responsibility to the school and neighborhood. The program ends with a lesson in which students are taught the importance of goal-setting. The G.R.E.A.T. program differs from instructional programs known to be effective for reducing drug use or delinquency by being (a) less intensive; (b) almost entirely devoid of content and methods focusing on teaching students social competency skills; and (c) lacking follow-up sessions. It is taught by uniformed law enforcement officers -- a feature whose costs and benefits as a crime prevention strategy are unknown.

The preliminary evaluation of the program (Esbensen & Osgood, 1996) compared the survey responses of approximately 2,600 eighth grade students who said they had completed G.R.E.A.T. with those of approximately 3,200 eighth students who said they had not. The investigators attempted to shore up the weak evaluation design (post-test only for non-equivalent treatment and comparison groups) by statistically controlling for differences between schools and demographic characteristics of participants and non-participants, but the scientific methods score of the study remains only a 2 on our 5-point-scale. The study found several statistically reliable differences favoring the G.R.E.A.T. participants, including less delinquency ($ES = -.07$) and drug use ($ES = -.04$). Nineteen of the thirty-one outcomes examined significantly favored the G.R.E.A.T. participants, and none significantly favored the non-participants. The investigators cautioned that the magnitudes of the effects were very small and the design of this preliminary study is too weak to warrant confident conclusions about the effects of the program. The effect sizes for the significant delinquency and drug use outcomes are all less than .10 (e.g., the difference between the participants and non-participants on outcome measures is less than one-tenth of one standard deviation), suggesting that even if the effects could be safely attributed to the program they are small. Such small differences between groups are often detected as statistically significant in large studies. For this reason, the effect size is a more meaningful indicator of program effects.

Law-related education (L.R.E.). Schools have implemented law-related education curricula for nearly three decades. These curricula are designed to familiarize youths with the country's laws, develop appreciation of the legal process, encourage responsible political participation, develop moral and ethical values, and develop analytical skills. Lack of knowledge about the law, citizenship skills, and positive attitudes about the law and the role of the government are cited in L.R.E. materials as causes of juvenile crime.

In 1979, the justice department's National Institute for Juvenile Justice and Delinquency Prevention (NIJJDP, OJJDP's research arm) funded five organizations to develop and demonstrate L.R.E. methods. An evaluation of these efforts, also funded by NIJJDP, examined the effects of the program on delinquency and factors related to delinquency. Most of the results of this evaluation are summarized in Johnson & Hunter (1985). The evaluation included 61 L.R.E. elementary, junior, and senior high classrooms and 44 comparison classrooms in 32 schools in 6 states. The results for 1981, the first year of the evaluation, were regarded as formative. It showed that L.R.E. did not always produce positive effects, and that the quality of implementation was correlated with the amount of positive change from pre- to post-test on many measures. Results for the second year of the evaluation (1982) were more positive, but the effects were, according to the authors, "severely diminished" except in one site in Colorado site in which generally positive outcomes were observed. The strongest program implementation occurred in 1983. Johnson & Hunter (1985) summarize the results comparing outcomes, separately by teacher, for students in 21 L.R.E. classes and 14 comparison classes (most of which were non-randomly assigned). Out of 132 effects reported for the 11 delinquency items, 15 showed a significant effect (13 would have been expected by chance using the one-tailed test of significance reported). Nine of these differences favored the L.R.E. students, and six favored the comparison students. Significant program effects on attitudes towards deviance and violence favored the comparison students. Many positive effects were found for outcomes measuring knowledge about the law and legal practices and other outcomes that might be expected from improved classroom management techniques (such as reduced "clock watching").

Johnson (1984) focused on the nine L.R.E. classes in the site for which randomization to treatment and control conditions was obtained. He showed that the nine L.R.E. classes fared significantly better than the two control classes on more than half of the forty-one possible measures. Three of the eleven items measuring delinquency were reported as significantly favoring the L.R.E. group. The effect sizes for all eleven items ranged from 0 (for violence against other students) to .66 (for school rule infractions

such as cheating on tests and skipping school). The average effects size for the eleven delinquency items was .22.

In summary, these evaluation activities from the early 1980s showed clear program effects on law-related factual knowledge. Effects on other outcomes were minimal. In one particularly strong site, consistent positive effects were observed on certain risk factors for delinquency (e.g. attachment to school and attitudes towards violence and deviance), but not others (e.g., association with delinquent peers) and small positive effects were found on certain measures of delinquency but not others.

This extensive national evaluation produced no bottom line. The part of the evaluation focusing on the entire national sample was the weakest methodologically (scientific methods score= 3) and showed no reason for optimism about L.R.E.'s effect on delinquency. The "sub-study" of Colorado sites was stronger methodologically, and more positive outcomes were observed. What is not clear, however, is the extent to which results for these "well-implemented" schools can be generalized to other schools implementing L.R.E. programs. Because the L.R.E. intervention at this site included a large dose of general instructional and classroom management training for teachers in addition to law-related activities it is not possible to rule out the possibility that any positive effects of the program are due to these general techniques rather than to the law-related content of the curriculum. Because L.R.E. programs are not necessarily augmented with these additional strategies, it is not clear that the positive evaluations are relevant to understanding the effects of typical L.R.E. programs.⁸

Law-related education curricula, like other forms of instruction, will probably not reduce delinquency significantly when used in isolation. The L.R.E. program evaluators found that when the program is embedded in a more comprehensive program of improved classroom organization and management processes, the outcomes are better. Gottfredson (1990) also found that when an L.R.E. curriculum was enriched with state-of-the-art classroom instructional and organization methods *and* implemented in the context of a school-within-a-school model, it reduced delinquency. More work is now required to isolate the working parts of these multi-component programs involving L.R.E..

Statements found in materials published by the organizations that continue to develop and disseminate L.R.E. using OJJDP funding -- "Research indicates that properly implemented law-related education changes attitudes and reduces crime" (National Institute for Citizenship Education in the Law, 1988) -- are at best misleading because they ignore the results obtained for most of the sites in the national study. More rigorous evaluation is needed.

Summary. Certain instructional programs to reduce drug use have produced consistent evidence of positive effects on substance use in rigorous studies, and others have consistently shown no effects. "Information dissemination" instructional programs which teach primarily about drugs and their effects, "fear arousal" approaches that emphasize the risks associated with tobacco, alcohol, or drug use, "moral appeal" approaches which teach students about the evils of use, and "affective education" programs which focus on building self-esteem, responsible decision-making, and interpersonal growth are *largely ineffective* for reducing substance use. D.A.R.E. as it is most commonly implemented is largely ineffective for reducing substance use. Approaches which include resistance-skills training to teach students about social influences to engage in substance use and specific skills for effectively resisting these pressures alone or in combination with broader-based life-skills training do reduce substance use. But the effects of even these programs are small and short-lived in the absence of continued instruction. Hansen and O'Malley (1996) report average effect sizes for social influence training programs such as ALERT ranging from .14 to .27 (on alcohol, marijuana, and cigarette use), but Gorman (1995) shows these programs have little or no effect on drinking behavior. More comprehensive programs such as L.S.T. and Weissberg's Social-Problem Solving have effect sizes ranging from .08 to .37.

More comprehensive social competency promotion programs work better than programs which do not focus on social competencies and those that focus more narrowly on resistance skill training. Also, the more extensive the reliance on cognitive-behavioral training methods such as feedback, reinforcement, and behavioral rehearsal (as in the Greenberg and Weissberg programs) rather than traditional lecture and discussion, the more effective the program. The Weissberg and Greenberg works are also important because they demonstrate that social competency promotion programs works for reducing delinquency or early conduct disorder leading to delinquency as well as drug use.

Some violence prevention programs teach interpersonal skills and behaviors such as communicating, making eye-contact, cooperating, and sharing. Others use the same cognitive-behavioral strategies used in the most effective social competency promotion programs summarized above. These programs *seem* plausible, but until they are rigorously evaluated they should be used with caution. Just as the first-generation substance abuse prevention programs were found to increase rather than decrease drug use (Botvin, 1990), so might these early violence prevention efforts increase violence. Although described by some as "promising," the G.R.E.A.T. program does not meet the criteria necessary to earn this descriptor in our review. Until the outcome of the more rigorous evaluation now underway is complete, the effects of the program remain unknown.

The effects of law-related education curricula as typically implemented also remain unknown. Evaluations have supported their

effectiveness when implemented as part of a more comprehensive program, but it is not clear to what extent the law-related curriculum contributes to the effectiveness, if at all. Rigorous research is needed.

Modifying Behavior and Teaching Thinking Skills

Behavior modification interventions focus directly on changing behaviors by rewarding desired behavior and punishing undesired behavior. Several well-known programs for delinquent youths (e.g., Achievement Place) rely on these methods, as do many educational programs -- especially those serving special education populations. Many programs for delinquent and "at-risk" populations also attempt to alter thinking skills. These "cognitive-behavioral training" interventions are based on a substantial body of research indicating that delinquents are deficient in a number of thinking skills necessary for social adaptation. Delinquents often do not think before they act, believe that what happens to them is due to fate or chance rather than to their own actions, misinterpret social cues, fail to consider alternative solutions to problems, and lack interpersonal skills necessary for effective communication. Programs often combine behavioral and cognitive methods in an attempt to alter immediate behavior and promote the generalization of behavior change to other settings.

As indicated above, instructional programs that teach social competency skills and rely on cognitive-behavioral methods such as feedback, reinforcement, and behavioral rehearsal are the most effective for reducing substance use in general populations. Meta-analyses (Garrett, 1985; Izzo & Ross, 1990; Lipsey, 1992) have also concluded that the most effective delinquency prevention and treatment programs incorporate strategies aimed at developing social skills and using cognitive-behavioral strategies. Forman (1980; scientific methods score=4) showed that both cognitive training and behavioral interventions decrease aggressive behavior in elementary school children, although the behavioral intervention decreased disruptive behavior to a somewhat greater extent.

The programs reviewed below incorporate many of the same principles found in the more effective instructional programs. These programs differ in that they are often targeted at students identified as at especially high-risk for engaging in delinquent activities, are delivered in small groups or individually, and provide more intensive intervention than is possible with classroom-based instructional programs. Only three of the many high-quality studies of interventions using behavioral and cognitive-behavioral methods are reviewed here.

Elements of Lochman's Anger-Coping Intervention

- Establishing group rules and contingent reinforcements;
- Using self-statements to inhibit impulsive behavior;
- Identifying problems and social perspective-taking;
- Generating alternative solutions and considering the consequences to social problems;
- Modeling videotapes of children becoming aware of physiological arousal when angry, using self-statements, and using a set of problem-solving skills to solve social problems;
- Having the boys plan and make their own videotape of inhibitory self-statements and social problems solving;
- Dialoging, discussion, and role-playing to implement social problem solving skills with children's current anger arousal problems.

Lochman's work with highly

aggressive boys is reported in a series of research articles beginning in the mid-80's. Lochman's anger-coping intervention is based on research that shows that aggressive children tend to attribute hostility to other people's intentions and to mis-perceive their own aggressiveness and responsibility for conflict. In addition to targeting specific cognitive skills (shown in the box), the intervention uses behavioral techniques (operant conditioning) to reward compliance with group rules. The program is targeted at boys in grades four through six who are identified as aggressive and disruptive by their teachers. A school counselor and a mental health professional from a Community Guidance Clinic co-lead groups of aggressive boys for 12 - 18 group sessions, each 45 minutes to an hour. Importantly, this cognitive training is augmented with teacher consultation in which the mental health professional running the children's group assists the children's regular teachers in classroom management in general and in helping the targeted youths generalize new skills to the regular classroom.

The effectiveness of this "anger coping" intervention was investigated in a series of studies which systematically varied features of the program to learn more about its essential elements. In one study (Lochman, Burch, Curry, & Lampron, 1984; scientific methods score=4), 76 boys from eight elementary schools ranging in age from 9 to 12 were studied. They were not randomly

assigned to experimental conditions, but pre-treatment measures showed the groups to be equivalent on the outcomes measures of interest. In comparison to aggressive boys receiving no treatment or minimal treatment, aggressive treatment group boys reduced their disruptive-aggressive off-task behavior in school ($ES=-.55$) and their aggressive behavior as rated by their parents ($ES=-.61$) directly after the intervention. A three-year follow-up study was conducted when these and some boys from other earlier studies were 15-years old (Lochman, 1992; scientific methods score=4). The study found that the intervention had a significant effect on self-reported alcohol and substance abuse ($ES=-.38$) but no significant effect on self-reported criminal behavior ($ES=-.11$). It can be argued that a reduction in delinquency of this magnitude (approximately equivalent to a 5 percentage point difference in crime rate between the treatment and control group) in a highly delinquent population is practically meaningful even if it is not statistically significant. Also, the treatment group in this follow-up study was significantly younger than the comparison group, which worked against finding program effects as younger age was associated with higher rates of delinquency.

Rotheram also demonstrated the efficacy of cognitive behavioral training in a primary prevention program for upper elementary school youths. In one study (Rotheram, 1982; scientific methods score=4) eight 4th through 6th grade classes were randomly assigned to participate in a social skills training intervention or to serve as control classes. Students in each class were randomly assigned to small training groups led by graduate and undergraduate students. A drama situation game was conducted in each group for a one-hour session twice a week for twelve weeks. Each "game" involved teaching a specific assertiveness concept to help children think, act, or feel assertive; presentation of specific problem situations; group problem solving in which the students generated alternative solutions to the problem and evaluated the solutions; and behavioral rehearsal and feedback. Although all students in the treatment classes were included in the intervention, only the 101 subjects identified (prior to the intervention) as being disruptive, under-achieving or exceptionally high in terms of comportsment and achievement were included in the evaluation. Students in the social skills training condition generated significantly more assertive and significantly fewer passive and aggressive problem-solving responses than did the control group directly after treatment, and had larger increases in their grade-point-averages over pre-treatment one year after the treatment. Teacher ratings of comportsment also improved significantly more from pre-treatment to immediately following the treatment ($ES=.42$) as well as one year after the treatment ($ES=.40$).

Interventions relying solely on behavior modification strategies have also been successful. Brewer et al. (1995) summarize two highly effective programs that monitored school attendance and provided contingent rewards for good attendance. Both studies used rigorous evaluation methods and produced positive outcomes on attendance. These results are important because truancy is an important risk factor for delinquency.

Bry's work also used behavioral monitoring and reinforcement with high risk youths. Students were randomly assigned to the treatment and control conditions in this study. Students' tardiness, class preparedness, class performance, classroom behavior, school attendance, and disciplinary referrals were monitored weekly for two years. Students met with program staff weekly and earned points contingent on their behavior which could be used for a class trip of the students' choosing. Frequent parent notification was used. Experimental students had significantly better grades and attendance at the end of the program than did controls, but the positive effects did not appear until the students had been in the program for two years (Bry & George, 1979; scientific methods score=5; Bry & George, 1980; scientific methods score=4). Bry (1982; scientific methods score=4) reports that in the year after the intervention ended, experimental students displayed significantly fewer problem behaviors at school than did controls and in the 18 months following the intervention, experimental students reported significantly less substance abuse ($ES=-.44$) and criminal behavior ($ES=-.30$). Five years after the program ended, experimental youth were 66% less likely to have a juvenile record than were controls ($ES=-.50$).

These rigorous studies of targeted behavior modification and cognitive skill-training demonstrate clear positive effects on drug use and aggressive, anti-social behavior. Effect sizes are among the highest observed for any school-based strategy. Only Bry's work demonstrated a statistically significant reduction in actual criminal behavior (other than drug use), but the direction and size of the effect in the Lochman work provide additional support for a positive effect on criminal activity.

Peer Counseling, Peer Mediation, and Peer Leaders

Peer group counseling is popular in schools and is often used in prevention programs for at-risk youths and adjudicated delinquents. This type of counseling usually involves an adult leader guiding group discussions in which participants are encouraged to recognize problems with their own behavior, attitudes, and values. Peer pressure to adopt pro-social attitudes is expected to occur. G. Gottfredson (1987) reviewed these approaches to delinquency prevention and evaluated a large-scale school-based program which was one of several programs included in OJJDP's alternative education initiative in the 1980s. This study (scientific methods score=3, involving random assignment of subjects to experimental conditions) "lends no support to any claim of benefit of treatment, with the possible exception that the treatment may enhance internal control for elementary school students. For the high school students, the effects appear preponderantly harmful." (G. Gottfredson, 1987, p 708).

Specifically, high school treatment youths reported significantly **more** delinquent behavior, more tardiness to school, less attachment to their parents, and more "waywardness," a scale measuring a constellation of anti-social attitudes, beliefs, and behaviors including rebelliousness, lack of attachment to school, low beliefs in rules, delinquency, and association with delinquent peers. The effect sizes for these differences were small (less than .05). Presumably, these interventions backfire when students are brought into closer association with negative peers during the peer counseling sessions. Gottfredson also notes that frequent discussions of parent/home issues in the groups may have led to a weakening of parental bonding and a subsequent increase in delinquency.

Peer mediation programs rose in popularity in the 1980s. These programs use students to assist in dispute resolution when conflicts arise among students. Trained peer mediators assist in developing alternative solutions to fighting and provide an alternative to traditional interventions by a school administrator (e.g., warnings, suspensions, or demerits). Lam (1989, cited in Brewer et al, 1995) reviewed 14 evaluations of peer mediation programs. The methodological rigor of all but three of the programs was too weak to justify any conclusions about the effect of the programs. According to Brewer, none of the three studies in the Lam review employing quasi-experimental designs showed significant effects on observable student behavior (e.g., fighting, disciplinary referrals). One additional study of peer mediation published after Lam's review (Tolson, McDonald, and Moriarty, 1992; scientific methods score=3) suggested that students assigned to receive peer mediation have fewer interpersonal conflicts in the 2.5 months following the program, but the study was small and the outcome measure (referrals to the office for interpersonal conflict) was weak.

Students have also been used as peer leaders in substance use prevention programs. The rationale for this approach is that anti-drug messages will be more credible when delivered by a peer than an adult. Although some studies (e.g., Botvin, Baker, Renick, Fillazzola & Botvin, 1984; Perry, Grant, et al, 1989) have found that substance abuse prevention programs focusing on skill development are more effective when led by peers than by teachers, other studies (e.g., Ellickson & Bell, 1990) find no such advantage for peer-led programs. Tobler's (1992) meta-analysis also found no evidence that programs with peer leaders produce better outcomes than programs of similar content led by adults.

The overall patterns of results for programs involving peers in the delivery of services is not promising. Peer mediation programs are not promising, although they have not been sufficiently evaluated. These programs are likely to be ineffective interventions when implemented as stand-alone programs rather than as part of broader attempts to improve disciplinary practices. Peer counseling interventions for high-risk youths are contraindicated, and studies using peer leaders to lead substance abuse prevention programs have produced mixed results.

Counseling and Mentoring

Many studies have examined the effect of counseling interventions on delinquency. Lipsey's (1992) meta-analysis of juvenile delinquency treatment effects shows that, for juvenile justice and non-juvenile justice interventions alike, counseling interventions are among the least effective for reducing delinquency. Twenty-four studies of individual counseling in non-juvenile justice settings yielded an effect size of -.01 on measures of recidivism.

A popular form of school-based counseling is the Student Assistance Program (SAP). These programs are among the most common programs found in schools, accounting for approximately half of the expenditures of Drug-free Schools and Communities funds (Hansen & O'Malley, 1996, citing GAO, 1993) administered through the U.S. Department of Education. These programs involve group counseling for students with alcoholic parents, counseling for students who are using drugs or alcohol or whose poor academic performance place them at risk for substance abuse, and work with parent and community groups to develop ways of dealing with substance abuse problems. Often the peers of student clients are involved as crisis managers, group facilitators, and referral agents. SAP counselor's are school-based but employed by mental health departments or other outside agencies. After surveying the scant literature on the effectiveness of SAP programs, Hansen & O'Malley (1996) concluded that evaluations are "universally absent." These programs must be evaluated if federal funding for them is to be continued.

Gottfredson (1986; scientific methods score=5), in a study sponsored as part of OJJDP's alternative education initiative, examined effects on delinquent behavior of a program of services provided to high risk secondary school students. Students' behavioral and academic problems were diagnosed, and individual plans were developed by school specialists (either teachers or counselors assigned to work individually with the high risk students for this project). Counseling and tutoring services were provided consistent with the individual plans, and the specialists also acted as advocates for the students, worked with the students' parents, and tried to involve the students in extracurricular activities to increase bonding to the school. On average, school specialists met twice per month directly with the target students and the students also participated in peer counseling and "rap" sessions with other students. Random assignment of 869 eligible high-risk youths to treatment and control conditions yielded equivalent groups. After two year of treatment, the targeted youths were significantly better off than the control students

on several measures of academic achievement and educational persistence. Students were promoted to the next grade at a higher rate after the first year in the program (ES=.15), drop-out rates were significantly lower for students in some of the schools (ES=.09 overall), graduation rates were higher (ES=.68), and the percentage of students scoring in the bottom quartile of a standardized achievement tests scores was lower (ES=-.19). However, the services did not result in a reduction in delinquency. Gottfredson (1986) examined six indicators of delinquent behavior, including self-reports, school records, and police records. For only one of the measures were significant differences observed. Treatment students reported significantly **more** drug use (ES=.23). In all, two measures showed no difference, two favored the treatment group (ES's=-.08 and -.14) and two favored the control students (ES's=.02 and .23). The study suggests that even relatively small doses of tutoring lead to improvements in academic outcomes. It is probable that the poor showing on the delinquency measures was due to the counseling intervention which brought high-risk youths together to discuss (and therefore make more salient to others) their poor behavior.

Mentoring -- one-on-one interaction with an older, more experienced person to provide advice or assistance -- is an increasingly popular delinquency prevention strategy. OJJDP has invested \$19 million in juvenile mentoring programs, as mandated by Congress. Our review uncovered four studies of school-based mentoring (See Table 5-5). Chapter 2 reviews additional studies of community-based mentoring. The results of the studies can be summarized as follows: (1) The methodological rigor of the studies is generally poor. Only one study received a scientific methods score of three or more, and this study did not assess the programs' effect on crime outcomes. (2) School-based mentoring programs appear promising for increasing school attendance. (3) The effectiveness of school-based mentoring for reducing delinquency and drug use is not known. See Chapter 2 for a summary of one rigorous study of a particularly well-implemented community-based mentoring program which found positive effects on substance use, bearing in mind that the results from that study may not generalize to mentoring programs run in or by schools.

In summary, counseling interventions for high-risk youths are contraindicated, and school-based mentoring programs appear promising for reducing nonattendance but have not been studied with sufficient rigor to justify confident conclusions about its effectiveness for reducing delinquency or substance use. Table 5-5. Summary of Mentoring Studies

Author protective factors (year)	Scientific methods score/ Number of cases	Effect size for measure of problem behavior	Effects on risk and
Higgins (1978) NS [results for high significantly better school students only) returning from correctional institution after approximately one year of program]	2 N=106	Offenses, weighted by severity -- not significantly different [ES=.25 males; .23 females, favoring mentored group]	School persistence -- School performance -- for mentored, males
McPartland & Nettles significantly fewer absences (1991) [results for middle significantly better school students directly after two years of program] promotion -- NS	3.5 N=334 (approx.)	NA	Absences -- [ES=-.18] English grades -- [ES=.14] GPA and grade

Slicker & Palmer (1993) NS	2	NA	Drop-out and GPA--
[results for 10th grade "at-risk" students directly after six months of program] N=64			
LoSciuto, Rajala, Townsend, & Taylor (1996)	2 N=562	Frequency of substance use in past 2 months -- almost significantly lower (p=.056) among mentored students [ES=-.22]	Days absent -- mentoring group
[results for sixth graders directly after one school year of program]			

Recreational, Enrichment, and Leisure Activities

Some programs offer recreational, enrichment or leisure activities as a delinquency prevention strategy. These programs historically have been based on one of the following assumptions: (1) "idle hands are the devil's workshop;" (2) children -- especially those who do not fit the academic mold -- will suffer from low self-esteem if they are not able to display their other competencies; or (3) students need to vent their energy. With the rise in violent crime, the typical rationale for alternative activities programs is that occupying youth's time will keep them out of harm's way -- the "safe haven" theory. Drop-in recreation centers, after-school and week-end programs, dances, community service activities, and other events are offered as alternatives to the more dangerous activities. After-school programs have enjoyed a recent boost in popularity in light of evidence that 22% of violent juvenile crime occurs between 2 p.m. and 6 p.m. on school days (Snyder, Sickmund, & Poe-Yamagata, 1996). This is more than would be expected if juvenile crime were uniformly distributed across the waking hours.

Relevant research on alternative activities is found both in basic research on the causes and correlates of delinquency and in evaluations of prevention programs involving these activities. Basic research has examined the plausibility of the "idle hands is the devil's workshop" rationale for explaining delinquency and found it lacking. Several studies have found that time spent in leisure activities is unrelated to the commission of delinquent acts (Gottfredson, 1984b; Hirschi, 1969). Time spent on activities which reflect an underlying commitment to conventional pursuits (e.g., hours spent on homework) is related to the commission of fewer delinquent acts, while time spent on activities which reflect a (premature) orientation to adult activities (e.g., time spent riding around in cars) is related to the commission of more delinquent acts. But the myriad activities of adolescents that have no apparent connection to these poles (e.g., clubs, volunteer and service activities, youth organizations, sports, hobbies, television, etc.) are unrelated to the commission of delinquent acts. Simply spending time in a these activities is unlikely to reduce delinquency unless they provide direct supervision when it would otherwise be lacking.

Alternative activities programs have been found to *not* prevent or reduce alcohol, tobacco, and other drug use in several reviews of the effectiveness of drug prevention (Botvin, 1990; Hansen, 1992; Schaps, Bartolo, Moskowitz, Palley, and Churgin, 1981; Schinke, Botvin, and Orliandi, 1991). More recent evidence of the impotence of alternative activities programs comes from the National Structured Evaluation (NSE; Stoil, Hill, and Brounstein, 1994), a major study of the effectiveness of prevention activities initiated in 1991 by the Center for Substance Abuse Prevention (CSAP), which examined hundreds of different program models in operation during or after 1986. The NSE found that alternative activities alone do not reduce alcohol and other drug use, alcohol and other drug -related knowledge and attitudes, or other risk and protective factors related to alcohol and other drug use. However, when these drug-free activities appeared as secondary components in programs primarily aimed at psycho-social skill development, they were effective for reducing alcohol and other drug use and related risk and protective factors. Note that the reviews and the NSE summarize evidence related to broadly-defined alternative activities programs operating in both school and community contexts. They do not tell us whether the null

Table 5-6. Summary of Recreation, Enrichment, and Leisure Activities Studies

Author protective factors (year)	Scientific methods score/ Number of cases	Effect size for measure of problem behavior	Effects on risk and
Thompson & Jason (1988) favors experimental, [results for eighth grade students at-risk for gang membership directly after one school year of program]	2 N=117	NA	Gang membership -- p=.06; [ES=-.16]
Ross, Saavedra, Shur, scores -- no significant Winters, & Felner (1992) significantly favors control [results for low-income elementary school children directly after significantly favors control 144 days of program]	4 N=667	NA	Achievement test difference overall Risk-taking -- group Impulsiveness -- group
Cronin (1996) Attachment to school, Belief, Attitudes [results for at-risk Attendance -- NS sixth grade students directly after one school year of program]	4 N=508	Rebellious Behavior -- NS Drug Use in Last Year -- significantly favors control group (ES=.47) Drug Use in Last Month -- NS	Grade-point average, Commitment to school, favoring drug use,

findings apply equally to programs in these different settings. Few evaluations of the effect of these recreation, leisure, and enrichment activities on delinquency other than substance use are available. They are summarized in Table 5-6. These studies all combine an emphasis on alternative activities with other components such as instruction in skills related to the alternative activity. One program (Ross et al, 1992) involved instruction and supervised homework and self-esteem building exercises in a school-based after-school program. The study did not assess program effects on actual delinquent behavior due to the young age of the children, but it did measure low self-control, a potent risk factor for later delinquency. The Thompson and Jason (1988) study reported on a gang prevention program involving instruction plus an after school program involving a sports clinic, social and recreational activities, job-skills and educational assistance. Cronin (1996) reported on a community service program which also involved reflection/discussion sessions for "processing" the service experience. As Table 5-6 shows, the results are unfavorable to alternative programs, except for one study which shows a marginally significant (p=.06; ES=-.16) positive effect on a risk factor for delinquent behavior, gang membership. The other studies suggest that these alternative activities programs may actually increase the risk for delinquent behavior.

These studies of alternative activities do not specifically address the crime prevention potential of recreational strategies such as "midnight basketball" which are designed to keep the most crime-prone segment of the population off the streets during peak crime hours (i.e., to provide a "playground for ... idle hands") and to enhance positive youth development through mandatory attendance at workshops covering topics such as job development, drug and alcohol use, safe sex, GED preparation and college preparation, and conflict resolution. These programs have received media attention and public support in recent years. Midnight Basketball was praised in 1991 by President George Bush as one of his "thousand points of light." The "Crime Bill" signed into law by President Clinton in 1994 featured alternative activities prominently among its various crime prevention strategies. Early versions of the bill included a line item for Midnight Basketball, and although the line item was eventually eliminated when it became the symbol of pork-barrel spending among conservatives in and out of Congress, alternative activities strategies still figure prominently among its prevention strategies. Midnight Basketball is mentioned explicitly as one of the preferred Local Crime Prevention Block Grant Program strategies, along with other supervised sports and recreation programs; non-school recreation strategies are included in the Ounce of Prevention Grant Program; supervised sports and extracurricular programs including arts and crafts and dancing during non-school hours are included in the Community Schools Youth Services and Supervision Grant Program; and park and recreation programs in high risk areas are called for in the Urban Recreation and At-Risk Youth Grants to local governments (Youth Today, Nov/Dec, 1994).

Midnight basketball programs are not likely to reduce crime. The evidence from meta-analyses of drug prevention programs suggests no behavioral effect of such programs, and the few studies that have examined effects on delinquency or anti-social behavior suggest no effect. The only compelling argument for continuing to consider this approach is that they may be able to provide adult supervision when it would otherwise be lacking. But research (Ross et al, 1992, summarized in Table 5-6) indicates that programs *intending* to provide such supervision for unsupervised youth in the after-school hours may actually increase risk for delinquency. These investigators found that (1) the students most in need of after-school supervision chose not to participate in the program, (2) the program *increased* risk-taking and impulsiveness, and (3) the program worked no better for latch-key children than for children who had access to other supervision during the after school hours. These unfortunate outcomes make sense in light of other evidence (e.g., G. Gottfredson, 1987) demonstrating that interventions that group high-risk youths with lower-risk youths in the absence of a strong intervention to establish pro-social group norms often backfire.

In summary, research clearly supports the crime-prevention potential of providing direct adult supervision of high-risk juveniles when they would otherwise be unsupervised, but designing such interventions so that they will reach the intended population and counteract potential negative effects of grouping high-risk youths remains a challenge. The chapter on community programs finds reason for guarded optimism about the crime prevention potential of after-school recreation programs operating in high-crime areas by community-based organizations such as Boys and Girls Clubs. It is possible that such programs are more effective than the more broadly defined alternative activities programs summarized here. It is also possible that features of the implementing organization and the community context within which the programs operate moderate the programs' effectiveness. Better research is clearly needed to isolate these characteristics of programs and contexts. At this point in time, expectations for these programs far exceed their empirical record. Because some studies have found backfire effects, it is particularly important to proceed with due caution.

A Comprehensive OJP-Funded Program: Cities in Schools (C.I.S.)

C.I.S. is a comprehensive dropout prevention program which combines several individual-level prevention strategies within a broader effort to alter the school environment to facilitate the delivery of services to high-risk youths. Its breadth defies the program categorization adopted for this report. C.I.S. operates in 665 sites in 197 communities nationwide (OJJDP, 1995). It is operated by Cities in Schools, Inc., a nonprofit organization headquartered in Alexandria, VA. Regional and state-level offices bridge the gap between the national office and local programs. Regional staff are the primary providers of technical assistance and training to new and existing programs. State office functions parallel those of the regional offices.

The C.I.S. model utilizes the school as a site for service coordination and integration. It is more a strategy for service delivery than a program. It is based on the belief that the "existing human services delivery system is fragmented, categorical and uncoordinated, and that the clients of the system have multiple problems that extend beyond the relatively narrow agendas of particular agencies (Rossman and Morley, 1995)." Several different strategies are used to address the problems of youth at risk for drop out. The central feature of C.I.S. is the assignment of caseworkers to groups of problem students at inner city schools. Common strategies include: 1) case management (often focusing on obtaining needed services such as health and dental screening, bus tickets, clothing, etc.), 2) individual or group counseling, 3) assistance with academic subjects, 4) attendance monitoring, and 5) activities to promote self-esteem and team building. A "C.I.S. class", although not required, is recommended by the national organization. No standard curriculum exists for the C.I.S. classes, but many focus on life-skills education and contain an emphasis on building students' self esteem and encouraging prosocial attitudes and behaviors. The activities are loosely structured. Tutoring and mentoring are among the most commonly provided services, but individual sites are encouraged to develop special services and arrangements according to their local needs, resources, and constraints.

Two evaluations of the C.I.S. program have been conducted. The first (Murray, Bourque & Mileff, 1981) reviews program outcomes from 1978-1980, the second (Rossman and Morley, 1995) outcomes from 1989-1991. The methodological rigor of both studies (2 and 1, respectively) falls below the cut-point established in this report for scientific credibility. Conclusions regarding program efficacy cannot be drawn based on either evaluation.

Murray et al. (1981) showed that the services delivered were not as strong as anticipated by the C.I.S. model. Rossman and Morley (1995) were unable to quantify the level of program implementation because the systematic records were not kept by the program. Analysis of drop out and absences included in the first evaluation suggested that C.I.S. did not have the desired effect on students. Analysis of absences included in the second evaluation generally showed that C.I.S. students with the most severe problems demonstrated improvement over time. Whether this is attributable to the program or to regression to the mean is not known. Analysis of drop out in the second evaluation suggested that the dropout rate for C.I.S. students compared favorably to other at-risk populations in the nation but offered no evidence about the comparability of these other populations to the C.I.S. population on other variables that would place students at risk for dropping out. An examination of the effect of the C.I.S. program on a variety of problem behaviors was included in the second evaluation. C.I.S. students are asked to report how big of a problem a behavior used to be and whether or not this has changed. Results indicated that students were more likely to experience improvement or no change as opposed to getting worse. The design (lack of comparison group, retrospective self-report) tells us nothing about the effects of C.I.S. on these behavioral outcomes.

In summary, although several aspects of the C.I.S. strategy resemble components shown in other work to have promise for reducing delinquency and substance use, the effects of C.I.S. on these behaviors is unknown because its evaluations have lacked the rigor necessary to justify any conclusions about its effectiveness. Mentoring and the "school-within-a-school" structure used in some of the C.I.S. sites are promising for reducing delinquency or substance use. On the other hand, counseling, unstructured life skills classes, and community service activities have been shown to be ineffective for reducing these problem behaviors, and grouping high-risk students together in the absence of a structured program appears to increase delinquency. C.I.S. has been successful in accessing a large number of at risk students, establishing a service delivery mechanism for them, and generating funds (both federal and other) to initiate and sustain interventions. The programs needs to be rigorously evaluated.

Scientific Conclusions

What Works? Strategies for which at least two different studies have found positive effects on measures of problem behavior and for which the preponderance of evidence is positive are:

Crime and delinquency:

- (1) Programs aimed at building school capacity to initiate and sustain innovation.
- (2) Programs aimed at clarifying and communicating norms about behaviors -- by establishing school rules, improving the consistency of their enforcement (particularly when they emphasize positive reinforcement of appropriate behavior), or communicating norms through school-wide campaigns (e.g., anti-bullying campaigns) or ceremonies; and
- (3) Comprehensive instructional programs that focus on a range of social competency skills (e.g, developing self-control, stress-management, responsible decision-making, social problem-solving, and communication skills) and that are delivered over a long period of time to continually reinforce skills.

Substance use:

- (1) Programs aimed at clarifying and communicating norms about behaviors;
- (2) Comprehensive instructional programs that focus on a range of social competency skills (e.g, developing self-control, stress-management, responsible decision-making, social problem-solving, and communication skills) and that are delivered over a long period of time to continually reinforce skills; and
- (3) Behavior modification programs and programs that teach "thinking skills" to high-risk youths.

What does not work? Strategies for which at least two different studies have found no positive effects on measures of problem behavior and for which the preponderance of evidence is not positive are:

- (1) Counseling students, particularly in a peer-group context, does not reduce delinquency or substance use.
- (2) Offering youths alternative activities such as recreation and community service activities in the absence of more potent prevention programming does not reduce substance use. This conclusion is based on reviews of broadly-defined alternative activities in school- and community settings. Effects of these programs on other forms of delinquency are not known.
- (3) Instructional programs focusing on information dissemination, fear arousal, moral appeal, and affective education are ineffective for reducing substance use.

What is promising? Several strategies have been shown in only one rigorous study to reduce delinquency or substance use. If the preponderance of evidence for these strategies is positive, they are regarded as "promising" until replication confirms the effect. These strategies are:

Crime and delinquency:

- (1) Programs that group youths into smaller "schools-within-schools" to create smaller units, more supportive interactions, or greater flexibility in instruction; and
- (2) Behavior modification programs and programs that teach "thinking skills" to high-risk youths.

Substance use:

- (1) Programs aimed at building school capacity to initiate and sustain innovation; (2) Programs that group youths into smaller "schools-within-schools" to create smaller units, more supportive interactions, or greater flexibility in instruction; and
- (3) Programs that improve classroom management and that use effective instructional techniques.

Effectiveness of DOJ Programs

With the notable exception of D.A.R.E. evaluations, the evaluations of school-based prevention programs funded by OJP are generally too weak to justify conclusions about the effectiveness of the programs.

D.A.R.E. Evaluations show that as it is most commonly implemented, D.A.R.E. does not reduce substance use appreciably. But the revised D.A.R.E. curriculum with its follow-up sessions in later grades has not been evaluated. Given the more general finding that instructional drug prevention programs are most effective when delivered over extended periods of time, a reasonable course of action would be to conduct a rigorous study to compare the revised D.A.R.E. program including its follow-up sessions with other plausible, long-term drug prevention curricula containing more social competency content. This study should randomly assign fifth or sixth grade classrooms to receive either D.A.R.E. with its booster sessions or a non-D.A.R.E. program of equal length and intensity and its booster sessions. Long-term effects should be assessed in a longitudinal study and care should be taken to ensure sufficient statistical power to detect small differences in effectiveness.

L.R.E. The national evaluation of L.R.E. was inconclusive. As detailed above, L.R.E. has theoretical promise only when the law-related curriculum is embedded in a more comprehensive program of improved classroom organization and management. A stand-alone law-related education curriculum is no more likely to reduce delinquency than a stand-alone drug education program is to reduce substance use. More rigorous evaluation is needed to evaluate L.R.E. as it is typically implemented, and to isolate the effective ingredients in the multi-component L.R.E. interventions that have resulted in positive evaluations.

C.I.S. Evaluations of C.I.S. have not been of sufficient methodological rigor to justify conclusions about its crime prevention potential. C.I.S. represents a vehicle through which a variety of prevention services could be effectively delivered. But as currently implemented, the mix of services provided is as likely to contain ineffective as effective ones. If Congress is to continue to mandate these programs, rigorous tests of evaluations should now be conducted.

Several additional categories of school-based programs are supported from time-to-time by OJP. These include "Midnight basketball" and other recreational activities intended to reduce crime, peer mediation programs; and violence prevention curricula. A variety of after-school program models are also being developed. None of these program types have been studied with sufficient rigor to justify conclusions about their effectiveness, but some evaluations have produced disappointing results. Rigorous evaluation of the OJP-funded programs is required.

Byrne Funds. Little is known about the specific school-based programs supported by Byrne Block Grant Funding. One of the purpose areas for this funding is education, however, and \$74.7 million was spent between 1989 and 1994 for these education programs. Some of this funding is known to support local D.A.R.E. programs, known to be ineffective as most commonly implemented. The block grant program as it is currently organized might be strengthened through federal efforts to disseminate information to state and local agencies about what school-based strategies work to reduce delinquency.

Improving Effectiveness Through Evaluation and Research

The studies reviewed in this chapter have demonstrated that school-based prevention can work. With few exceptions, the different categories of prevention activities have been shown to reduce delinquency or substance abuse in at least one rigorous study. The magnitude of the effects of these strategies ranges from small (e.g., for instructional drug prevention programs and classroom management interventions) to moderate (e.g., for a behavior modification intervention and some of the more comprehensive programs such as STATUS, that combined a school-within-a-school structure with an innovative curriculum and effective instructional methods). Yet the magnitude and durability of effects of school-based prevention efforts, although at least comparable to those of delinquency prevention and treatment efforts in other settings, are low relative to the theoretical promise and anticipated potential of these programs. More important than the question of which individual strategies "work" is the question of how the promising strategies can be strengthened to improve their yield. These efforts should focus on two broad areas: Specifying theories underlying school-based prevention and improving the level of implementation of prevention programs.

Specifying theories of school-based prevention. Much school-based prevention is guided by the following general notions about the nature and causes of problem behaviors: (1) Different problem behaviors are highly related; (2) different problem behaviors share common antecedents; (3) the common antecedents are the risk and protective factors identified in research as correlates of problem behavior (e.g., as summarized in reviews such as Hawkins, Catalano, & Miller, 1992 and Loeber & Dishion, 1983); and (4) prevention efforts aimed directly at these risk and protective factors will reduce problem behavior. Specific school-based delinquency prevention practices are often justified on the basis of demonstrated effect on one or more known risk or protective factors for delinquency.

The prevention focus on risk and protective factors is enormously popular among practitioners and has succeeded in pushing practice away from strategies with no basis in research and towards strategies with plausibility. At the same time, accumulated evidence has raised questions about the relative potency of different risk and protective factors and their possible differential effects on various problem behaviors. Some risk-based strategies show promise for reducing substance use but not other forms of delinquency (e.g. mentoring programs and the classroom organization and management strategies summarized earlier). Other programs have clear effects on aggressive behavior and school conduct problems, but the evidence for an effect on measures of criminal activity is less convincing (e.g., cognitive training strategies and social competency instruction). Many programs have large effects on academic achievement, commitment to school, or attachment to school, but no effect (Hawkins, Catalano, et al, 1992; Hawkins, Doueck & Lishner, 1988) or even negative effects (D. Gottfredson, 1986) on delinquency and substance use. Clearly, enhancing protective factors or reducing risk factors does not ensure a large reduction in delinquency. The focus on risk and protective factors has been and no doubt will continue to be a valuable contribution to the prevention field. But more productive theory-building and testing is now required to make significant progress. School-based prevention efforts would benefit from the development and testing of multi-level theories that specify how environmental features of schools interact with individual-level processes generating delinquent behavior. Efforts to clarify the causal processes linking school characteristics and schooling experiences to delinquency can be expected to lead to refined program designs which target the most potent theoretical variables.

Improving implementation of school-based prevention programs. Researchers have recently turned their attention to better understanding the conditions which may impede the implementation of prevention programs and therefore limit their effectiveness. Elias, Weissberg, et al. (1994) recommend comprehensive, multi-year, multi-component approaches over more traditional single-intervention ones. This idea is also supported by meta-analysis results showing that programs using multiple interventions work better than those using a single intervention strategy (Tobler, 1986) and by results summarized above. Some of the more comprehensive programs reviewed above (e.g., Olweus' bullying intervention in Norway schools; Gottfredson's school-capacity building interventions) are among the more potent programs for reducing delinquency. Given that the single largest federal expenditure on school-based prevention (Safe and Drug-Free Schools and Communities monies administered by the U.S. Department of Education) funds primarily narrower strategies such as student assistance programs (a form of counseling) and drug instruction, this recommendation alone, if heeded, can be expected to boost the effectiveness of school-based prevention activities.

Elias, Weissberg et al. (1994) also advocate strategies to strengthen the "host environment." These strategies include working

with staffs in the schools to ensure goal consensus and fluency in the theory underlying the prevention approach, and using an action research model to clarify expectations, monitor progress, and identify and resolve problems which present obstacles to implementation as they arise. Support for these capacity-building strategies is summarized above.

Gottfredson, Fink, Skroban & Gottfredson (1996) summarize literature on factors related to successful educational reform in general. The capacity of schools to initiate and sustain reform, and consequently the strength and fidelity of those reforms, varies considerably across geographic areas, with schools in urban areas most likely to lack the infrastructure necessary to support change. Many features of school organizations shown to be related to successful reform -- quality leadership, teacher morale, teacher mastery, school climate, and resources -- are lower on average in urban than in other schools. The literature on school reform suggests that the strength and durability of school-based prevention programs can be increased by embedding specific program components within a broader capacity-building effort that attends to these larger organizational issues.

The recommended direction for school-based prevention -- towards multi-faceted, longer-term, and broader-reaching programs embedded in school capacity-building activities-- presents a challenge to researchers and policy-makers alike because the "user-friendliness" of programs is related to the fidelity of their implementation. More complex programs are more likely to be watered down or "reinvented" by school staff. Indeed, experience working with a troubled urban middle school to implement a multi-component prevention program over a four-year period (Gottfredson, Gottfredson, & Skroban, 1996) illustrated the challenge. The program included several components aimed at increasing social competency skills as well as components aimed at increasing social bonding and school success. Most pieces had been demonstrated in prior "single intervention" research to reduce problem behavior or factors leading to it, and are included among the program strategies that "work," summarized above. The five-year study tested the transportability of these intervention strategies into a more comprehensive program that could be implemented in a natural school setting as part of a multi-year school-based prevention demonstration. The evaluation of the five-year effort showed that the program never reached its expected level of implementation and no reliable effects on youth behaviors or attitudes were observed. The organization proved incapable of absorbing this ambitious program.

The question of what it will take to initiate and sustain meaningful change in schools is the highest priority question for researchers and policy makers at this time. We know from research summarized in this chapter that a variety of strategies can reduce delinquency or substance use. But the conditions under which much of the research -- particularly the research on individually-focused interventions -- was conducted do not resemble real-world conditions in schools where programs are most needed. Tobler (1992) shows, for example, that among the top ten most effective drug prevention programs identified in the literature, only one was implemented by classroom teachers, and even that intervention was unusual because extraordinary amounts of training and consultation was provided for the teachers. When school-based programs are implemented under less than ideal conditions results have not been as positive. In a study of Hispanic students in eight urban schools in the New York area, Botvin, Dusenbury, Baker, James-Ortiz, & Kerner (1989), reported that the amount of the L.S.T. program material covered by teachers ranged from 44% to 83%. When the experimental sample was divided into high implementation (with a mean completion rate of 78%) and low implementation (mean of 56%), positive effects of the program were found only in high implementation group. This accords with more general findings from Lipsey's (1992) extensive meta-analysis of prevention and treatment programs which found that programs delivered by researchers were more effective than those delivered by the typical practitioner, presumably because researchers attended more to issues of strength and integrity of program implementation.

These facts must be understood if we are to strengthen prevention programming. Several of the studies summarized above (e.g., Botvin et al, 1995; Gottfredson, Gottfredson, & Hybl, 1993; Johnson, 1984) reported effects separately for groups of schools or teachers that differed on the strength and fidelity of program implementation. The evidence always suggests that more delinquency is prevented when strategies are implemented with greater fidelity over prolonged periods and that these conditions are met more easily in some schools than in others. Additional research is now needed to increase our understanding of how the potential of strategies we already know about can be realized in real-world settings.

An example of a comprehensive, theory-based, well-implemented school-based intervention. A recent example of a school-based intervention to reduce conduct disorder that addresses the shortcomings of prevention programming summarized earlier is the FAST Track (Families and Schools Together; Conduct Problems Prevention Research Group, 1992) Program, currently being tested in four cities with support from the National Institute of Mental Health. The program was developed by a consortium of social scientists on the basis of developmental theory about the causes of conduct disorder in children and previous evaluations of specific, theory-based program components. It integrates five intervention components designed to promote competence in the family, child, and school and thus prevent conduct problems, poor social relations, and school failure -- all precursors of subsequent criminal behavior -- during the elementary school years. The program involves training for parents in family management practices; frequent home visits by program staff to reinforce skills learned in the training, promote parental feelings of efficacy, and enhance family organization; social skills coaching for children delivered by program staff and based on effective models described earlier; academic tutoring for children three times per week; and a classroom instructional program focusing on social competency skills coupled with classroom management strategies for the teacher. The

program therefore includes several of the most effective school-based strategies summarized earlier as well as the most effective strategies from the family domain.

The participating schools and families work closely with the research team to implement the program in a strong fashion and support its evaluation. Only preliminary data are available from the rigorous evaluation of this ongoing project. Dodge (1993) reported that after one year of this intensive program, clear positive effects were evident on several of the intermediate behaviors targeted by the program (e.g., parent involvement in the child's education and child social-cognitive skills) and significantly less problem behavior ($ES = -.25$) was recorded by trained observers for the treatment than for the comparison children. These positive results for such a difficult population are encouraging and attest to the need for more comprehensive, theory-based, preventive interventions implemented with careful attention to strength and fidelity. The cost of such high-quality program development is high compared with typical expenditures on program development and evaluation for OJP programs: FAST Track's budget exceeds \$1 million per year for each of the four program sites.

These comments are intended to stimulate thinking about what Congress and OJP can do to contribute to the development of stronger school-based delinquency prevention efforts. Specific recommendations for strengthening programs are:

1. Increase Congressional appropriations for school-based prevention activities. OJP funding for school-based crime prevention is meager compared with its expenditures in other domains within OJP and compared with expenditures by other agencies on school-based prevention. Total expenditures on school-based prevention (partially summarized in Table 5-1) are less than \$25 million per year,⁹ compared with \$1.4 billion for the extra police programs and \$617 million for prison construction. This limited investment in school-based crime prevention, in light of its promise demonstrated in this chapter, represents a lost opportunity for preventing crime.
2. Support multi-year prevention efforts (e.g., programs that span the elementary school years, the middle school years, and the high school years rather than single-year programs);
3. Support multi-component prevention efforts that include the environmental-change and individual strategies that have been shown to work in some settings under some conditions and whose positive results have been replicated:
 - (a) Programs aimed at building school capacity to initiate and sustain innovation;
 - (b) Programs aimed at clarifying and communicating norms about behaviors;
 - (c) Comprehensive instructional programs that focus on a range of social competency skills (e.g., developing self-control, stress-management, responsible decision-making, social problem-solving, and communication skills) and that are delivered over a long period of time to continually reinforce skills; and
 - (d) Behavior modification programs and programs that teach "thinking skills" to high-risk youths.
4. Reduce funding for program categories (counseling students for delinquency prevention, alternative activities such as recreation and community service activities in the absence of more potent prevention programming for drug prevention, and instructional drug prevention programs focusing on information dissemination, fear arousal, moral appeal, and affective education) known to be ineffective.
5. Support activity to disseminate information about effective and ineffective school-based strategies to practitioners and to local- and state-level program managers and policy-makers.

Additional recommendations for evaluation and research needed to improve the effectiveness of school-based prevention include:

1. Require (and provide the substantial financial investment to enable) rigorous evaluation of the long-term multi-component models recommended above, insisting that studies of the effectiveness of strategies aimed at altering school and classroom environments be conducted using schools or classrooms as the unit of analysis, and testing the generalizability of effects across different types of communities.
2. Support replication studies of the promising strategies identified in the summary section above;

3. Support theory-building and testing efforts which seek to clarify the causal models relating school experiences and delinquency;
4. Support research to investigate school conditions conducive to high-quality implementation of prevention programs; and
5. Support the development and rigorous testing, especially in urban areas, of strategies designed specifically to improve the level of implementation of prevention programs.

NOTES

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²Of course, more money is spent on maintaining basic educational services. The largest proportion of spending for children and youth in all states is tied to schools (Holmes, Gottfredson, & Miller, 1992) -- mostly to maintain basic education processes. An argument can be made for counting these large basic education expenditures as prevention expenditures because they are directed at improving the social capital of the citizenry (e.g., education and proper conduct) which protects youths from later involvement in a variety of problem behaviors. Because the evidence for a connection between basic education programs and practices and crime is largely indirect, such basic education functions will be given short shrift in this chapter. Researchers and policy-makers should devote more attention, however, to understanding the crime prevention potential of large federal entitlement programs such as Chapter I of Title I of the Elementary and Secondary Education Act, which distributes approximately \$6.7 billion in federal funds to local school districts to enhance basic educational processes.

³OJP spends approximately \$1.4 billion on extra policing programs and \$617 million on prison construction projects per year.

⁴Code sheets used to code methodological rigor and gather information for the computation of effect sizes are show in the methods appendix. All coding was done by two trained graduate students. All discrepancies were discussed and resolved. Seven aspects of the methods used in each study were rated to arrive at an overall rating of methodological rigor ranging from "1" (for studies having no controls for plausible alternative explanations for observed effects, insufficient power to detect program effects, or inadequate measurement of key outcome variables) to "5" (for studies employing random assignment to treatment and control conditions, sufficient power, and reliable and valid measurement).

⁵A district consolidation of high schools prevented continued evaluation at the high school level.

⁶Effect sizes reported here are the effect sizes for treatment school change from pre-intervention to post-intervention reported in the original report minus the same effect sizes reported for the comparison schools.

⁷Evaluations of D.A.R.E. are too numerous for detailed summary of each. The Bureau of Justice Assistance has identified 23 D.A.R.E. evaluations conducted between 1991 and 1996, several of which are included in the summary below. Others are not included because they are primarily descriptive evaluations of state-level efforts which have not appeared in the scientific literature. An assessment of this fugitive literature seems unnecessary given the consistency of findings in the published literature. At any rate, such an effort is beyond the scope of this review.

⁸The researchers who conducted the national evaluation for OJJDP have continued to develop and write about the program. Later reports contain the same ambiguity as the earlier study of the Colorado sites.

⁹This figure does not include Byrne Block Grant monies, some of which fund local D.A.R.E. programs. But even with the Byrne funds, expenditures on school-based prevention are meager.

References

Battistich, V., Schaps, E., Watson, M., and Solomon, D.

1996 Prevention effects of the child development project: Early findings from an ongoing multi-site demonstration trial. *Journal of Adolescent Research* 11:12-35.

Botvin, G. J.

1990 Substance abuse prevention: Theory, practice, and effectiveness. In M. Tonry and J. Q. Wilson (eds.), *Drugs and Crime*. Chicago: The University of Chicago Press.

Botvin, G. J., Baker, E., Botvin, E. M., Filazzola, A. D., and Millman, R. B.

1984 Prevention of alcohol misuse through the development of personal and social competence: A pilot study. *Journal of Studies on Alcohol* 550-552.

Botvin, G. J., Baker, E., Dusenbury, L., Botvin, E. M., and Diaz, T.

1995 Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. *Journal of the American Medical Association* 273:1106-1112.

Botvin, G. J., Baker, E., Filazzola, A. D., and Botvin, E. M.

1990 A cognitive-behavioral approach to substance abuse prevention: One-year follow-up. *Addictive Behaviors* 15:47-63.

Botvin, G. J., Baker, E., Renick, N. L., Filazzola, A. D., and Botvin, E. M.

1984 A cognitive behavioral approach to substance abuse prevention. *Addictive Behaviors* 9:137-147.

Botvin, G. J., Batson, H. W., Witss-Vitale, S., Bess, V., Baker, E., and Dunesbury, L.

1989 A psychosocial approach to smoking prevention for urban black youth. *Public Health Reports* 12:279-296.

Botvin, G. J., Dusenbury, L., James-Ortiz, S., and Kerner, J.

1989 A skills training approach to smoking prevention among Hispanic youth. *Journal of Behavioral Medicine* 12:279-296.

Botvin, G. J., and Eng, A.

1982 The efficacy of a multicomponent approach to the prevention of cigarette smoking. *Preventive Medicine* 11:199-211.

Brewer, D. D., Hawkins, J. D., Catalano, R. F., and Neckerman, H. J.

1995 Preventing serious, violent, and chronic juvenile offending: A review of evaluations of selected strategies in childhood, adolescence, and the community. In J. C. Howell, B. Krisberg, J. J. Wilson, and J. D. Hawkins (eds.), *A Sourcebook on Serious, Violent, and Chronic Juvenile Offenders*. Newbury Park, CA: Sage Publications.

Bry, B. H.

1982 Reducing the incidence of adolescent problems through preventive intervention: One- and five-year follow-up. *American Journal of Community Psychology* 10:265-276.

Bry, B. H., and George, F. E.

1979 Evaluating and improving prevention programs: A strategy from drug abuse. *Evaluation and Program Planning* 2:127-136.

Bry, B. H., and George, F. E.

1980 The preventative effects of early intervention on the attendance and grades of urban adolescents. *Professional Psychology*

11:252-260.

Caplan, M., Weissberg, R. P., Grober, J. S., Sivo, P. J., Grady, K., and Jacoby, C.

1992 Social competence promotion with inner-city and suburban young adolescents: Effects on social adjustment and alcohol use. *Journal of Consulting and Clinical Psychology* 60:56-63.

Clayton, R. R., Cattarello, A. M., and Johnstone, B. M.

1996 The effectiveness of Drug Abuse Resistance Education (Project DARE): Five-year follow-up results. *Preventive Medicine* 25:307-318.

Conduct Problems Prevention Research Group

1992 A developmental and clinical model for the prevention of conduct disorder: The FAST Track Program. *Development and Psychopathology* 4:509-527.

Corcoran, T. B.

1985 Effective secondary schools. In R. M. J. Kyle (ed.), *Reaching for Excellence: An Effective Schools Sourcebook*. Washington, D.C.: U.S. Government Printing Office.

Cronin, J.

1996 An Evaluation of a School-based Community Service Program: The Effects of Magic Me. Technical report available from Gottfredson Associates, Inc., Ellicott City, MD.

Dicken, C., Bryson, R., and Kass, N.

1977 Companionship therapy: A replication in experimental community psychology. *Journal of Consulting and Clinical Psychology* 45:637-646.

Dodge, K. A.

1993 Effects of intervention on children at high risk for conduct problems. Paper presented at the biennial meeting of the Society for Research in Child Development, New Orleans, March.

Dryfoos, J. G.

1990 *Adolescents at Risk: Prevalence and Prevention*. New York: Oxford University Press.

Duke, D. L.

1989 School organization, leadership, and student behavior. In O. C. Moles (ed.), *Strategies to Reduce Student Misbehavior*. Washington, D.C.: U.S. Department of Education.

Durlak, J. A.

1995 *School-based Prevention Programs for Children and Adolescents*. Thousand Oaks, CA: Sage.

Elias, M. J., Weissberg, R. P., Hawkins, J. D., Perry, C. A., Zins, J. E., Dodge, K. C., Kendall, P. C., Gottfredson, D. C., Rotheram-Borus, M., Jason, L. A., and Wilson-Brewer, R.

1994 The school-based promotion of social competence: Theory, practice, and policy. In R. J. Haggerty, N. Garmezy, M. Rutter, and L. Sherrod (eds.), *Risk and Resilience in Children: Developmental Approaches*. Cambridge: University of Cambridge Press.

Ellickson, P. L., and Bell, R. M.

1990 Drug prevention in junior high: A multi-site longitudinal test. *Science* 247:1299-1305.

Ellickson, P. L., Bell, R. M., and McGuigan, K.

1993 Preventing adolescent drug use: Long-term results of a junior high program. *American Journal of Public Health* 83:856-861.

Esbensen, F. A. & Osgood, D. W.

1996 GREAT Program Effectiveness: Results from the 1995 Cross-Sectional Survey of Eighth-Grade Students. Unpublished technical reprint available from author.

Felner, R. D., and Adan, A. M.

1988 The school transitional environment project: An ecological intervention and evaluation. In R. H. Price, E. L. Cowen, R. P. Lorion, and J. Ramos-McKay (eds.), *14 Ounces of Prevention: A Casebook for Practitioners*. Washington, D.C.: American Psychological Association.

Felner, R. D., Ginter, M., and Primavera, J.

1982 Primary prevention during school transitions: Social support and environmental structure. *American Journal of Community Psychology* 10:277-290.

Forman, S. G.

1980 A comparison of cognitive training and response cost procedures in modifying aggressive behavior of elementary school children. *Behavior Therapy* 11:594-600.

Gainer, P. S., Webster, D. W., and Champion, H. R. .

1993 A youth violence prevention program: Description and preliminary evaluation. *Archives of Surgery* 128:303-308.

Garrett, C. J.

1985 Effects of residential treatment on adjudicated delinquents: A meta-analysis. *The Journal of Research in Crime and Delinquency* 22:287-308.

General Accounting Office

1993 Drug Education: Limited Progress in Program Evaluation. Statement of Eleanor Chemlinshy before the Subcommittee on Select Education and Civil Rights, Committee on Education and Labor, House of Representatives, GAO/T-PEMD-93-2.

Gorman, D. M.

1995 Are school-based resistance skills training programs effective in preventing alcohol misuse? *Journal of Alcohol and Drug Education* 41(1):74-98.

Gottfredson, D. C.

1986 An empirical test of school-based environmental and individual interventions to reduce the risk of delinquent behavior. *Criminology* 24:705-731.

1987 An evaluation of an organization development approach to reducing school disorder. *Evaluation Review* 11:739-763.

1990 Changing school structures to benefit high-risk youths. In P. E. Leone (ed.), *Understanding Troubled and Troubling Youth*. Newbury Park, CA: Sage Publications.

Gottfredson, D. C., Fink, C. M., Skroban, S., and Gottfredson, G. D.

In press Making prevention work. In R. P. Weissberg (ed.), *Issues in Children's and Families' Lives (Volume 4): Healthy Children 2010: School- and Community-based Strategies to Enhance Social, Emotional, and Physical Wellness*.

Gottfredson, D. C., Gottfredson, G. D., and Hybl, L. G.

1993 Managing adolescent behavior: A multiyear, multischool study. *American Educational Research Journal* 30:179-215.

Gottfredson, D. C., Gottfredson, G. D., and Skroban, S.

1996 A multimodal school-based prevention demonstration. *Journal of Adolescent Research* 11:97-115.

Gottfredson, D. C., Sealock, M. D., and Koper, C. S.

1996 Delinquency. In R. DiClemente, W. Hansen, and L. Ponton (eds.), *Handbook of Adolescent Health Risk Behavior*. New York: Plenum Publishing Corp.

Gottfredson, G. D.

1984a A theory-ridden approach to program evaluation: A method for stimulating researcher-implementer collaboration. *American Psychologist* 39:1101-1112.

1984b *The Effective School Battery: User's Manual*. Odessa, FL: Psychological Assessment Resources, Inc.

1987 Peer group interventions to reduce the risk of delinquent behavior: A selective review and a new evaluation. *Criminology* 25:671-714.

Gottfredson, G. D., and Gottfredson, D. C.

1985 *Victimization in Schools*. New York: Plenum.

Gottfredson, G. D., Rickert, D. E., Advani, N., and Gottfredson, D. C.

1985 Standards for program development evaluation. *Psychological Documents* 14:31 (ms. No. 2668).

Greenberg, M. T.

1996 *The PATHS Project: Preventive Intervention for Children*. Final Report to NIMH (Grant Number R01MH42131).

Greenberg, M. T., Kusche, C. A., Cook, E. T., and Quamma, J. P.

1995 Promoting emotional competence in school-aged children: The effects of the PATHS curriculum. *Development and Psychopathology* 7:117-136.

Guerra, N. G., and Slaby, R. G.

1990 Cognitive mediators of violence in adolescent offenders. *Developmental Psychology* 26:269-270.

Hansen, W. B.

1992 School-based substance abuse prevention: A review of the state of the art of curriculum: 1980-1990. *Health Education Research* 7:403-430.

Hansen, W. B., and Graham, J. W.

1991 Preventing alcohol, marijuana, and cigarette use among adolescents: Peer pressure resistance training versus establishing conservative norms. *Preventive Medicine* 20:414-430.

Hansen, W. B., and O'Malley, P. M.

1996 Drug use. In R. J. DiClemente, W. B. Hansen, and E. L. Ponton (eds.), *Handbook of Adolescent Health Behavior*. New York: Plenum Press.

Hawkins, J. D., Arthur, M. W., and Catalano, R. F.

1995 Preventing substance abuse. In M. Tonry and D. Farrington (eds.), *Building a Safer Society: Strategic Approaches to Crime Prevention*. Chicago: Univ. of Chicago Press.

Hawkins, J. D., Catalano, R. F., and Associates.

1992 *Communities That Care: Action for Drug Abuse Prevention*. San Francisco: Jossey-Bass.

Hawkins, J. D., Catalano, R. F., and Miller, J. L.

1992 Risk and protective factors for alcohol and other drug problems in early adulthood: Implications for substance abuse prevention. *Psychological Bulletin* 112:64-105.

Hawkins, J. D., Catalano, R. F., Morrison, D. M., O'Donnell, J., Abbott, R. D., and Day, L. E.

1992 The Seattle Social Developmental Project: Effects of the first four years on protective factors and problem behaviors. In J. McCord and R. E. Tremblay (eds.), *Preventing Antisocial Behavior: Interventions from Birth Through Adolescence*. New York: The Guilford Press.

Hawkins, J. D., Doueck, H. J., and Lishner, D. M.

1988 Changing teaching practices in mainstream classrooms to improve bonding and behavior of low achievers. *American Educational Research Journal* 25:31-50.

Hawkins, J. D., Von Cleve, E., and Catalano, R. F.

1991 Reducing early childhood aggression: Results of a primary prevention program. *Journal of the American Academy of Child and Adolescent Psychiatry* 30:208-217.

Higgins, P. S.

1978 Evaluation and case study of a school-based delinquency prevention program: The Minnesota Youth Advocate Program. *Evaluation Quarterly* 2:215-234.

Hirschi, T.

1969 *Causes of Delinquency*. Berkeley, CA: University of California Press.

Holmes, A. B., Gottfredson, G. D., and Miller, J.

1992 Resources and strategies for findings. In G. D. Hawkins and R. F. Catalano (eds.), *Communities That Care*. San Francisco, CA: Jossey Bass.

Howell, J. C., Krisberg, B., Wilson, J. J., and Hawkins, J. D.

1995 A Sourcebook on Serious, Violent, and Chronic Juvenile Offenders. Newbury Park, CA: Sage Publications.

Institute of Medicine

1994 Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research. Washington, D.C.: National Academy Press.

Izzo, R. L., and Ross, R. R.

1990 Meta-analysis of rehabilitation programs for juvenile delinquents. *Criminal Justice and Behavior* 17:134-142.

Johnson, G.

1984 When law-related education is a deterrent to delinquency: Evaluation methods and findings. Paper presented at Rocky Mountain Regional Conference of the National Council for the Social Studies.

Johnson, G., and Hunter, R.

1985 Law-related education as a delinquency prevention strategy: A three-year evaluation of the impact of LRE on students. Paper adapted from a report submitted to the National Institute for Juvenile Justice and Delinquency Prevention on June 6, 1984.

Kenney, D. J., and Watson, T. S.

1996 Reducing fear in the schools: Managing conflict through student problem solving. *Education and Urban Society* 28:436-455.

Lam, J. A.

1989 The Impact of Conflict Resolution Programs on Schools: A Review and Synthesis of the Evidence. Amherst, MA: National Association for Mediation in Education.

Law Enforcement News

1996 Truth and DARE: Washington cities shelve anti-drug curriculum. NY: John Jay College of Criminal Justice.

Lindstrom, P.

1996 Partnership in crime prevention: Police-school cooperation. Paper presented at the annual meeting of the American Society of Criminology, Chicago.

Lipsey, M. W.

1992 Juvenile delinquency treatment: A meta-analytic inquiry into the variability of effects. In T. D. Cook, H. Cooper, D. S. Cordray, H. Hartman, L. V. Hedges, R. V. Light, T. A. Louis, and F. Mosteller (eds.), *Meta-Analysis for Explanation*. Beverly Hills, CA: Sage.

Lipsey, M. W., and Wilson, D. B.

1993 The efficacy of psychological, educational, and behavioral treatment: Confirmation from meta-analysis. *American Psychologist* 48:1181-1209.

Lochman, J. E.

1992 Cognitive-behavioral intervention with aggressive boys: Three-year follow-up and preventive effects. *Journal of Consulting and Clinical Psychology* 60:426-432.

Lochman, J. E., Burch, P. R., Curry, J. F., and Lampron, L. B.

1984 Treatment and generalization effects of cognitive-behavioral and goal-setting interventions with aggressive boys. *Journal of Consulting and Clinical Psychology* 52:915-916.

Loeber, R. T., and Dishion, T.

1983 Early predictors of male delinquency: A review. *Psychological Bulletin* 93:68-99.

LoSciuto, L., Rajala, A. K., Townsend, T. N., and Taylor, A. S.

1996 An outcome evaluation of Across Ages: An intergenerational mentoring approach to drug prevention. *Journal of Adolescent Research* 11:116-129.

Malvin, J. H., Moskowitz, J. L., Schaps, E., and Schaeffer, G. A.

1982 Evaluation of Two School-based Alternative Programs. The Napa Project, Napa, CA: Pacific Institute for Research and Evaluation.

Malvin, J., Moskowitz, J., Schaps, E., and Schaeffer, G.

1985 Evaluation of two school-based alternatives programs. *Journal of Alcohol and Drug Education* 30:98-108.

Mayer, G. R., and Butterworth T. W.

1979 A preventive approach to school violence and vandalism: An experimental study. *Personnel and Guidance Journal* 57:436-441.

Mayer, G. R., Butterworth, T. W., Nafpaktitis, M., and Sulzer-Azaroff, B.

1983 Preventing school vandalism and improving discipline: A three-year study. *Journal of Applied Behavior Analysis* 16:355-369.

McPartland, J. M., and Nettles, S. M.

1991 Using community adults as advocates or mentors for at-risk middle school students: A two-year evaluation of Project RAISE. *American Journal of Education* 568-586.

Murray, C. A., Bourque, B. B., and Mileff, S. J.

1981 The National Evaluation of the Cities in Schools Program. Report No. 4: Final Report (Contract No. 400-77-0107). Washington, D.C.: National Institute of Education.

National Institute for Citizen Education in the Law

1988 Annual Report 1987-1988: Expanding Programs to Reduce Crime and Promote Citizenship. Washington, D.C.: NICEL.

O'Donnell, J., Hawkins, J. D., Catalano, R. F., Abbott, R. D., and Day, L. E.

1995 Preventing school failure, drug use, and delinquency among low-income children: Long-term intervention in elementary schools. *American Journal of Orthopsychiatry* 65:87-100.

Office of Juvenile Justice and Delinquency Prevention

1995 Delinquency Prevention Works: Program Summary. Washington, D.C.: OJJDP.

Olweus, D.

1991 Bully/victim problems among schoolchildren: Basic facts and effects of a school based intervention program. In D. J. Pepler and K. H. Rubin (eds.), *The Development and Treatment of Childhood Aggression*. Hillsdale, NJ: Lawrence Erlbaum.

1992 Bullying among schoolchildren: Intervention and prevention. In R. D. Peters, R. J. McMahon, and V. L. Quinsey (eds.), *Aggression and Violence Throughout the Life Span*. Newbury Park, CA: Sage Publications.

Olweus, D., and Alsaker, F. D.

1991 Assessing change in a cohort-longitudinal study with hierarchical data. In D. Magnusson, L. R. Bergman, G. Rudinger, and B. Torestad (eds.), *Problems and Methods in Longitudinal Research: Stability and Change*. Cambridge: Cambridge University Press.

Perry, C. D., Grant, M., Ernberg, G., Florenzano, R. U., Langdon, M. C., Myeni, A. D., Waahlberg, R., Berg, S., Andersson, K., Fisher, J., Blaze-Temple, D., Cross, D., Saunders, B., Jacobs, D. R., and Schmid, T.

1989 WHO collaborative study on alcohol education and young people: Outcomes of a four-country pilot study. *The International Journal of the Addictions* 24:1145-1171.

Reyes, O., and Jason, L. A.

1991 An evaluation of a high school dropout prevention program. *Journal of Community Psychology* 19:221-230.

Ringwalt, C., Greene, J., Ennett, S., Iachan, R., Clayton, R. R., and Leukefeld, C. G.

1994 Past and Future Directions of the DARE Program: An Evaluation Review: Draft Final Report (Award # 91-DD-CX-K053). Washington, D.C.: National Institute of Justice.

Rosenbaum, D. P., Flewelling, R. L., Bailey, S. L., Ringwalt, C. L., and Wilkinson, D. L.

1994 Cops in the classroom: A longitudinal evaluation of drug abuse resistance education (DARE). *Journal of Research in Crime and Delinquency* 31:3-31.

Rosenthal, R., and Rubin, D. B.

1982 A simple, general purpose display of magnitude of experimental effect. *Journal of Educational Psychology* 74:166-169.

Ross, J. G., Saavedra, P. J., Shur, G. H., Winters, F., and Felner, R. D.

1992 The effectiveness of an after-school program for primary grade latchkey students on precursors of substance abuse. *Journal of Community Psychology*, OSAP Special Issue 22-38.

Rossmann, S. B., and Morley, E.

1995 The National Evaluation of Cities in Schools: Executive Summary (Cooperative Agreement #91-JN-CX-K001). Office of Justice and Delinquency Prevention. Washington, D.C.: U.S. Department of Justice.

Rotheram, M. J.

1982 Social skills training with underachievers, disruptive, and exceptional children. *Psychology in the Schools* 19:532-539.

Schaps, E., Bartolo, R. D., Moskowitz, J., Palley, C. S., and Churgin, S.

1981 A review of 127 drug abuse prevention evaluations. *Journal of Drug Issues* 11(1):17-43.

Schinke, S. P., Botvin, G. J., and Orliandi, M. A.

1991 Substance Abuse in Children and Adolescents: Evaluation and Interventions. Newbury Park, CA: Sage Publications.

Slicker, E. K., and Palmer, D. J.

1993 Mentoring at-risk high school students: Evaluation of a school-based program. *The School Counselor* 40:327-334.

Snyder, H. N., Sickmund, M., and Poe-Yamagata, E.

1996 Juvenile Offenders and Victims: 1996 Update on Violence. Washington, D.C.: Office of Juvenile Justice and Delinquency Prevention.

Solomon, D., Watson, M. S., Delucchi, K. L., Schaps, E., and Battistich, V.

1988 Enhancing children's prosocial behavior in the classroom. *American Educational Research Journal* 25:527-554.

Stoil, M., Hill, G., and Brounstein, P. J.

1994 The seven core strategies for ATOD prevention: Findings of the National Structured Evaluation of What is Working Well Where. Paper presented at the 12th annual meeting of the American Public Health Association, Washington, D.C.

Thompson, D. W., and Jason, L. A.

1988 Street gangs and preventive interventions. *Criminal Justice and Behavior* 15:323-333.

Tierney, J. P., Grossman, J. B., and Resch, N. L.

1995 Making a Difference: An Impact Study of Big Brothers/Big Sisters. Philadelphia, PA: Public/Private Ventures.

Tobler, N. A.

1992 Drug prevention programs can work: Research findings. *Journal of Addictive Diseases* 11(3):1-28.

Tobler, N. S.

1986 Meta-analysis of 143 adolescent drug prevention programs: Quantitative outcome results of program participants compared to a control or comparison group. *The Journal of Drug Issues* 16:537-367.

Tolson, E. R., McDonald, S., and Moriarty, A. R.

1992 Peer mediation among high school students: A test of effectiveness. *Social Work in Education* 14:86-93.

Weissberg, R. P., and Caplan, M.

1994 Promoting social competence and preventing antisocial behavior in young urban adolescents. Manuscript submitted for publication.

Weissburg, R. P., Caplan, M. Z., and Sivo, P. J.

1989 A new conceptual framework for establishing school-based social competence promotion programs. In L. A. Bond and B. E. Compas (eds.), *Primary Prevention and Promotion in the Schools*. New York: Sage.

Weissberg, R. P., and Greenberg, M. T.

In press School and community competence-enhancement and prevention programs. In W. Damon (Series ed.) and I. E. Sigel

and K. A. Renniger (Vol. eds.), *Handbook of Child Psychology: Vol. 5. Child Psychology in Practice* (5th ed.). New York: John Wiley and Sons.

Youth Today

1994 Youth crime prevention. *Youth Today* 3(6):6-7.

Chapter Six

LABOR MARKETS AND CRIME RISK FACTORS

by Shawn Bushway and Peter Reuter

I. INTRODUCTION

Employment and crime have a complex relationship. For an individual, they can be substitutes or complements. For example, some people choose crime rather than legitimate work because of an expectation that they can make more money from crime and/or because they find it more rewarding in other ways (Katz, 1989; Bourgois, 1995). On the other hand, the workplace can offer opportunities for certain kinds of crimes that are more difficult to commit elsewhere, such as theft of inventory or selling of gambling services.

The relationship between employment and crime at the community level the relationship is equally ambiguous. Crime in a community is the outcome of the intersection between the propensity to commit a crime and the opportunity to commit a crime. For example, in a given community over time, high employment may be associated with reduced presence of residents and greater wealth, thus increasing criminal opportunities. On the other hand, low employment also provides better legitimate work opportunities for potential offenders, thus reducing their propensity to commit crime. Looking across communities, one can see the same potentially countervailing influences; poor communities offer weak job prospects but also (except for drug markets) financially unrewarding criminal opportunities. At this level, crime rates may depend not on the level of employment but on a much more fundamental set of social and individual characteristics.

Pure theory is not likely then to provide guidance about the strength or direction of the relationship between employment and crime. However it is at least plausible that a strong negative relationship exists. At the descriptive level, those who commit crimes tend to be out of the labor force or unemployed. The communities in which crime, particularly violent crime, is so heavily concentrated show persistently high jobless rates. Increasing employment and the potential for employment for individuals and communities currently at high risk of persistent joblessness may have a substantial preventive effect on crime. Thus a comprehensive assessment of crime prevention programs should include those aimed at increasing employment.

Our review includes any program which aims to increase the employment of individuals or populations at risk of serious criminal involvement. We exclude general economic stimulus policies, (e.g., looser monetary policy aimed at lowering interest rates) though these may in theory reduce crime; such policies are driven by other factors and in any case the evidence on the aggregate relationship between employment and crime is very ambiguous. We include, however, a range of community and individual programs which do not specifically target crime, as indicated by the frequent omission of crime, or even risk-factors for crime, as an outcome measure. Thus much of this review assesses just how well such job-training and creation programs, distinct from those aimed at criminal-justice-involved offenders, actually do at increasing employment for the targeted community or individual. The crime consequences are inferred from our review of the relationship between employment and crime at various levels.

For policy purposes the reciprocal relationship of crime and employment presents a major challenge. Areas of high crime are unattractive for investment. Both property and personnel are at risk; goods are stolen, premises damaged, employees assaulted and customers intimidated. Attracting capital requires a reduction in crime so as to allay the legitimate concerns of investors/employers. On the other hand, crime reduction on a large scale may require the creation of employment opportunities for the large numbers of young adults that are the source of so much of the crime in the area. At the same time, many offenders lack the skills needed to obtain and retain attractive jobs, that is positions that pay enough to avoid poverty (well above the minimum wage for a two-parent, two-child household with only one wage earner) and which offer potential progress and a sense of accomplishment. Thus improving their work force skills may be essential even when capital can be attracted into the community.

Existing programs aimed at reducing crime through employment and/or increasing employment in high crime areas fall into the following two main categories:

- Supply-side programs aim to improve the attractiveness of individuals to employers. Mostly these programs increase the potential productivity of the worker through education or job training. However the category includes programs that take account of the fact that many high risk individuals are handicapped by their location. These programs move people to jobs, either by transportation subsidies or by actually providing access to housing in lower crime communities nearer areas of high employment potential. The latter also may have crime prevention effects by allowing children to grow up in communities with more employed adult role models.
- Demand-side programs aim to reduce the costs of employment borne by the employer. One way to do this is through wage supplements or subsidized bonds (insuring the employer against theft by the employee) for ex-offenders. Another alternative is community development programs which lower costs for businesses locating in particularly needy communities. The influx of capital into communities characterized by low employment and high crime should generate jobs and thus, by a variety of mechanisms, reduce crime in the community.

Section II briefly surveys the theoretical and empirical literature on the relationship between crime and employment at various levels. Sections III and IV survey supply and demand side programs. Each examines the evaluation evidence on program outcomes: For only a very few evaluations do we have explicit findings on the crime consequences of the intervention; the rest providing only employment measures. Section V then offers an integration of all these findings and Section VI offers conclusions and recommendations.

II. THE RELATIONSHIP BETWEEN EMPLOYMENT AND CRIME

The relationship between crime and employment has been a long standing issue in research, involving a range of paradigms.¹ Fagan (1995) and Freeman (1995) provide recent reviews, particularly focused on understanding how the returns from crime and legitimate work jointly affect the decision to engage in crime. We propose here to give more attention to the multiplicity of relationships between the criminal participation and work opportunities that operate at different levels (individual and community) and at different points in an individual's life-span (school, young adult, adult). Our goal is not to make theoretical contributions but to give a better grounding to an analysis of programmatic and policy options.

Theoretical Perspective

Fagan (1995) and Uggen (1994) have identified four major theoretical explanations for the link between employment and crime: economic choice, social control, strain, and labeling theory.

Economic choice theory (Ehrlich, 1973) posits that an individual makes choices between legal and illegal work based partly on the relative attractiveness of the two options. Moral values still influence actions but are assumed not to change with economic factors. It is, like economic theory generally, about response to changes or differences. If legal work becomes less rewarding or if illegal work becomes more rewarding, individuals may shift to crime and away from legal work. Education plays a role in framing choices; low educational attainment, which now puts young males at risk of frequent periods of unemployment and of achieving only low paying and unsatisfactory jobs, will be associated with high crime participation. This is exactly what Freeman claims happened in the late 1980's: "Given the well-documented growth of [legitimate] earnings inequality and fall in the job opportunities for less-skilled young men in this period, and the increased criminal opportunities due to the growth of demand for drugs, the economist finds appealing the notion that the increased propensity for crime is a rational response to increased job market incentives to commit crime." (Freeman, 1995:177-178.)

Notice that within this theory, the crimes in question are income-generating crimes which are used to replace income gained from legitimate means. The theory offers no account of non-income generating crime. Much violent crime is expressive (e.g., an enactment of drunken anger) rather than instrumental (e.g., aimed at ensuring success of a robbery). However economic theory is not entirely silent on violent crime. Employment should raise the opportunity cost of incarceration (i.e. what the individual loses with his freedom), both through loss of earnings and the loss of work experience; this might deter acts that endanger the individual's freedom.

The economic choice framework allows individuals to engage in both legitimate work and crime simultaneously; this is appropriate as most offenders also maintain some relationship to the workplace over their criminal careers (Reuter et al., 1990). What may be affected by changes in the relative attractiveness of crime and legitimate work is the allocation of time between the

two types of income generating activities; better employment opportunities reduce the fraction of time going to crime. Importantly, this theory has further implications beyond a simple contemporaneous choice of legal versus illegal work. The individual, particularly in adolescent years, also has to decide how much to invest in human capital (education and other workforce relevant skills). If the legal labor market opportunities appear weak, a youth is less likely to make adequate investment in acquiring the human capital necessary for success in the legal labor market. As a result, this theory can explain both participation in income-generating crime and under-investment in human capital which reduces legitimate income later.

Control theory claims that employment exerts social control over an individual (Gottfredson and Hirschi, 1990). The absence of employment for an individual leads to a breakdown of positive social bonds for that individual. That in turn is hypothesized to induce the individual to increase his criminal activity, both violent and income related. This theory, expanded naturally to cover not just individuals but areas, is a key part of William Julius Wilson's analysis of inner city problems. Using a series of carefully constructed studies of poverty areas in Chicago, he claims "many of today's problems in the inner-city ghetto neighborhoods - crime, family dissolution, welfare, low levels of social organization and so on are fundamentally a consequence of a disappearance of work" (Wilson, 1996: xiii). Employment is seen as the main builder of pro-social bonds and institutions in a community and its absence results in large scale disorder.

Anomie is another more aggregate level theory (see Uggen [1994] for a concise summary targeted to this issue). This theory suggests that frustration caused by income inequality and other aggregate level problems will cause individuals to resort to crime out of frustration.

One small area of theory that explicitly includes the idea that crime itself could be criminogenic is *labeling theory* (Lemert, 1951). Individuals who participate in crime acquire stigmatic labels (both to others and to themselves) and are then denied opportunities because of these labels. What is intriguing about this theory is that it suggests the very real possibility of feedback between employment and crime. This feedback suggests that cessation from crime will be difficult once criminal activity has been initiated, particularly if the offender acquires an official record (see Schwartz and Skolnick [1964], Nagin and Waldfogel [1994, 1995], Bushway [1996]).

Labeling theory points also to a community level connection between crime and employment- joblessness in an area may be caused by past criminal activity of the residents, as well as the converse. In a sense the community or area is "labeled", which makes it difficult for the community to attract investment. This is a point first made forcefully by former NIJ Director James K. Stewart (1986).

These theories, potentially complementary, point to important potential feedback between crime and unemployment. Programs aimed solely at improving an individual's employability (motivated by economic choice) or solely at increasing the number of jobs in an area (motivated by all four theories) are vulnerable, the first to the failure of program graduates to find jobs and the second simply to the difficulty of achieving the goal of providing jobs. In the extreme case, a community including many individuals with low human capital, limited ties to positive social structures and institutions, and negative labels is likely to be characterized by both high crime and low employment, with complex interaction between the two problems. Theory suggests that areas characterized by both high crime and low employment require attention to all three factors: weak social institutions, low human capital and negative labels.

Research on Crime and Employment

We now review empirical research aimed at assessing the relationship between crime and employment,² a necessary bridge between the theories and the program evaluations. This research has been conducted at many different levels of aggregation, including national time-series data, state and local cross-sectional data and individual-level data.

National level. A review by Chiricos (1986) finds that most national level analyses have yielded weak results on the crime-employment relationship. Freeman (1994) claims that this is primarily because of the weakness in the time-series statistical model with national data. One exception is a paper by Cook and Zarkin (1985). They report mixed results from an analysis of business cycles from 1933 to 1982. In general, crime has increased over the last 50 years. However, homicide rates did not vary systematically with the business cycle while the rate of increase in burglary and robbery has been higher during the economic downturns than during the upturns. This is consistent with the idea that low employment leads to an increased propensity to commit property crime while violent crime is driven by other factors. At the same time, they found that auto-theft was actually pro-cyclical--- auto-theft increased faster when the economy improved and more slowly when the economy declined. This is consistent with the idea that the opportunity for auto-theft increases when employment (and hence disposable income) increases. We shall present no other findings at this level of aggregation because it seems to provide least insight into those policy issues with which we are particularly concerned.

Community Level Chiricos does find, however, that at lower levels of aggregation (states, counties and cities) roughly half of all reported studies show a positive and statistically significant relationship between employment and crime, using post-1970 data.³ The fraction of positive results increases to almost 75 percent of all studies when property crimes are analyzed separately from violent crimes.

Individual level Analyses of individual level data have attracted more attention as these data have become available. Studies of the 1945 Philadelphia birth cohort have shown that unemployment is associated with crime (e.g., Wolfgang, Figlio, Sellin, 1972), a finding that is reported in numerous other studies. However the causality is uncertain. Sampson and Laub (1993) argue that employment per se or by itself does not reduce crime or increase social control; it is only stability, commitment and responsibility that may be associated with getting a job that has crime reducing consequences. Gottfredson and Hirschi (1990) argue that the relationship is essentially spurious, reflection of a common third factor which they call the level of individual social control.

Economic choice theory is further supported by evidence showing that human capital influences earnings, and earnings influence recidivism by ex-offenders (Needels, 1996). Social control theory seems to have relevance, too, within the context of economic choice. Farrington et al. (1986) tie crime more directly to employment by examining the timing of crime and employment over almost 3 years for a sample of teenage males in England. They show that property crimes are committed more frequently during periods of joblessness. However, this relationship held only for those who were predisposed to crime (as reflected by self-reports on earlier criminal activity and moral values); otherwise spells of joblessness did not induce more criminal offending.

This brief review establishes that researchers have measured a relationship between crime and employment, and that a number of mechanisms, operating both at the individual and community level, may explain the relationship. The key remaining question is whether or not programs aimed at increasing employment for at-risk populations can attain that goal and reduce crime.

III. SUPPLY SIDE PROGRAMS

Job Training and Education

The earliest labor market-oriented crime prevention programs followed just this logic -- providing legitimate employment or employment skills to at-risk individuals would reduce their criminal participation. Numerous programs were developed to provide basic education, vocational training and work experience for youth in high crime and high unemployment communities. The federal government spends large sums (\$2.5 billion in 1994⁴) on skills-developing programs aimed at increasing the employment prospects of individuals who are at high risk of being persistently unemployed. Most of these interventions target youth, particularly adolescents, on the reasonable assumption that early interventions have higher pay-off if successful. The other large set of interventions targets those already involved with the criminal justice system, since they are also known to have low human capital.

We will consider these two groups of interventions separately, since the division corresponds to differences in institutions and outcome measures. The programs for youth generally are provided by social service agencies while those for offenders frequently occur in correctional settings. Moreover criminal justice program evaluations almost always include recidivism as an outcome measure, and sometimes do not include employment, while the general population programs always include employment as an outcome measure but rarely crime. Programs are further divided into those aimed at youth, broadly defined, and those aimed at adults; these have different theoretical justifications and programmatic content.

Job Training Programs Connected to the Criminal Justice System

Introduction

Targeting human capital development programs at offenders while in, or just leaving, the criminal justice system has the merit of focusing resources on the highest risk group. It is a human services equivalent of Willie Sutton's famous line about the banks; in this case, we are going where the crime is. Like Sutton's strategy, it also has an obvious weakness; just as banks are well guarded, so offenders in the criminal justice system have already developed behavior patterns that are difficult to reverse with educational programs.

We divide programs by age of the target population: juvenile and adult. That reflects the fact that juveniles seem most suitable for programs that focus on the development of human capital, as is true of education generally; adult programs give more

emphasis on reintegration into the workforce. We will also distinguish programs by whether they are in prison or post-release.

Juvenile Offenders⁵

Young offenders are confined in institutions which generally give more emphasis to rehabilitation than do adult correctional facilities. Education and training programs frequently fit into a broad array of habilitation and rehabilitation services generally. Indeed, it is difficult to identify the main effects of these programs alone, precisely because they are imbedded into a bigger set (e.g., cognitive therapy, substance abuse treatment) which may interact with education and training.

Generally the findings are of negligible or modest effects; see Table 6-1. All evaluations point to a problem getting participants to complete the program once started; high drop out rates indicate either that the program was poorly implemented or it was unattractive to many of the participants. Some of the programs also involved a very low level of services for the clients; even if they were well done it would seem implausible that they could have large behavioral consequences.

TABLE 6-1

Criminal Justice System Programs

Studies	Scientific Method Score	Description of Intervention and Findings
	(Number of cases Treatment/control)	
YOUTH		
Greenwood & Turner 1993, Paint Creek Youth Center groups.	5 (73/75)	PCYC offers a comprehensive array of including counseling, peer support and skills data showed no significant differences in delinquency between experimental and control groups.
Lattimore, et al. 1990, Vocational Delivery System	5 (154/130)	VDS involved the use of vocational skills employment skills training. 36% of the of the control group, were re-arrested significant $p < .10$).
Leiber & Mawhorr 1995, Second Chance program comparison (37% compared to 29%).	3 (57/56)	Rehabilitative strategy that uses social training, and job placement opportunities (4 the treatment intervention are as likely to offending as are the equivalent matched
Piliavin & Masters 1981, Supported Work (2200 ex-offenders1400	5	Low-skilled and low-wage rate jobs provided than 12-18 months. Found little effect on employment or on their criminal activity

after program participation; for
 ex-addicts 1200 youth) those over 35, increased
 found.

adult offenders and drug addicts, especially
 employment and reduced crime effects were

ADULTS

Adams, et al. 3
 programs bore no relation to
 1994, PERP
 returned to prison did not vary
 (5608/ 8001)
 non-program inmates.

Participation in academic and vocational
 reincarceration; the % of inmates who were
 significantly across groups of program and

Berk, et al. 5
 unemployment benefits at several
 1980, TARP
 Membership in any of the
 (775/200)
 payments of job counseling had no
 property or non-property

Intervention included the eligibility for
 levels of the alternative of job counseling.
 three experimental groups eligible for
 statistically significant impact on either
 arrests.

1976, Baltimore 5
 maintenance(3 months), job
 LIFE
 groups were re-arrested for
 (216/ 216)
 significant) than control and job
 less for other crimes (not

Treatment groups received either income
 placement or both. Financial aid treatment
 property crimes 8.3% less (statistically
 assistance groups; they were re-arrested 7%
 statis. sign.)

Finn & 3
 no effect on employment at
 Willoughby 1996,
 of being long-term unemployed
 JTPA (521/734)
 employment.

Findings suggest that ex-offender status had
 termination or follow-up; only the barrier
 negatively influenced prospect of

Hartmann, et al. 3
 classes, job club peer support, life
 1994, KPEP
 successfully completed the program
 (156)
 than those who did not

Treatment included employment skills
 skills and GED training. Offenders who
 were significantly less likely to recidivate
 (felony arrest p<.004; any arrest p<.005).

Henry 1988, CADD 3
 skills along with substance abuse
 industry working inmates and
 (34/56)
 proportion of disciplinary reports

Provided inmates with job training and
 counseling. No difference found between
 non-industry inmates with regard to the
 per month in prison.

Home Builders 1
 carpentry training program for
 1996, TRADE

Involves an 8 week pre-apprenticeship
 incarcerated adult offenders. Well over

half of program graduates were
(219)
sites; 3 month. recidivism
those of other vocational

Maguire, et al. 3
prison industry for at least 6
1988, PIRP
differences between the two
(399/497)
and non-industry participants

Menon, et al. 3
and vocational training
1992, Project
assistance post -release. It
RIO (Evaluation not
Tax Credit program and federal
clear)
prospective employers. Positive and
negative and significant impact on
offenders.

Piliavin & 5
participation on ex-offender employment
Gartner 1981,
control differential in hrs.
Supported Work (1117/1194)
recidivism impact.

Saylor & Gaes 3
industry, or had received
1996, PREP
findings (8 yrs.) show that
(over 7000)
survival times (time before
group; training program subgroup
are statistically significant.

Spencer 1980, 4
placement, and special
Ex-Offender
in the Clearinghouse program
Clearinghouse (478/478)
employment and/or constructive

Van Stelle 1995, 4
release transition services
STEP
were no significant differences
(89/42)
to arrest after release.

placed in related jobs in 4 out of the 5
results (7.3%) are consistent or better than
programs.

Intervention involved participation in
continuous months. After controlling for
groups, the recidivism rates for industry
were virtually identical.

RIO provides services such as educational
pre-release and job search and placement
also uses vouchers from the Targeted Jobs
bonding as special incentives for
significant impact on employment and
recidivism, particularly for the high risk

Strong positive effect of program
declines over time until the experimental-
worked per month has disappeared (1 yr); no

Treatment group had either worked in prison
in-prison vocational instruction. Long-term
male prison industry subgroup had 20% longer
committing new offense) than comparison
had 28% longer survival times: both results

Treatment involved career counseling, job
counseling services. Ex-offenders enrolled
were significantly more likely to obtain
activity than those not enrolled.

Provides in-prison training, as well as post-
such as job placement assistance. There
between graduates and controls with regard

<p>Vera Institute opportunities such as job training or 1972, in lieu of tradition court Manhattan Court of operation, the re-arrest Employment was about 50% less than that of Project (214/91) No reported results for entire</p>	4	<p>Offers counseling and vocational academic placement for a period of 90 days disposition. During the initial 23 months rate for the successfully dismissed group the terminated or control groups ($p < .01$). treatment group vs. control.</p>
<p>Baker and Sadd opportunities such as job training or 1981, in lieu of traditional court Court Employment recidivism between the treatment Project months or after 23 months. (410/256)</p>	5	<p>Offers counseling and vocational academic placement for a period of 120 days disposition. There was no difference in and control groups initially, after 12</p>

For example, Lattimore, Witte and Baker (1990) report a randomized control trial, one of the few in the literature, for 18-22 year old offenders in two North Carolina prisons. We classify this as a juvenile population because the subjects are indeed early in their post-school careers but note that they have been serving time in adult correctional facilities. 295 inmates were enrolled in a Vocational Delivery System (VDS) aimed at identifying vocational interests and aptitudes, providing appropriate training for the individual and then helping with post-release employment. Subjects were picked from all inmates in the two institutions who were aged 18-22, committed for property offenses, had IQ no less than 70, were in good health and within 8 to 36 months of an in-state release. Data were available for 154 of the experimental and 130 of the controls at approximately the two-year mark.⁶

No employment results were reported; thus the impact of the program on workplace performance must be inferred from the impact on crime. But "(t)hose participating in the program were more likely than control group members to complete vocational training and other programs. . . . VDS participants were less likely to be arrested following release from prison." (p.117) At 24 months the control group showed a 50 percent recidivism rate (based on arrest records) compared to 40 percent for the experimental group. The difference was only weakly significant (10 percent level) and barely that for tests on other outcome measures. This relatively large effect exists even though only 18% of the people assigned to the VDS program actually completed the program. The completers (i.e. those who received all the services included in VDS) were substantially less likely to be arrested. This combination of high dropout and excellent results for completers is typical of other programs that strive to challenge enrollees. The problem is that researchers do not know whether or not the program completers are the same people who would have succeeded in the absence of the program - therefore looking only at the program graduates leads to selection bias. On the positive side, this study provides evidence that vocational programs aimed at young property offenders could have positive outcomes if implementation and participation problems could be resolved.

Piliavin and Masters (1981) report similar weak findings for youth enrolled in the "Supported Work" program, using a randomized assignment of 861 youth (average age 18) in five sites. The program lasted 12-18 months and provided work experience along with a stipend in a sheltered work environment. Although this program was not officially run through the criminal justice system, we include it in this section because two thirds of the youth had an arrest before entry into the program and 28 percent had been incarcerated, for an average of 20 weeks; they were predominantly Black (78%) and Hispanic (16%).

Both employment and official criminal justice outcomes were reported. The labor market outcome differences were non-significant and small; e.g., at 36 months the experimental group worked 83.3 hours per month, compared to 75.8 for the control group. The crime differences were weakly significant (10 percent level). At 27 months, 30 percent of the experimental group had been arrested, compared to 39 percent of the control group; the difference was larger and had greater statistical significance for those without prior arrest. Although this effect size is relatively large (a 30% difference between controls and experimentals more than 2 years after the program ended), the evaluators concluded that there was no evidence of an effect for youth. As in the

VDS case, the evaluators point to failure of most participants to complete the program as one of the sources of error in the study.

Other programs tended to have fewer resources, and the evaluations have weaker designs. Leiber and Mawhorr (1995) used a variety of matched control groups to assess the impact of the Second Chance program on youth who were in court but not yet sentenced to an institution. Second Chance involves 16 weekly group meetings aimed at developing certain social skills, along with a pre-employment training program (including how to conduct an independent job search, interview for a job and demonstrate good work habits). With 85 program entrants (only 57 of whom completed it), the test does not have much statistical power. The findings were of no significant differences in official arrests; the control group actually showed lower recidivism than the experimental group (completers or drop-outs). Again the evaluation pointed to the lack of treatment integrity. Note that this program also involved more than just training and education.

A recent OJJDP review of correctional educational programs noted the lack of rigorous evaluation of juvenile vocational education programs within the criminal justice system (OJJDP, 1994).⁷ The one "rigorous" evaluation cited by OJJDP is the New Pride program in Denver. New Pride is a community-based program that provides a year of intensive non-residential treatment and training, including participation in an on-site business run by the program. The evaluation consisted of tracking the success of the program participants without any comparison group. This is a poor evaluation design that does not meet minimal standards (less than a "1" on our scale). Widespread replication of this program, while encouraged by its evaluators (James and Granville [1984]), does not appear to be justified by the quality of the evaluation.

Adult Offenders

Though both theory and political rhetoric emphasize juveniles as the most suitable targets for training and education, a large fraction of adult offenders in the criminal justice system have poor educational and job market records. That fact was the original source of interest in the early 1960's in assessing whether recidivism might be reduced by providing these adults with additional educational and job skills. Moreover the life course model of crime suggests that many offenders may be more receptive to work than adolescents.

Secondary reviews from the early 1970's, after these programs had been around for roughly 10 years, were uniformly negative. The Department of Labor's Manpower Administration sponsored research on these programs, and provided a comprehensive review of the research in 1973 (Rovner-Pieczenik, 1973). Despite strong commitment and great enthusiasm by program operators, the study reluctantly reports that very few programs led to a substantial decline in recidivism. By way of explanation, the report highlights problems in persuading correctional institutions to focus on education and post-release objectives. The report also highlights the great educational deficits of the offenders, who are generally high school dropouts reading several years below grade level with no discernible job skills. The author concluded "that we entertain no fantasies about the degree of change which manpower projects for the offender can help to bring about. Some offenders will remain unemployed and unemployable no matter what programs are available." (Rovner-Pieczenik, 1973:77)

These disappointing conclusions were communicated to a much broader audience with Martinson's (1974) widely read review of 231 rehabilitative (including employment-based) programs. Martinson concluded that "with few and isolated exceptions the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism" (p.25). This report has often been held responsible for the decline of the rehabilitative model in corrections (see the chapter on Corrections in this volume) and has limited the research done on these programs.

The sheer numbers of offenders, however, have led correctional officials to continue their efforts to curtail recidivism by reintegrating ex-offenders into the workforce. We found only one recent secondary review of adult offender prison educational programs (Gerber and Fritsch 1993), which (unsurprisingly) is explicitly oriented at rebutting the pessimism of Martinson. Most of the evaluations reviewed compare program enrollees with a matched comparison group of people who did not enroll in the program. These evaluations are subject to selection bias, since people who enroll in the programs are likely to be more motivated than those who do not enroll. These motivated people might be expected to do better even without training programs.

Given this caveat, the review found that three out of six studies of pre-college education programs consisting of classroom education had a negative and significant (but small) impact on post-release recidivism. Three out of four programs showed a statistically significant increase in post-release employment. Four out of six college education programs (again primarily classroom education) showed a statistically significant decline in post-release recidivism, although the effect was small, and there is no evidence that college education leads to increased employment outcomes. Finally, four out of six studies found that vocational education consisting of participation in training and prison industry programs leads to a decline in post-release recidivism. Only two out of four studies showed that vocational education actually led to improvement in post-release employment outcomes. In fact, the one study that had some random assignment (Markley 1983) showed that vocational

education had no effect on post-release recidivism or employment. The report concludes that while the evidence is mixed (and therefore encouraging), better evaluations which control for selection bias are needed.

Our own review of these programs found that it is difficult often to tell exactly what is involved in a program. For example, one of the better studies of prison industry programs was done by the U.S. Bureau of Prisons (Saylor and Gaes, 1996), following 7,000 individuals. Inmates were considered to have participated in the program if they had participated in industrial work within the prison, or had received in-prison vocational training or apprenticeship training. This program participation is so broad that it is hard to determine which program or program element led to the observed 35% decline in re-arrests (by federal authorities only) for program participants relative to the control group. On the plus side, this seems to be clear evidence that vocational education in federal prisons helps to reduce crime. This is an important positive contribution. However, the lack of precision makes replication in other prison systems difficult. What program worked, and did it work by increasing employment?⁸

This study also highlights the problem of selection bias. When program participation is open to everyone with no restrictions, it becomes difficult to claim that the non-participants are identical to the participants even if regressions are used to control for observed differences between the groups. Unobserved differences in motivation could account for much of the resulting change in behavior, otherwise attributed to the training/vocational program.

We found one prison-based program which attempted to perform a true randomized experiment to control for selection bias. This program -- Specialized Training and Employment Project or STEP -- was run by the Wisconsin Department of Corrections and evaluated by the University of Wisconsin Medical School (Van Stelle, 1995). This program randomly assigned a well-defined group of offenders to a six-month program prior to release which included participation incentives, classroom and job training in the institution, and post-release employment assistance. This project showed no decline in recidivism after the first year of the program, but the process evaluation stressed the extraordinary difficulty in implementing a program of this intensity within the prison system.

Another approach which avoided prisons entirely was the pre-trial intervention, a major movement during the 1970's. The concept of pre-trial diversions was attached to the labor market in the Court Employment Project. This was evaluated twice by the Vera Institute, first in the late 1960's (Vera Institute 1970), and then again during 1977-1979 (Baker and Sadd, 1981). In the first less rigorous study, non-serious offenders were offered the opportunity to participate in a 90-day job training and placement program. Successful completion of the program resulted in the dismissal of all charges. Less than half of the participants successfully completed the program. 12 months after the completion of the program, only 15.8% of the successful completers had recidivated, compared to 31% of the non-completers and the control group. Again, the problem of selection bias eliminates the ability to say for sure that the program worked -- the difference between all the program participants (23.6% recidivism rate) and the control group was not statistically significant. Low dosage, problems with implementation and data collection are again cited as part of the reason for the weak results.

By the time the more rigorous study was undertaken almost 8 years later, the program had been assumed into the New York City government and had grown significantly. 410 arrestees were assigned to the program, while 256 controls went through the normal court process. The evaluators found no statistically significant difference between recidivism for the two groups, during the diversion period, twelve months after the diversion or 23 months after the diversion. Partial explanations for the failure of the program include the large disturbance in the program immediately before the evaluation due to New York City's budget crisis. However, the evaluators concluded that there were systematic problems with the structure of the pre-trial diversions. For example, counselors did not believe that it was realistic to change the attitude of offenders towards work in 4 months, especially since participants typically lived in criminogenic environments removed from the world of work. Therefore, the training program was not seen as a route to real employment (and hence non-recidivism) but rather as a route away from jail time. In addition, the evaluators felt that the prosecutors had started using the program to control offenders who would otherwise have their cases dismissed, instead of diverting cases which would not be dismissed away from the courts (Hillsman, 1982).

Another approach concentrates on transitional assistance after an individual leaves prison. Job Training Partnership Act (JTPA) programs have attempted to help ex-prisoners by giving them a) job search assistance, b) remedial education, c) occupational skills, d) work experience, e) on-the-job training, or f) customized training for a particular employer. The one evaluation of these programs (Finn and Willoughby, 1996) looked at all 521 ex-prisoners who enrolled in JTPA training programs in the state of Georgia for one year starting in July 1989. These enrollees were compared to 734 non-offender JTPA participants. The researchers found no sign of any difference in employment outcomes either at program termination or 14 weeks after termination between the ex-prisoners and the non-offenders. This result is hard to interpret. Other studies have shown a consistent difference between ex-offenders and other workers. Perhaps the finding of no difference indicates that JTPA programs have helped eliminate some of the stigma of offending. However, since JTPA programs are generally regarded as only minimally effective at improving employment outcomes, that conclusion is hypothetical at best.

Another large federally-funded program tried in the late 1970's involved the use of income supplements during post-release in order to lessen the need to commit crime for money at a time when it may be particularly difficult to find a job. These randomized experiments known collectively as the Transitional Aid Research Project [TARP] (Berk, Lenihan and Rossi, 1980) showed that no combination of job training and transitional income support could reduce arrest rates. TARP built on a smaller Baltimore LIFE (Living Insurance for Ex-Offenders) experiment, carefully designed and evaluated (Mallar and Thornton, 1978; Rossi, Berk and Lenihan, 1980; Myers, 1982): The LIFE evaluations found that even combinations of job assistance and counseling for one year had no impact on recidivism but that the transitional payments did make a statistically significant difference. Perhaps TARP could not maintain the program integrity of LIFE once the program was expanded.

Despite the failure of TARP, long term follow-up of the Georgia TARP subjects by Needels (1996) demonstrated that the intuition of these programs is still valid - Needels found that the ex-offenders with jobs commit fewer crimes than the ex-offenders without jobs, and those with higher earnings commit fewer crimes than those with lower earnings. Even after 30 years of trying, however, no program -- in-prison training, transitional assistance (both in kind and monetary assistance) or pre-trial diversion -- has consistently shown itself capable (through a rigorous random assignment evaluation) of decreasing recidivism through labor-market orientated programs, inside or outside of prison. These results might exist because offenders are either too deeply entrenched in crime or the criminal justice system is not an effective delivery system for these types of programs.

Offender-based programs come late in criminal careers, simply because incarceration or even conviction tends to come late. There are strong arguments for intervening early. The next subsection reviews programs that are aimed at high-risk youth before they become involved with the criminal justice system.

Job Training and Education Programs for At-Risk Youth

A large number of relatively well-funded governmental programs have tried to boost the labor market performance of at-risk youths (high school drop-outs, kids from poor households or poor communities). Although we do not have total expenditures for all such job training programs, the largest single program, Job Corps, enrolled 60,000 youth at a total cost of \$970 million in 1993, while Title II-C of the JTPA (Job Training and Partnership Act)⁹ enrolled 360,000 youth at a total cost of \$650 million. These programs have undoubtedly attracted the largest amount of government spending of any single labor market category in this review. Encouragingly, there are also many rigorous evaluations, with most studies using some form of randomized experiment (method score 4 or higher); see Table 6-2. In reviewing the findings of these evaluations, we rely primarily on three reviews of the literature: Donohue and Siegelman (1996), Heckman, (1994) and U.S. Department of Labor (1995).

Programs aimed at youth tend to take three forms, arrayed below in order of increasing expense and program intensity.

1) *The provision of summer work or other forms of subsidized employment in either public or private sector organizations.*¹⁰ These programs typically cost about \$1,000 (in terms of 1995 dollars) per participant and lasted about three months. The Summer Youth Employment and Training Program [SYETP] is the Department of Labor's current summer jobs program, providing minimum wage summer jobs and some education to hundreds of thousands of disadvantaged youth, aged 14-21. Less typical is the more intense Supported Work program from the late 1970s, which provided about one year of full-time public sector employment to minority high school drop-outs aged 17-20, with job search assistance at the end of the work period.

TABLE 6-2

Non-Criminal Justice System: At-Risk Youth

Studies	Scientific Method Score (Number of cases Treatment/control)	Description of Intervention and Findings
Summer Jobs/ Subsidized Work		
Ahlstrom & modified academic program. Havighurst	3	Combines work experience program with a There appeared to a negative effect on arrest, as the experimental

1982, Kansas (~100/~100)
age of 16 than was the
City Work/Study

group was more likely to be arrested by the
comparison group (51% versus 36%).

Cave & Quint 5
jobs, workshops and
1990, Career
lasting from junior year of
Beginnings (621/612)
Experimentals were 9.7% more likely

Services of Career Beginnings include summer
classes, counseling and the use of mentors
high school through graduation.

signif);they therefore worked

to attend college than controls (stat.
less and earned less.

Farkas, et al. 4
time school year jobs to
1982, YIEPP
School year employment
(2778/ 1255)
employment increased from about

Guaranteed full-time summer jobs and part-
disadvantaged youth who stayed in school.
doubled from 20% to 40%, while summer
35% to 45%; however, YIEPP was unable to
school enrollment and success despite the
requirement.

attain its goals of increased
school enrollment

Grossman & Sipe 5
remediation, life skills,
1992, STEP
support. STEP had little
(1613/1613)
experience and had not altered
out-of-school youth.

Program lasting 15 months which involves
summer jobs over two years and school-year
or no impact on youth's educational
employment patterns for either in-school or

Maynard 1980, 5
which offers limited term
Supported Work
up to 12 or 18 months.,
(570/682)
supervision. Up to 18
significantly larger % of treatment
significant impact on arrest rate

Structured transitional employment program
employment at relatively low wage rates for
combined with peer group support and close
months post-program, there was a
group youth employed; there was no
of youths.

Summer Youth N/A
appears to greatly increase
Employment and
youth in sites where jobs
Training
SYETP creates positive
Program (SYETP)
participants leave their summer

Provides summer jobs for youth. Program
summer employment rates among disadvantaged
are provided; have not investigated whether
long-term impacts on employment after
jobs.

Short-Term Training Programs

Bloom 1994, 5
for disadvantaged youth

Federal government's major training program

JTPA
services including on-the-job
(total of 4777)
assistance (an average of
increase in earnings was
rates.

which provides on average of 5 months of
training, classroom training, and job search
420 hrs of service). After 30 months no
found, and there was no decrease in crime

Cave, et al. 5
skills, occupational skills
1993, JOBSTART
and job placement
(988/953)
increase in the rate of GED

Provides instruction in basic academic
training, training related support services
assistance. JOBSTART led to a significant
attainment, or completion of high school.

In the final two years of
appeared to overtake those of
was not significant.

the follow-up, experimentals' earnings
controls, but the magnitude of this impact

Wolf, et al. 4
services and job
1982, 70001
(an average of 80-90 hrs.
Ltd. (535/ 440)
up (24-40 months.), there
reported; however, significant

Provides job search assistance, educational
preparation classes to high school dropouts
Of services are given). On long-term follow-
were no significant earnings impact
positive impact on GED attainment.

Intensive Residential Programs

Mallar, et al. 4
skills training, basic
1982, Job Corps
placement for one year. Average
(4334/ 1457)
earnings increase and a
significant). Also, a large
and college enrollment.

Residential program that provides intensive
education, support services and job
over first 4 years after program exit of 15%
reduction in serious (felony) crime (both
and significant increase in GED attainment

Wolf, et al. 3
resource agencies with youth
1987,
CCC is not an effective
California (943/1083)
participants when they first enter
Conservation
earnings of disadvantaged
Corps.
increased their hours

Combines work sponsored by various public
development activities for up to one year.
way of raising the earnings of all
the labor market; however, it did improve
residential corps members and significantly
worked, post-program.

2) *Short-term training with job placement for out-of-school youth.* These programs typically last about six months and cost \$2,500 to \$5,000 per participant. For example, the federal government's principal program for disadvantaged youth, JTPA, enrolled 125,000 out-of-school youth aged 16 to 21 for five months, during which they received on-the-job training, classroom training and job search assistance. JOBSTART was a large scale demonstration program, designed as a more intensive version of JTPA, lasting seven months and including more classroom training, at a cost of \$5,000 per participant.

3) *Long-term, intensive residential programs providing vocational and life skills training, general education and job placement after graduation.* The most prominent of these programs is Job Corps, a residential program aimed at extremely disadvantaged populations. In 1993 Job Corps enrolled 62,000 new youth in tailored one-year programs that included classroom training in basic education, vocational skills, and a wide range of supportive services (including health care), at a cost of roughly \$15,000 per student.

Very few evaluations of these programs measure change in criminal behavior, simply because crime prevention is not generally a primary objective and requires substantial and complex additional data collection.¹¹ Crime control is a secondary effect which may happen as the consequence of increased employment, the primary objective. The remainder of this section will briefly review the principal evaluations of these programs, starting with the subsidized work programs.

Subsidized work programs are the cheapest and least intensive of any of the training programs aimed at at-risk youth. Although all subsidized work programs show a decided increase in employment for the targeted population over the time period of the subsidy, no evaluation has shown any long term effect on employment. Not surprisingly, the one evaluation that looked at crime (Supported Work) showed no sustained decrease in crime rates (Piliavin and Masters, 1981). Perhaps more damning, the crime rate of participants in the Supported Work program did not decline while they were working in the subsidized jobs. The conclusions seem robust -- subsidized work does not increase productivity in any appreciable way and these types of jobs do not appear to have the necessary characteristics to be supportive of non-criminal behavior.¹²

The picture is only slightly less gloomy for short-term skill training programs. None of the rigorous evaluations in this category have shown any lasting impact on employment outcomes, although some of the programs show a short term gain in earnings. It is again not surprising then that the one evaluation that looked at crime shows no lasting impact (JOBSTART). A slightly more detailed look at the data show that while there are no employment gains, there are some educational gains from these programs. JOBSTART and other programs effectively doubled the fraction of GED recipients. Although GED completion is in fact correlated with higher earnings, it apparently serves as a credentialing device rather than a training device; i.e. the fact of earning a GED indicates an ability to sustain consistent effort but working toward the diploma does not actually develop skills. This helps explain why the earnings gains showed in these programs are not long lasting. Eventually, those without GED's are also able to acquire similar jobs; it just takes them longer without the GED credentials. These programs are generally unable to increase productivity in any meaningful way within the constraints of a short-term non-intensive program.

The one positive result in this literature is from the long-term residential training program, Job Corps. Job Corps is by far the most intensive and expensive non-military training sponsored by the federal government. The high cost is a consequence of the residential element of the program and its severely disadvantaged population (over 80% are high school dropouts). The most recent Job Corps evaluation in 1982 was not as rigorous as most of the other evaluations in this literature because it was not randomized experiment. It had to use a comparison group drawn from people eligible but not likely to participate in Job Corps because of geographic location. Despite these limitations, the study was carefully done and generally regarded as credible, although Donohue and Siegelman (1996) raise serious questions about the magnitude of the decline in the homicide rate for enrollees.¹³

The evaluation found that four years after graduating, enrollees earned on average \$1,300 more per year than the control group, a difference of 15%. Not surprisingly, these achievements corresponded with real increases in educational achievement. Enrollees were 5 times as likely to get a GED or finish high school, and twice as likely to go to college. Also, there was a significant decline in arrests for serious crimes, especially theft. However, there was also an unexplained increase in minor arrests, especially traffic incidents.

The failure of all but the most intensive job training programs for at-risk youth to have an effect on either employment or crime raises some serious questions about this particular approach. There are several possible explanations:

- 1) The first, and simplest explanation is simply that low dosage programs over a six month period (or less) do not have enough statistical power to make a measurable impact.
- 2) More substantively, these lower dosage programs might not simply be enough to counterbalance a failed academic career that

often finds 15 and 16 year olds reading at the 5th grade level. A large amount of training must be exerted in order to raise reading levels four, five and six grade levels.

3) Perhaps Williams et al. (1996) have a point in that employment by itself is not enough to stop crime. In fact, employment for youth might be criminogenic -- the low paying, low skill jobs normally taken by youth do not add significantly to human capital, but they do take time away from school activities which could increase human capital.

Points two and three, taken together, suggest that the real, long term answer to this problem for the vast majority of at-risk youth lies not with after-the-fact job training but rather with an effort that makes schooling more meaningful to students before they drop out of school. The Department of Labor, in following this logic, suggests that the answer lies in connecting training to real jobs to a school environment through the recently enacted School to Work Opportunities Act. The emphasis on the school-to-work transition is supposed to make students and schools more motivated to learn, and decrease dropouts (Rosenbaum [1996]). This belief is based in part on the success of Job Corps in connecting education to success in the labor market. This philosophy of using the school-to-work transition as the instrument for improving the utility of regular schooling is untested. Given the administration's commitment to the idea, we expect evaluations will be completed within the next two years.

It is valuable to note that there have been evaluations of school-based anti-dropout programs that are not based on the school-to-work model. Evaluations of these programs are neither as numerous nor as rigorous as those for job training programs. The evidence also suggests that anti-dropout programs, because they involve working within the complex environments of schools (see the School Chapter in this volume) are extremely difficult to implement. However, two random assignment evaluations have shown that intensive anti-dropout programs have had substantial success in reducing drop-out rates and showing gains in human capital acquisition.

The strongest positive evaluation is for the Quantum Opportunities Program (QUOP), a demonstration program offering extensive academic assistance, adult mentoring, career and college guidance, a small stipend and money set aside for a college fund. Services totaling 1286 hours over four years (equivalent to about 6 hours per week) were provided to children from AFDC families throughout high school, at a total cost per participant of \$10,600. The rigorous evaluation of 100 students in four sites (random assignment, scientific method score = 5) found that 42% of the QUOP students were in post-secondary education versus only 16% of the controls; a total of 63% of the QUOP students graduated from high schools, versus only 42% of the control group (DOL, 1995). This evaluation has no long-term follow-up of employment outcomes. However, the increase in enrollment in college is likely to be a good predictor of improved labor market performance.

In this evaluation, adult mentors were assessed to be the most important element. Apparently the mentors provide the necessary focus and motivation for students to change their behavior and perform better in school. Yet notice that in QUOP, the key elements of the school-to-work philosophy -- direct connections to the labor market, and contextual learning -- were not employed. As in Job Corps, QUOP students were in routine contact with adults who projected a positive attitude about meaningful employment.

It is impossible within the context of the current literature to determine if mentoring or a school-to-work program (or some combination) is better able to change the motivation of the at-risk youth. However, it is clear that individuals need to become focused on obtaining meaningful and productive employment before they will/can take advantage of job training or schooling. We will discuss other ways to change the orientation of youth later in this section.

Job Training for Adults in the General Population

A narrow focus on job training for at-risk youth is perhaps justified within the context of a crime prevention program. Adults who have not offended by age 25 are at low risk of offending. If they have offended by age 25, chances are they will be already be involved with the criminal justice system. However, some people will be out of the criminal justice system, yet still need training in order to find meaningful employment. These older adults may have a reduced propensity to commit crime due to maturation. As a result, the number of crimes prevented by such a training program might be lessened, but at the same time, these individuals may be finally ready to take advantage of training programs that are offered. In reviewing the extensive literature on job training for the general population, Heckman concludes the following:

Employment and training programs increase the earnings of female AFDC recipients. Earnings gains are (a) modest, (b) persistent over several years, (c) arise from several different treatments, (d) are sometimes quite cost-effective. . . . For adult males the evidence is consistent with that for adult women. (Heckman, 1994: 112).

Consistent with these findings, older ex-offenders in the Supported Work program appear more responsive to the program than

do younger ex-offenders. In addition, older subjects in the Baltimore Life experiment also recidivated less often relative to their controls than did younger subjects. The authors of the Supported Work program conclude "the evidence in this experiment and elsewhere suggests older disadvantaged workers, including those who are known offenders, may be much more responsive (than younger workers) to the opportunity to participate in employment programs (Piliavan and Masters, 1981:45)."

Housing Dispersal and Mobility Programs

Much of the above discussion has been focused on at-risk individuals, rather than places. But depressed urban areas deserve special attention in this chapter given the simultaneous existence of high crime and low employment in these areas. A decade ago, William Julius Wilson (1987) identified the movement of jobs from the inner city to the suburbs as the key factor in the growing concentration of African-American poverty and the social problems related to that hyper-segregation. More recently he has argued that only an employment oriented policy can reduce the social problems of these communities (Wilson, 1996). Yet, as we will see in the following section, stimulating true economic development in the inner city through tax incentives or direct capital subsidies has proven very difficult. Substantial economic forces¹⁴ have led to the movement of businesses to the suburbs, and these forces are extremely difficult to counteract (Hughes, 1993).

As a result, policy makers have recently begun to develop ways to change the supply of labor by bringing the people in the inner city to the jobs in the suburbs, instead of bringing jobs to the people in the inner city. One way to do this is to physically relocate inner city residents to the suburbs (housing dispersal programs).

The only published outcome evaluation of the housing dispersal concept is based on what is known as the Gautreaux housing mobility program in Chicago. Starting in 1979, the Gautreaux program has given 6,000 inner city families (primarily single mothers) vouchers that allow them to relocate to low poverty neighborhoods throughout a six county area in and around Chicago. The program, started as the result of a federal court ruling in a housing discrimination case, also allowed families to move within the city of Chicago. Families were assigned to the suburbs or the city based on where there were apartment openings when they became eligible for the program. Because the waiting list was long, and because families were placed at the back of the list when they rejected an opening, very few families rejected an apartment when it was offered, regardless of the location.

Rosenbaum (1992) took advantage of this natural experiment to compare the employment and educational outcomes of the city movers with the suburban movers (scientific method score 4). He found that women who moved to the suburbs were 28% more likely to be employed than the women who moved inside the city, on average 5.5 years after moving. This was true even though the wage gains attributed to the move were the same for all women who worked, regardless of their location. In addition, he found that 9 years (on average) after the move, the children of the suburban movers were doing significantly better than the children of the city movers (scientific method score 3¹⁵). Although criminal activity was not measured, the children of the suburban movers dropped out of high school only 25% as often as the city movers, were in college track courses 1.6 times as often as the city movers, were 2.5 times as likely to attend college, were more than 4 times as likely to earn \$6.50 an hour if working, and only 38% as likely to be unemployed. These results suggest that for children in these environments, relocation can be an effective tool to change their focus towards positive outcomes like meaningful employment.

These large positive results led to significant optimism on the part of policy makers about the benefits associated with simply relocating poor families to non-poverty areas. Several programs modeled on the Gautreaux programs were spawned and now operate in Cincinnati, Memphis, Dallas, Milwaukee and Hartford. In 1992, HUD provided \$168 million to fund Moving to Opportunity as a demonstration program for the housing mobility concept. Moving to Opportunity has 5 sites in large cities -- Baltimore, Boston, Chicago, New York, and Los Angeles -- and is funded for at least 10 years. The project has been set up with a rigorous evaluation component (scientific method score = 4) -- households are randomly assigned to either placement in a suburban location with less than 10% poverty, placement in the central city, or no treatment. About 1,300 families will be given vouchers which allow them to relocate in low poverty suburbs, along with extensive counseling about relocation and assistance in finding a new apartment. Initial evaluations should be available by mid-year 1997.

Despite Gautreaux's apparent success, and the development of programs like Moving to Opportunity, housing dispersal programs have met significant opposition from suburban residents afraid of the impact of poor minority families on their communities. For example, the expansion of Moving to Opportunity to include more than 1,300 families was defeated after it became a political issue in the 1994 election. The Mount Laurel decision in New Jersey, a two-decade-old, court-enforced dispersal strategy, is now being undermined by legislators. In addition, minorities sometimes voice a concern that the dispersal of minorities to the suburb will weaken minority political power (Hughes, 1993). According to Kale Williams, former director of the Gautreaux program in Chicago, part of the success of Gautreaux was because "it hasn't been large enough to threaten anyone and hasn't been concentrated enough to arouse apprehension." Given these problems, it seems politically unlikely that

housing mobility programs will ever expand to any significant size or at least cannot politically afford to move large numbers of poor people in specific non-poor neighborhoods.¹⁶

This reality, however frustrating, suggest that perhaps a strategy aimed at integrating workplaces instead of neighborhoods might be easier to implement. This argument suggests that the best approach to the problem of inner city poverty are mobility programs which provide transportation for inner city residents to the suburbs (Hughes, 1993). Such a program recognizes (and takes advantage of) the power of the suburban labor markets to increase residents' incomes while avoiding the political problems associated with housing dispersal. This idea is relatively new, and as a result only a small number of programs are in operation in the United States.¹⁷

However, HUD has funded an \$18 million dollar demonstration program in five sites starting in 1996 and running for four years. The strategy has three main components: a metropolitan-wide job placement service to connect inner city residents with suburban jobs, a targeted commute mechanism to provide transportation to the jobs, and a support services mechanism which will try to ameliorate some of the problems that may arise due to a long-distance commute into a primarily white suburban location. Rigorous evaluation with random assignment will be undertaken by Public/Private Ventures. If successful, this program will form a key component of the welfare reform strategy.

The mobility programs are rooted in theoretically very different approaches to reducing central-city crime. Housing dispersal programs attempt to break up the poverty community. Reverse commuting preserves the community but at a cost: the long commuting causes reduced guardianship and parenting that have potentially negative effects in their home communities. Children also do not benefit in the same way because they continue to live in the same depressed environments. These reverse commuting programs might serve to increase employment and decrease the criminal activity of a particular person, but the programs will probably not have the indirect anti-criminogenic effects of housing dispersal programs.

IV. DEMAND-SIDE PROGRAMS

Bonding and Wage Supplements

All the programs described in the previous section focused on changing individual behavior. Yet perhaps employers feel that certain individuals, particularly ex-offenders, represent a potential risk. A criminal history record appears to be a predictor of low job attachment (in part because of the risk of future arrest and incarceration), poor performance, theft and malingering. To overcome these barriers, a number of demand-side programs offer to compensate employers for incurring the risk of hiring workers with a criminal record.

One class of program directly lowers the employer's wage payments, either with a subsidy or through a targeted job tax credit (i.e. the employer of a particular class of worker is able to deduct the payments or some portion of them, from his taxable income. This reduces the amount that an employer has to pay the worker, the difference being picked up by the government. The programs are transitional and are intended to last just long enough to allow the offender to acquire a work history that of itself will increase future prospects. The second class of program is more indirect and takes the form of subsidized bonding of offenders, thus reducing the cost for the employer of insuring himself against specific crimes, such as inventory theft; such bonding is normally provided by private corporations.

The federal government, however, has offered a very low level of funding for these programs. The Department of Labor discontinued in 1995 the Targeted Jobs Tax Credit, for which the annual budget never exceeded \$10 million, with most of that targeted to other disadvantaged groups. Some state Departments of Corrections (e.g., Texas) do offer wage subsidies. However no evaluation identifies the impact of these on either employment or crime. In addition, some researchers (DOL, 1995) feel that these programs actually hurt ex-offenders by clearly identifying their ex-offender status. While it might be worthwhile to fund an evaluation of the very small Federal Bonding program (\$240,000 total in 1996), the one independent review of the Targeted Jobs Tax Credit was not optimistic that these programs improved employment among ex-prisoners (Jacobs, 1984).

Enterprise Zones

Community development programs use demand-side policies to help particular areas. Although these programs are focused on depressed areas, like housing dispersal programs, community development programs can be used in a wider array of settings. These programs are of particular interest for crime prevention because they propose to help both individuals and neighborhoods. New jobs present more opportunities for legitimate work to compete with illegitimate opportunities often present in these communities. Jobs visibly available in an area would also provide motivation for education and skills training for young people. The economic activity that new or expanded businesses represent can also lead to increased social interactions among residents

and strengthen social institutions (churches, business organizations, schools) which can exert a positive influence on individuals who might otherwise revert to crime.

Enterprise zones are one relatively new policy tool focusing tax incentives at generally small, economically depressed geographic areas (Papke, 1993, Erickson and Friedman, 1991). According to Erickson and Friedman (1991) these programs typically employ three different types of program incentives to encourage job development: investment incentives, labor incentives and financial incentives. The investment incentives include credits for property taxes, franchise taxes, sales taxes, investment taxes and other possibly state-idiosyncratic employer taxes (e.g., inventory tax credits). The labor incentives include a tax credit for job creation, for hiring a zone resident or some other disadvantaged person, and for training expenditures. Finally, the finance incentives sometimes include an investment fund associated with the program and preferential treatment for federal bond programs. These programs are based on the assumption that employers are sensitive to state and local tax incentives in their location decisions. The academic literature shows mixed results about the validity of this claim, although recent evidence suggests that investment is more responsive to state and local taxes than previously thought (Bartik, 1991).

As of 1995, 34 states had a total of 3,091 active enterprise zone programs (median = 16) and the Federal Empowerment Zone and Enterprise Community Program has introduced 106 more zones (Wilder and Rubin, 1996). The state zones are limited in the value of the incentives they can offer, precisely because federal taxes (e.g., corporate profits tax) are so large and cannot be waived by the state. According to Erickson and Friedman (1991), the median zone population for the state programs is about 4,500 persons and the median zone size is about 1.8 square miles. Zone designation is usually based on unemployment rates, population decline, poverty rates, median incomes, the number of welfare recipients or the amount of property abandonment. The federal program amounted to \$640 million in total tax credits in FY 1995.

Since these programs are relatively new, (the median state began its program in 1984) there are few outcome evaluations, most of which are reviewed in Wilder and Rubin (1996); no evaluations of the federal program have yet been conducted. All evaluations consider only the immediate economic outcomes of these programs, and do not examine the larger social implications (such as crime reductions) of the programs; see Table 6-3. Only Bartik and Bingham show an awareness that this is a shortcoming of these evaluations. The evaluations also do not attempt to determine the impacts of individual incentives. Although ideally researchers could identify the most effective tax break, the incentives are typically used in concert, so that the economic growth in any given zone cannot be attributed to any one incentive; nor is it possible to separate out component effects using econometric techniques.

The main theoretical concern about enterprise zones is that they will simply relocate existing jobs rather than create new jobs. In fact, Britain, which pioneered these zones, abandoned its enterprise zone program after researchers found that nearly all jobs in enterprise zones (86%) were due to relocation from neighboring communities. The US experience is somewhat more optimistic - the literature seems to agree that, of all the new jobs found in enterprise zones, roughly 25% are due to relocation, 25% are due to new business and 50% are due to expansion of existing businesses (Wilder and Rubin, 1996). Of course, not all the jobs that appear in the enterprise zone should be attributed directly to the zone incentives. However, the primary modes of evaluation in this field, correlation and before-and-after without comparison group (scientific method score 1 and 2), do not allow researchers to isolate the contribution of the zone incentives.

In addition, most of these studies use data from surveys of zone firms or zone managers; these lack credibility as measures since both groups have an incentive to place a positive bias on the outcomes.¹⁸ These studies generally conclude that the zones increase jobs and investment, although results vary by zone.¹⁹

TABLE 6-3

Enterprise Zones

Studies	Scientific Method Score (Number of cases Treatment/control)	Description of Intervention and Findings
Boarnet & Bogart employment and business 1995	3	New Jersey EZs have no impact on growth.

	(7/21)	
Papke 1992 19%.	3	Indiana EZs decrease zone unemployment by
	(15/24)	
Bostik 1996 business	3	California EZs in small cities increase construction.
	(5/27)	
CA State Auditor increase in economic 1988 zones.	1	Survey of firms indicate small net activity with wide variability across
	(13)	
Dowall, et al. business activity 1994 concluded that zone	2	Although employment growth and increased increased in all CA zones, researchers incentives could not be linked to growth.
	(13)	
Erickson & areas with Friedman 1991 ineffective in highly	1	EZs in 17 states appear to create jobs in development potential. EZs are distressed areas.
	(35)	
GAO 1988 significant increases in designation.	2	3 rural Maryland EZs zones showed employment and investment after zone
	(3)	
HUD 1986 in 9 states significant new investment	1	Interviews with zone managers in 10 zones responsible show zones lead to and job growth.
	(10)	
Jones 1985 activity	2	Connecticut EZ has no impact on building
	(1/1)	
Jones 1987 activity	2	Illinois EZ has an impact on building
	(1/1)	
Wilder & Rubin jobs due to Indiana 1989	1	Firm-level survey data show increase in EZ in Evanston.
	(1)	

Only three studies (Papke, 1994; Boarnet and Bogart, 1996; and Bostic, 1996) attain a level 3 scientific method score; they are before-and-after studies of a particular state's enterprise zone program (Indiana, New Jersey and California respectively) with comparison groups from other eligible areas in the state. Each study also uses data collected by independent agencies, so the data is unlikely to be biased by EZ participants. The first two studies used econometric methods to control for selection bias, the latter did not.

The results of the first two studies contrast strongly -- the New Jersey study found that the zones had no impact on total employment or property values in municipalities with zones,²⁰ while the Indiana study found that the zones led to a long term 19% decline in unemployment rates in municipalities with enterprise zones. The Indiana researcher was somewhat surprised by the magnitude of this effect, given that the employment incentives were limited in the Indiana zones. But the study also found that firms responded to reductions in inventory taxes by increasing inventory by 8% and reducing capital machinery by 13%. These changes in inventory and machinery may represent the conversion of firms from manufacturing to more emphasis on distribution, generating a positive impact on employment.

Bostic's study used investment growth rather than employment as the principal outcome measure. He found that the EZs had a significant but small impact on commercial construction permits and an insignificant impact on the number of businesses in an area.

Clearly, additional research is needed to verify the positive impact of enterprise zones on employment and investment. Abt Associates have been commissioned to do an evaluation of the Federal Empowerment Zones and Engberg et al. at Carnegie Mellon are undertaking a comprehensive evaluation of state enterprise zones with controls for selection bias.

Community Development Block Grants

The 1974 Community Development Block Grant (CDBG) Program represents the other major federally funded program aimed directly at revitalizing distressed neighborhoods. Instead of relying on tax credits as incentives, this program provides direct funding to local governments. In 1992, CDBGs provided local jurisdictions with \$3.4 billion to be spent on activities that support any one of three objectives: benefiting low- and moderate-income persons, preventing or eliminating slums or blight, or addressing other urgent community needs. The program funding breaks down broadly into 5 main areas: housing (38%), public facilities (22%), economic development (12%), public services (9%) and acquisition and clearance (6%). Although there are no outcome evaluations of this program,²¹ the sheer size of the economic development component of this program (\$251 million in 1992) demands inclusion in this section.

Most of what follows is based on a 1995 funding process evaluation sponsored by the Department of Housing and Urban Development (Urban Institute, 1995). The evaluation, like those for Enterprise Zones, considers only economic outcomes. A full 78% of the \$251 million economic development grant money was spent on loans and grants to private businesses. Most of the recipient businesses were small, and 37% of these businesses were minority owned. These loans seemed to perform better than the non-geographically targeted Small Business Administration loans. According to the HUD report, these loans were more important to the business activities of the recipients than the EZ tax incentives,²² but neighborhood residents held a comparable number of the newly created jobs under both programs (approximately 30%).

An effort was made to provide a before-and-after study of 250 census tracts in the CDBG program (scientific method score = 2), using a survey on all CDBG funding and census data from 1980 and 1990. This study found a clear relationship between the level of funding and tract income: tracts that saw an increase in income received \$1,247 per capita, tracts that were stable between the two time periods received \$844 per capita and tracts that declined received \$737 per capita. Improvement in low-income tracts usually only occurred through gentrification or out-migration of low income people, but in several instances the arrival of major industrial facilities resulted in an increase in income for the tract residents.²³

In more general terms, the researchers concluded that the existence of an income-mix among neighborhood residents and a healthy commercial district appeared to help development. Within the context of this review, these factors could signal the existence of a certain level of social control which would allow community programs to be effective. Neighborhoods without these factors may not have enough social capital to take advantage of any community-based program.

V. A PROPOSED INTEGRATION

Existing evaluations of interventions aimed at increasing employment for high risk populations provide little positive guidance as to the appropriate direction of labor market policies for more effective crime prevention. The demand-side programs (Community Development Block Grants and Enterprise Zones) have not been subject to rigorous evaluation. Moreover, they

involve such a broad array of incentives and funds that it will be hard to determine what might explain any positive findings and thus what is worth replicating. Evaluations of training and education programs, aimed at labor supply, have shown little positive consistency; there are merely hints as to what constitutes a successful program and there are very few findings specifically on crime reductions. Programs aimed at ex-offenders do a little better but again there is a lack of consistent positive findings that allow one to say that specific interventions work for large segments of the eligible population.

The negative findings concerning job training and employment for high risk groups may primarily be explained by the extremely limited nature of most of the interventions that have been tried. Heckman (1994) makes this point nicely with respect to training programs generally. He suggests a mind experiment. Assign a generous annual real rate of return of 10 percent to social programs, higher than is usually observed for investments in education. Interventions that cost \$2,500 per client and are aimed exclusively at raising the earnings of participants would then be expected to produce annual earnings increases of \$250. This is far too small an amount to lift someone out of poverty (being only about 3% of the required income for an individual) or to improve life prospects enough for most participants that they might make large changes in their decisions about schooling and work.

Not only are small quantities of services provided but the range of risk factors targeted is very narrow. Providing jobs for adults will only weakly compensate for failure to invest in human capital when young. Some theoretically promising interventions have not been tried but merit exploration as a major tool for reducing criminality among young adults. These interventions have to address both the individual dynamics and social ecology of the crime/work choice. The remainder of this section considers the special challenges associated with high crime/low employment areas.

The central argument is simple enough and not original to us. Crime and unemployment are most strongly linked at the community level, at least in urban areas. Persistently very high unemployment rates will generate high crime; that high crime will drive out capital and make jobs increasingly remote. That produces a downward spiral to a low employment/high crime equilibrium which is very stable and highly resistant to small increases in employment or reductions in crime. Interventions have to explicitly deal with crime and employment simultaneously. No evaluated intervention has done so.²⁴

The most important mediating factor in this story may be the motivations of community residents. For example, the isolation of high poverty neighborhoods from the legitimate job market may be critical in accounting for the lack of motivation among youth in these neighborhoods. Rosenbaum (1996), among others, makes this point by observing that youth have difficulty finding employment when they live in impoverished neighborhoods without well-developed job connections. That is exacerbated by geographic isolation from jobs and the possibility of racial discrimination. The perceived returns to continuing in school or in acquiring human capital in other ways is low. This leads to low high school graduation rates and high attrition in training programs, maintaining the under investment in human capital of the previous generation in high poverty neighborhoods.

The claim that improving perceived legitimate employment opportunities will increase school attachment is still not well tested. The available evidence does suggest, however, that school achievement is affected by the achievement of others in the same community. For example, Case and Katz (1991) and Mayor (1991) found that youth are more likely to stay in school or work if a large proportion of their peers do.²⁵ The Department of Labor (1995) review of evaluations used this finding as the basis for a claim that poor neighborhoods should be saturated with a range of interventions intended to alleviate poverty, so that "the employment outcomes of some persons within a community can lead to 'spillover effects' as other people in the neighborhood are influenced by the positive actions of their peers." (p.63).

There is some disagreement on the issue of the importance of neighborhood effects. The evaluation of the JTPA program claims that the "external environmental factors - unemployment rates, population density,...had weak effects, if any, on (individual JTPA program) success." (PPV, 1994: 5). However, the same report claims that business involvement with training programs is crucial because "it provides a built-in incentive for participants to feel that their participation is worthwhile." (PPV, 1994, p.14). The tie to business is itself possibly a proxy for community attachment to the labor market.

We believe the community level problem is compounded in two ways by drugs. A large fraction of adult criminal offenders are substance abusers; their involvement with expensive illicit drugs, such as cocaine and heroin, is distinctive. This represents a major employment handicap. Thus workforce oriented interventions will have to deal with the substance abuse problem of potential workers if they are to increase employment and thus reduce crime. Employment is itself possibly a protective factor for substance abuse, increasing the probability of desistance. High risk youth now show more moderate rates of abuse of expensive illicit substances (as reflected in the data from the National Institute of Justice's Drug Use Forecasting program for juveniles) but such risk still needs to be addressed in the context of labor market programs in high risk communities.

Illicit drugs are also a major problem because recent research shows that drug markets in impoverished neighborhoods provide

substantial alternative employment to legal markets. For example, Reuter, MacCoun and Murphy (1990) reported that drug selling earned its participants about \$30 per hour in Washington in 1988. Saner, MacCoun and Reuter (1995) found that approximately 30 percent of the 1967 cohort of black males resident in the District of Columbia had been charged with drug selling between the ages of 18 and 24. The existence of attractive alternatives outside the legitimate labor market will complicate any program aimed at attracting individuals to legitimate work opportunity. Also, in contrast to the pre-cocaine-epidemic period, drug selling may now precede drug use; those who sell as juveniles become consumers of their own drugs, making it still more difficult to maintain legitimate employment as adults.

High unemployment neighborhoods generally show high levels of drug selling; this further weakens the ability of individually focused programs to increase employment prospects for men who continually have opportunities to earn substantial amounts in drug selling. In addition, neighborhoods where many males support themselves through some drug selling will not have many of the social institutions that support legitimate work. This will make it more difficult for individuals in these neighborhoods to make the transition to legitimate work.

We have made this long digression about drugs as a reminder again how important it is to take the community as the central focus for programmatic intervention. Individually oriented programs cannot ameliorate many of the fundamental problems faced by program participants. Similarly, programs like reverse commuting, though they may bring important benefits for individuals, will generate few benefits for the most adversely affected communities. Indeed, as already mentioned, the long commutes involved in such programs reduce still further the extent of adult supervision of children that is such an important component of effective community. Programs like Gautreaux which take households out of the community also paradoxically may worsen the situation of those who remain, since the movers are likely to be among the more forward looking adults in these fragile inner city communities. This of course suggests the attractions of the converse, bringing some middle-class households back into the neighborhoods that are so devastated. But crime is as much an obstacle to that as it is to encouraging employers to relocate in the same communities.

VI. SCIENTIFIC CONCLUSION

We have reviewed here a large variety of programs that might reduce crime by increasing employment and labor market outcomes for high risk populations. Our assessments (using the criteria articulated in Chapter 2) of which program types work, which programs do not work, which are promising and for which we can venture no opinion are contained in Table 6-4.

Table 6-4

Program Conclusions

What works?

1) Short-term vocational training programs for older male ex-offenders no longer involved in the criminal justice system.

What does not work?

- 1) Summer job or subsidized work programs for at-risk youth.
- 2) Short-term, non-residential training programs for at-risk youth.
- 3) Pre-trial diversions for adult offenders which make employment training a condition of case dismissal.

What is promising?

- 1) Intensive, residential training programs for at-risk youth (Job Corps).
- 2) Prison-based vocational education programs for adults

- 3) Housing dispersion programs
- 4) Enterprise Zones

What do not we not know enough about?

- 1) CJS-based programs for juvenile offenders
 - 2) Post-release transitional assistance for offenders.
 - 3) Reverse commuting
 - 4) Wage subsidies
 - 5) Bonding programs
 - 6) Community development as done through the Community Development Block Grant Program.
 - 7) School-to-Work programs funded by the School-to-Work Opportunities Act.
-

Programs that Work

The one program type for which the evidence of effectiveness is fairly strong is vocational programs aimed at older males ex-offenders who are no longer in the criminal justice system. We gave little attention to this in the body of the chapter because these programs, though useful, come late in criminal careers. Reducing crime by 35 year olds who have previously been criminally active, will have a modest effect on serious violent crime, which is predominantly committed by younger males. The explanation for the success of these programs may be found in theories of life course events. Age generally increases the desire for stability, lowers the desire for risk and raises concern about the future. JTPA job training, (even for periods as short as 90 days) may have an impact because many of those who enroll are now motivated to seek employment.

What Does Not Work

In contrast, there have been numerous, well-conducted evaluations of well-executed, short-term (many of them summer only) programs aimed at at-risk youth, typically 15-21 year-olds. These have repeatedly found no effect on earnings and crime rates. The high attrition rates we take to be symptomatic of the lack of motivation for many participants, reflecting their perception of weak employment opportunities in early adult life. Without any evidence of impact on other risk or protective factors, we believe that these programs cannot be justified on crime prevention grounds. The two serious evaluations of pre-trial diversion programs suggest that pre-trial diversion programs do not work, at least in part because of the programs tend to get co-opted by the prosecutors for purposes other than the intended purpose of rehabilitating offenders.

Promising Programs

The one class of program aimed at high risk youth for which positive results have been shown is Job Corps, which is both residential and, in terms of expenditures, very intensive (\$15,000 per youth). However there is only one rigorous evaluation (moreover one that has some methodological weaknesses), although another major Job Corps evaluation is in process. Thus we can only classify this type of program as promising. The reasons for its possible success are multiple: it re-socializes the youth by breaking community ties and presenting pro-social role models; its residential requirement reduces the intensity of contacts with anti-social groups and illegal earnings opportunities; its vocational focus and attachment to the labor market provides academic training in a supportive environment.

Prison-based vocational education programs aimed at adults, who constitute the vast majority of the correctional population, are also promising. This again may be explained by the life course model. The current evidence suggests that something works, but no random control trial has found an impact, and few studies have been able to pinpoint exactly what works. Program

implementation within a correctional facility and inmate motivation remain major problems. We suggest that the problem of motivation be dealt with by randomly selecting individuals for participation from within a pre-selected pool of motivated individuals.

The last promising programs on the supply side of the labor market are programs that provide dispersed housing for poverty-level households. The Gautreaux program has been found to have had a positive impact on both mothers and children. The program has been operating for many years and fairly large numbers of households (over 6,000 families) have made use of it. Its apparent success in terms of improving educational and employment outcomes for both mothers and children is sufficiently strong that crime reductions can reasonably be inferred. We classify it only as promising because, apart from our formal requirement that there be more than one rigorous evaluation before it be classified as working, the one existing evaluation has many weaknesses. Results from the multi-site, federally-funded Moving to Opportunity program are scheduled to be available in 1997; this should shed more light on the efficacy of this type of program.

On the demand side, enterprise zones have a mixed record according to the few moderately rigorous evaluations that have been conducted. We classify the program as promising on the grounds that if designed with crime prevention objectives in mind (i.e., as part of a more comprehensive effort) it may include a critical ingredient of what is necessary for making high risk communities safer. The federal government is currently funding a large enterprise zone program - it will be interesting to see if the program evaluators consider both the problems caused by crime in these areas, or look at the crime reduction effects of some of these programs. Current evidence suggests that areas with high crime are less likely to succeed.

Programs About Which Too Little is Known

Table 6-4 contains a list of seven program types about which too little is known for any judgment beyond the broadest sense of theoretical plausibility. We include some programs that have frequently been evaluated and have produced mixed results.

The programs that have not been subject to any rigorous evaluation are: bonding programs, Community Development Block Grants, reverse commuting, school-to-work programs and targeted wage subsidies. Though theoretical arguments can be made for each of them, those arguments seem strongest for CDBGs (see Section V), and school-to-work. School-to-work's focus on avoiding dropout and developing human capital over the long run is an interesting response to the motivation and dosage problems we identified in Section III.

For the remaining three types of programs, a number of conflicting results have been produced. Criminal justice-based programs for improving the employment prospects of juveniles seems to have shaky theoretical premises. Employment concerns are not strong for those under 17 and there is a small but growing literature suggesting that early work gives youth too much autonomy at too early an age by lessening their dependence on family. In addition, time spent working is time spent away from conventional schooling which might lead to more meaningful employment (see Cullen, 1996).

The mixed results from evaluations of transitional assistance for inmates leaving the criminal justice system is harder to explain. Internal doubts about their ability to succeed in conventional society and the external forces that limit them initially to fairly poor jobs combine to create a very difficult transition, especially for offenders without family or friend networks. Transitional aid then seems particularly appropriate. Yet the results from TARP and Baltimore LIFE seem to suggest that motivation (or focus), rather than money is the important issue. Some programs like Project Rio in Texas appear to have success reintegrating offenders using caseworkers, but the program has not been rigorously evaluated.

Bonding and wage subsidies are intended to help with the transition from the criminal justice system to legitimate employment. These components have not been heavily evaluated. There is some concern that wage subsidies and bonding tend to work against offenders by clearly identifying their status to employers.

Program Recommendations

Our program recommendations for OJP are modest, principally because Congress has not directed the department to become involved in funding labor-market-oriented programs outside of the criminal justice system and because such programs clearly have much broader objectives than simply crime prevention. Given the evidence summarized above, we believe that Congress should encourage OJP to continue modest funding of programs that aim at improving the employment prospects of older ex-offenders. The programs do not need to be intensive to be effective and these programs are generally working on the back end of the criminal career. The concept behind Operation Weed and Seed also has some merit -- we defer to Chapter 3 for recommendations on this program. The negative findings concerning the effects of short-term subsidized work and non-residential training programs speak not to OJP programs but rather to efforts funded principally by the Department of Labor.

VII. IMPROVING EFFECTIVENESS THROUGH EVALUATION

We have more recommendations concerning research and evaluation. Congress should encourage OJP to take advantage of on-going offender transition programs in state and federal systems to implement rigorous program evaluations of some of the more promising programs. We also recommend that research efforts be focused on the problem of implementing vocational programs within the prison system. Since it appears from some level 3 studies that vocational programs do have some effect, randomized experiments which control for selection bias while also isolating the effective characteristic of the program are clearly appropriate.

The remaining recommendations focus on opportunities for Congress to encourage OJP collaboration with other federal agencies in examining whether interventions with other social aims also have crime prevention impacts. Other agencies will benefit in two general ways. First, crime reduction should be an important element of cost/benefit estimates. Second, crime prevention considerations may aid program design. We illustrate these by considering three important program classes: welfare reform, school-to-work transitions, and enterprise zones.

Welfare Reform

Perhaps no policy innovation in recent times has attracted such intense analytic interest as the effort to fundamentally alter the long-standing basic federal welfare program, Aid to Families with Dependent Children (AFDC), now converted to Transitional Aid for Needy Families (TANF) and made principally a state responsibility. The center piece of welfare reform is an effort to move women at risk of becoming long-term welfare recipients into employment. This has potentially enormous consequences for their children. If it is successful, a large number of young males will grow up in households that have regular contact with the workplace rather than with welfare checks. On the other hand, if welfare reform fails and large numbers of single mothers become even poorer and more reliant on illegal earnings, this may well have criminogenic effects on their children.

On a number of theoretical grounds, this may have an important impact on youth attitudes toward work and hence the prospect of becoming serious violent offenders. Successful welfare reform could turn out to be the most important social program for crime prevention in recent decades, though the effects will surely not show up for quite some time.

To our knowledge, little attention is being given to the crime prevention consequences of this change. It is important the Congress direct OJP to take advantage of the many large scale research and evaluation efforts that are now being put in place, both by the federal government and by major foundations (e.g., the Annie E. Casey Foundation, which is funding a 5 year \$30 million program at the Urban Institute) to ensure that they assess the extent to which, and the mechanisms by which, welfare reform affects the criminal behavior of the children of women at risk of long-term welfare dependence. Though, as always, crime measures increase the complexity of the measurement task, it is likely that crime will play an important role in the final evaluation of the reform's success.

School-to-Work Transitions

There is growing interest in improving the flow of non-college bound high school graduates into the work force. This has been an area of program innovation again in which Congress has not encouraged OJP to play a significant role. Ensuring that evaluations include crime measures will increase the comprehensiveness of the evaluations and may provide OJP with a major program opportunity.

Enterprise Zones and Community Development Block Grants

A major attribute, arguably the principal attribute, of inner-city communities that makes them unattractive to employers is the high crime rates. Already, OJP is part of a working group cooperating with the consortium of federal agencies that operate the federal EZ and CDBG programs. We believe this cooperation is important to the success of any such comprehensive programs, in part because reductions in crime may be able to explain variations in employment outcomes. Understanding the role that crime control plays in attracting investment is another crucial, but understudied part of community development programs.

One new multi-agency initiative might be an effort to assess whether a large scale job creation program, backed by other crime prevention measures, can make a substantial and lasting difference in high-crime communities. William Julius Wilson concluded that the lack of jobs was the principal source of the decline of the neighborhoods that now account for such a large share of American crime and outlined an ambitious program of interventions to respond to this problem. As even he admits, it is unclear that such a program can be implemented but there is certainly good theoretical argument for trying.

However, this proposition does force us to confront a central paradox of prevention evaluation. Learning occurs through examination of variations in one or a few components but successful interventions aimed at improving labor market outcomes for high risk individuals and communities are likely to involve the simultaneous implementation of a large number of programs. But in a situation where individual interventions seem to have limited promise, testing whether a generous cocktail of programs can succeed may be an important first step.

This insight lays the groundwork for what we believe must be the theoretical bedrock of any successful program aimed at increasing labor market participation in order to decrease crime: **A program must connect a community or individuals to the world of legitimate work so that residents will have the proper incentives to acquire the necessary human capital needed for success in that world.** Without that connection, any work program is unlikely to succeed in a substantial way.

NOTES

¹Employment, like crime, has many dimensions. Jobs vary in wage rates, work satisfaction, and duration. Measured correlation between employment rates and crime may be confounded by failure to measure variation in job quality adequately.

²We focus here on employment measures rather than unemployment because in many areas the problem is less formally defined unemployment than low labor force participation rate. In the face of persistent unemployment, discouragement may lead to drop out even from job search.

³This may reflect the higher quality of post 1970 data, itself a consequence of the activities of the Law Enforcement Assistance Administration and the investment in computers, among other factors.

⁴It is difficult to classify all job training programs in terms of our programmatic interest. For example, Job Training and Partnership Act (JTPA)-Title IIA (\$1 billion in FY 1993) is aimed at economically disadvantaged adults; some of those adults may be involved with the criminal justice system and others may still be young enough to be reasonably classified as “youth” but many may be at slight risk of serious criminal involvement. Given the large number of other JTPA Titles that were more directly targeted at disadvantaged youth, we did not include any of Title-IIA.

⁵We identify the targets as offenders rather than ex-offenders because in fact what is known is that they have committed a crime. The ex-offender status is a goal rather than a description.

⁶Differences in release date meant that a uniform follow-up period would have excluded significant periods of post-release exposure for some participants.

⁷Note once again that the VDS and Supported Work programs cited above are not technically part of the juvenile CJS.

⁸These questions are particularly hard to examine because the report provides no data on employment outcomes.

⁹JTPA is the main federal funding source for job training programs in the U.S.. JTPA funds a number of discrete program types including a) job search assistance, b) remedial education, c) occupational training d) work experience e) on-the-job training or f) customized training for a particular employer.

¹⁰Strictly speaking the provision of a job is not a job training or education program. However many employment skills are learned on the job; employment increases future employability.

¹¹Self-report from program participants about crime involves inquiring about sensitive behaviors. Official record checks of criminal histories requires obtaining Privacy Act protected information from a different set of agencies than those providing the other outcome data.

¹²This result is supportive of Sampson and Laub (1990) who claim that its not the job but the social bonds of the workplace, bonds that probably are absent in a short-term subsidized work environment.

¹³The reported reduction in homicide rates suggests that the control group had extraordinarily high homicide rates compared to

their peers, thus making suspect the claimed reduction in homicides for the experimentals. Homicide reductions accounted for a large share of the dollar benefits estimated in the evaluation. On the other hand the figure used for estimating the value of a life for homicides was much lower than reported elsewhere in the literature; it is possible that the errors roughly cancel out.

¹⁴Massey and Denton (1993) argue that the strong desire for racial segregation has also been an impetus for the exit of jobs.

¹⁵The sample is different for the children and the mothers. The children come from a sample originally composed in 1982. They were reinterviewed in 1989. Only 59% of the original sample could be relocated, and most of those relocated had not moved from the original location. The potential for bias exists because the harder to locate families might vary by suburban or urban location.

¹⁶Of course, many of the same objectives met by housing dispersal programs could be met by encouraging gentrification of older depressed neighborhoods.

¹⁷Within this area, we noted the absence of any discussion of the role of crime in driving business to the suburbs, or the potential crime prevention effects of new job connections in the suburbs.

¹⁸In an attempt to determine what would have happened if the zones had not existed, these surveys ask zone firms and zone managers how many of the jobs were due directly to the incentives. Obviously, it is in the self-interest of both sets of agents to provide positive answers.

¹⁹The surveys did provide useful insight into the elements of programs which seemed to work best. Bostic (1996) concludes that the incentives provide only marginal incentive for firms to locate in zoning areas. Program success in California depends on supplementing the tax incentives with an active local government or community effort, mainly with marketing. Wilder and Rubin (1996) conclude that places with severe economic blight need additional assistance beyond enterprise zones, and autonomous management of the zone is effective. Finally, Erickson and Friedman (1991) conclude that the most successful state programs restrict the number of zones, use a competitive award process (which pulls together local resources), and provide significant incentives to these limited, targeted areas.

²⁰This result is especially interesting given that a before and after study by Rubin (1990) found substantial effects in New Jersey.

²¹The lack of outcome evaluations is attributed to the flexibility of the programs, the lack of credible evidence about what would have occurred in the absence of the program and the inability to conceptualize and measure clear outcomes at a neighborhood level.

²²A full 80% of recipients said that the loan was crucial to their activity, while EZ incentives are typically important for 30 to 40% of all EZ businesses (Wilder and Rubin 1996).

²³Although these numbers appear to suggest that higher CDGB funding generates improvements, this conclusion is not possible without some other comparison. For example, there may be selection bias, as the result of better organized communities, which are more likely to be improving economically anyway, may do better in the grant application process.

²⁴Operation Weed and Seed, a major OJP program described in Chapter 3, did make an effort to do so. As Chapter 3 discusses, the evaluation was not an integral part of the project, and no results are as of yet available. Difficulty obtaining baseline data after program initiation has made the evaluation particularly difficult.

²⁵Analytically, the problem is to disentangle true peer impacts from the tendency of people with similar unobservable characteristics to live near each other.

REFERENCES

Adams, Kenneth. 1994. "A Large Scale Multidimensional Test of the Effect of Prison Education Programs on Offenders' Behavior." *The Prison Journal*. 74: 433-449.

Ahlstrom, Winton and Robert J. Havighurst. 1982. "The Kansas City Work/Study Experiment." In Daniel J. Safer, ed., School Programs for Disruptive Adolescents. Baltimore, MD: University Park Press.

Anderson, D.B. 1981. "The Relationship Between Correctional Education and Parole Success." Journal of Offender Rehabilitation. 5: 25.

Anderson, Stephen V. 1995. Evaluation of the Impact of Participation in Ohio Penal Industries on Recidivism. Ohio Department of Rehabilitation and Correction, Bureau of Planning and Evaluation.

Baker, Sally and S. Sadd. 1979. The Court Employment Project Evaluation, Final Report. Vera Institute of Justice.

Baker, Sally and S. Sadd. 1981. Diversion of Felony Arrests: An Experiment in Pretrial Intervention: An Evaluation of the Court Employment Project, Summary Report. U.S. Department of Justice, National Institute of Justice.

Bartik, Timothy J. 1991. Who Benefits from State and Local Economic Development Policies?. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Bartik, Timothy J. and Richard D. Bingham. "Can Economic Development Programs Be Evaluated?" In Richard Bingham and Robert Mier, eds., Significant Issues in Urban Economic Development. Newbury Park, CA: Sage.

Becker, Gary. 1968. "The Economics of Crime and Punishment." Journal of Political Economy .76

Berk, R.A., K.J. Lenihan, and P.H. Rossi. 1980. "Crime and Poverty: Some Experimental Evidence from Ex-Offenders." American Sociological Review. 45: 766-786.

Bloom, Howard. 1993. "National JTPA Study: Origins, Objectives and Issues of Interpretation." Evaluation Forum. Summer: issue 9.

Bloom, Howard, et al. 1994. The National JTPA Study: Overview of Impacts, Benefits, and Costs of Title IIA. Bethesda, MD: Abt Associates.

Boarnet, Marlon G. and William T. Bogart. 1996. "Enterprise Zones and Employment: Evidence from New Jersey." forthcoming in the Journal of Urban Economics.

Bostic, Raphael W. 1996. Enterprise Zones and the Attraction of Businesses and Investment: The Importance of Implementation Strategies and Program Incentives. Washington, DC: Division of Research and Statistics, Board of Governors of the Federal Reserve System.

Bourgois, Phillipe. 1995. In Search of Respect: Selling Crack in El Barrio. New York: Cambridge University Press.

Bowman, William. 1993. Evaluating JTPA Programs for Economically Disadvantaged Adults: A Case Study of Utah and General Findings. Annapolis, MD: Annapolis Economic Research.

Bushway, Shawn. 1996. The Impact of a Criminal History Record on Access to Legitimate Employment. Unpublished Dissertation, Carnegie Mellon University.

Case, Anne and Lawrence Katz. 1991. The Company You Keep: The Effects of Family and Neighborhood on Disadvantaged Youth. National Bureau of Economic Research.

Cave, George, et al. 1993. JOBSTART: Final Report on a Program for High School Dropouts. New York: Manpower Demonstration Research Corp.

Cave, George and Janet Quint. 1990. Career Beginnings Impact Evaluation: Findings from a Program for Disadvantaged High School Students. New York: Manpower Demonstration Research Corp.

Chiricos, Ted. 1986. "Rates of Crime and Unemployment: An Analysis of Aggregate Research Evidence." Social Problems. 34:187-212.

- Clark, P.M. 1990. Crime, Employment and Recidivism: A Review of Employment Related Interventions with Criminal Offenders. College Station, TX: Technology and Society Division, Texas Engineering Experiment Station, Texas A&M University.
- Clasby, Richard. 1996. Recidivism Rates and UCi Participation. Draper, UT: Department of Corrections, Correctional Industries Division.
- Coffey, Osa and Maia Gemignani. 1994. Effective Practices in Juvenile Correctional Education: A Study of the Literature and Research 1980-1992. Washington, DC: Office of Juvenile Justice Prevention.
- Cook, Philip and Gary Zarkin. 1985. "Crime and the Business Cycle." Journal of Legal Studies. 14: 115-28.
- Correctional Educational School Authority. 1990. Academic and Vocational Program Completers Released from Prison During Fiscal Year 1986-1988: Employment, Recidivism and Corson, Walter, and Joshua Haimson. 1994. The New Jersey Unemployment Insurance Re-Employment Demonstration Project: Six Year Follow-Up Report. Princeton, NJ: Mathematica Policy Research, Inc.
- Corson, Walter and Marsha Silverberg. 1994. The School-to-Work/Youth Apprenticeship Demonstration: Preliminary Findings. Research and Evaluation Report Series 94-E. Washington, DC: U.S. Department of Labor.
- Cost Avoidance. Tallahassee, FL: Correctional Education School Authority, Planning Research and Evaluation.
- District of Columbia Pretrial Services Agency quarterly Drug Use Among Juvenile Arrestees
- Donohue III, John J. and Peter Siegelman. 1996. Is the United States at the Optimal Rate of Crime? Allocating Resources Among Prisons, Police, and Social Programs. Working paper for the American Bar Foundation.
- Dreier, Peter and David Moberg. 1996. "Moving From the 'Hood: The Mixed Success of Integrating Suburbia." The American Prospect. Winter: 75-9.
- Dynarski, Mark and Linda Rosenberg. 1995. Evaluation of Youth Fair Chance: Summary of Program Characteristics After Year One. Princeton, NJ: Mathematica Policy Research.
- Engberg, John and Robert Greenbaum. 1996. "State Enterprise Zones and Local Housing Markets." Ongoing research at Carnegie Mellon University.
- Erickson, Rodney A. and Susan W. Friedman. 1991. "Comparative Dimensions of State Enterprise Zone Policies." In R.E. Green ed., Enterprise Zones: New Dimensions in Economic Development. Newbury Park, CA: Sage Focus Edition.
- Fabelo, Tony. 1992. Evaluation of the Reading to Reduce Recidivism Program. Austin, TX: Texas Criminal Justice Policy Council.
- Fagan, Jeffrey. 1995. "Legal Work and Illegal Work: Crime, Work, and Unemployment." In Burton Weisbrod and James Worthy, eds., Dealing with Urban Crisis: Linking Research to Action. Evanston, IL: Northwestern University Press.
- Farkas, George, et al. 1982. Impacts from the Youth Incentive Entitlement Pilot Projects: Participation, Work and Schooling Over the Full Program Period. New York: Manpower Demonstration Research Corp.
- Farrington, David P., et al. 1986. "Unemployment, School Leaving and Crime." British Journal of Criminology. 26: 335-56.
- Faupel, Charles E. 1988. "Heroin Use, Crime and Unemployment." The Journal of Drug Issues. 18: 467-79.
- Ferguson, Ronald and Jason Snipes. 1995. The Process of Youth Development in the Youthbuild Demonstration Project. Cambridge, MA: John F. Kennedy School of Government, Harvard University.
- Finn, Mary A. And Katherine G. Willoughby. 1996. "Employment Outcomes of Ex-Offender Job Training Partnership Act

(JTPA) Trainees." Evaluation Review. 20: 67-83.

Flanagan, T.J., T.P. Thornberry, K. Maguire, and E. McGarrell. 1988. The Effect of Prison Industry Employment on Offender Behavior: Report of the Prison Industry Research Project. Albany, NY: Hindelang Criminal Justice Research Center.

Freeman, Richard B. 1995. "The Labor Market." In J.Q. Wilson and Joan Petersilia, eds., Crime. San Francisco, CA: Institute for Contemporary Studies.

Gerber, Jurg and Eric J. Fritsch. 1993. Prison Education and Offender Behavior: A Review of the Scientific Literature. Huntsville, TX: Texas Department of Criminal Justice, Institutional Division.

Gleason, Philip and Mark Dynarski. 1995. Falling Behind: Characteristics of Students in Federally Funded Dropout Prevention Programs. Princeton, NJ: Mathematica Policy Research.

Good, David H. and Maureen A. Pirog-Good. 1987. "Employment, Crime and Race." Contemporary Policy Issues. 5: 91-104.

Gottfredson, Denise C. 1985. "Youth Employment, Crime, and Schooling: A Longitudinal Study of a National Sample." Developmental Psychology. 21: 419-32.

Gottfredson, Michael and Travis Hirschi. 1990. A General Theory of Crime. Stanford: Stanford University Press.

Gray, Tara and Jon'a F. Meyer. 1995. "Expanding Prison Industries Through Privatization." In G. Larry Mays and Tara Gray, eds., Privatization and the Provision of Correctional Services. Anderson Press.

Green, T., J. Richmond, and J. Taira. 1993. POWER Program (Providing Opportunities for Work, Education and Readiness): Final Evaluation Report. Minneapolis, MN: Hennepin County Administrative Support Division, Bureau of Community Corrections.

Greenwood, Peter and Susan Turner. 1993. "Evaluation of the Paint Creek Youth Center: A Residential Program for Serious Delinquents." Criminology. 31: 263-280.

Grey, Doug and Greg Wren. 1992. Pre-release at South Idaho Correctional Institution: Something Works. Boise, ID: South Idaho Correctional Institution.

Grossman, Jean Baldwin. 1992. The Evolution of Youth Employment and Training Programs. Philadelphia: Public/Private Ventures.

Gruber, David and Frazierita Davidson. 1986. State Employment Initiatives for Youth: A Assessment of the Demonstration. Philadelphia: Public/Private Ventures.

Hale, Chris and Dima Sabbagh. 1991. "Testing the Relationship Between Unemployment and Crime: A Methodological Comment and Empirical Analysis Using Time Series Data from England and Wales." Journal of Research in Crime and Delinquency. 28: 400-17.

Hartmann, David, P. Friday, and Kevin Minor. 1994. "Residential Probation: A Seven Year Follow-Up Study." Journal of Criminal Justice. 22: 503-15.

Hayward, Becky and G. Talmadge. 1993. Evaluation of Dropout Prevention and Re-entry Projects in Vocational Education: Draft Final Report. Research Triangle Park, NC: Research Triangle Institute.

Heckman, James J. 1994. "Is Job Training Oversold?" The Public Interest. Spring: 91-115.

_____. 1996. "What Should Our Human Capital Investment Policy Be?" Jobs & Capital. 5: 3-10.

_____, Rebecca Roselius and Jeffrey Smith. 1993. "U.S. Educational and Training Policy: A Re-evaluation of the Underlying Assumption Behind the `New Consensus." University of Chicago Graduate School of Public Policy.

- Henry, Patrick. 1988. Effects of Private Industry Participation on Inmates Adjustment Experiences Before and After Release. St. Petersburg, FL: Department of Sociology, Eckerd College.
- Hershey, Alan and Linda Resenberg. 1996. School-to-Work Implementation Progress: The State Perspective in Early 1996. Princeton, NJ: Mathematica Policy Research, Inc.
- Hillsman, Sally. 1982. "Pretrial Diversion of Youthful Adults: A Decade of Reform and Research." The Justice System Journal, 7/3:361-387.
- Hoffman, P. And B. Meierhoefer. 1979. "Post-release Experiences of Federal Prisoners: A Six-Year Follow-Up." Journal of Research in Crime and Delinquency. 28: 400-17.
- Holzer, Harry J., Richard N. Block, Marcus Cheatham, and Jack H. Knott. 1993. "Are Training Subsidies for Firms Effective? The Michigan Experience." Industrial and Labor Relations Review. 46: 625-636.
- Home Builders Institute. 1996. Project TRADE (Training, Restitution, Apprenticeship, Development and Education) Report. Washington, DC: Home Builders Institute.
- Hughes, Mark Alan. 1993. Over the Horizon: Jobs in the Suburbs of Major Metropolitan Areas. Philadelphia, PA: Public/Private Ventures.
- Jacobs, James B., Richard McGahey, and Robert Minion. 1984. "Ex-Offender Employment, Recidivism, and Manpower Policy: CETA, TJTC, and Future Initiatives." Crime and Delinquency. 30: 486-506.
- James, Thomas S. and Jeanne M. Granville. 1984. "Practical Issues in Vocational Education for Serious Juvenile Offenders." In R. Mathias, P. DeMuro, and R. Allinson, eds., Violent Juvenile Offenders: An Anthology. San Francisco, CA: National Council on Crime and Delinquency.
- Johnson, Candace. 1984. The Effects of Prison Labor Programs on Post-Release Employment and Recidivism. Doctoral Dissertation, Florida State University.
- Johnson, Terry, et al. 1991. Evaluation of the Impacts of the Washington Alternative Work Search Experiment. Unemployment Insurance Occasional Paper 91-4. Washington, DC: Department of Labor.
- Katz, Jack. 1989. The Seductions of Crime. New York: Basic Books.
- Kiss, Dr. Mary Ellen. 1996. Youth Pilot Projects: Multisite Competition. Bowie, MD: Resource Development Group, Inc.
- Lattimore, Pamela K., Ann Dryden Witte, and Joanna R. Baker. 1990. "Experimental Assessment of the Effect of Vocational Training on Youthful Property Offenders." Evaluation Review. 14: 115-33.
- Leiber, Michael J. And Tina L. Mawhorr. 1995. "Evaluating the Use of Social Skills Training and Employment with Delinquent Youth." Journal of Criminal Justice. 23: 127-41.
- Lemert, Edwin. 1951. Social Pathology. New York: McGraw-Hill.
- Levin, Laurie, Bernard McMullan, and Paul Rynders. 1987. Ventures in Community Improvement: Findings from a Four Site Replication Initiative. Philadelphia: Public/Private Ventures.
- Maguire, Kathleen E., Timothy J. Flanagan, and Terence P. Thornberry. 1988. "Prison Labor and Recidivism." Journal of Quantitative Criminology. 4: 3-18.
- Mallar, Charles and Craig V.D. Thornton. 1978. "Traditional Aid for Released Prisoners: Evidence from the LIFE Experiment." Human Resources. 13: 208-36.
- Mallar, Charles, et al. 1982. Third Follow-Up Report of the Evaluation of the Economic Impact of the Job Corps. Princeton, NJ: Mathematica Policy Research, Inc.

Markley, H., K. Flynn, and S. Bercaw-Dooen. 1983. "Offender Skills Training and Employment Success: An Evaluation of Outcomes." Correctional and Social Psychiatry and Journal of Behavior Technology Therapy. 29: 1-11.

Martinson, Robert. 1974. "What Works? Questions and Answers about Prison Reform." Public Interest. 35: 22-54.

Mathematica Policy Research. 1993. Fifth Year Employment Impacts of CET. Princeton, NJ: Mathematica Policy Research, Inc.

Mayer, Susan. 1991. "How Much Does a High School's Racial and Socioeconomic Mix Affect Graduation and Teenage Fertility Rates?" In C. Jencks and P. Peterson, eds., The Urban Underclass. Washington, DC: The Brookings Institution.

Menon, Ramdas, Craig Blakely, Dottie Carmichael, and Laurie Silver. 1992. An Evaluation of Project RIO Outcomes: An Evaluative Report. College Station, TX: Public Policy Resources Laboratory.

Moody, Mark, et al. 1994. Evaluation of Maryland's Tomorrow Program: Cohort I and II. Maryland State Department of Education.

Moses, Marilyn C. 1996. Project Re-Enterprise: A Texas Program. Washington, DC: U.S. Department of Justice, National Institute of Justice.

Myers, Samuel. 1982 . "Racial Differences in Postprison Employment." Social Science Quarterly. 655-669.

Myers, Samuel L. 1983. "Estimating the Economic Model of Crime: Employment Versus Punishment Effects." The Quarterly Journal of Economics. February: 157-66.

Nagin, Daniel and Joel Waldfogel. 1995. "The Effects of Criminality and Conviction on the Labor Market Status of Young British Offenders." International Review of Law and Economics, 15:109-126.

_____. 1994. "The Effect of Conviction on Income Over the Life Course." Working Paper, Yale University.

National Institute of Justice. 1991. Post-release Employment Project: Summary of Preliminary Findings. Washington, DC: U.S. Department of Justice, Federal Bureau of Prisons.

Needels, Karen. 1996. "Go Directly to Jail and Do Not Collect? A Long-term Study of Recidivism, Employment and Earnings Patterns Among Prison Releasees." Journal of Research on Crime and Delinquency.33: 471-496.

Office of Juvenile Justice Delinquency Prevention. 1995. Guide for Implementing the Comprehensive Strategy for Serious, Violent and Chronic Juvenile Offenders. Washington, DC: U.S. Department of Justice.

Office of Juvenile Justice Delinquency Prevention. 1994. Effective Practices in Juvenile Correctional Education: A Study of the Literature and Research 1980 - 1992. Washington, D.C., U.S. Department of Justice.

Papke, Leslie E. 1994. "Tax Policy and Urban Development: Evidence from the Indiana Enterprise Zone Program." Journal of Public Economics. 54: 37-49.

_____. 1993. "What Do We Know About Enterprise Zones?." In James M. Poterba ed., Tax Policy and the Economy. Cambridge, MA: MIT Press.

Pezzin, Lillian E. 1995. "Earnings Prospects, Matching Effects, and the Decision to Terminate a Criminal Career." Journal of Quantitative Criminology. 11: 29-50.

Phillips, Llad and Harold L. Votey, Jr. 1987. "The Choice Between Legitimate and Illegitimate Work: Micro Study of Individual Behavior." Contemporary Policy Issues. 5: 59-72.

Piehl, Anne M. 1995. Learning While Doing Time. Cambridge, MA: John F. Kennedy School of Government, Harvard University.

Piliavin, Irving and Rosemary Gartner. 1981. The Impact of Supported Work on Ex-Offenders. Madison, WI: Institute for Research on Poverty and Mathematical Policy Research, Inc.

Report prepared for Manpower Demonstration Research Corp.

Piliavin, Irving and Stanley Masters. 1981. The Impact of Employment Programs on Offenders, Addicts, and Problem Youth: Implications from Supported Work. Madison, WI: University of Wisconsin, Institute for Research and Poverty Discussion.

Public/Private Ventures. 1994. Youth in JTPA: Findings from a 1990 Field Study. Philadelphia: Public/Private Ventures.

Reuter, Peter; Robert J. MacCoun and Patrick J. Murphy. 1990. Money from Crime: The Economics of Drug Selling in Washington, DC. Santa Monica: RAND.

Rosenbaum, James E. 1992. "Black Pioneers--Do Their Moves to the Suburbs Increase Economic Opportunity for Mothers and Children." Housing Policy Debate. 2: 1179-1213.

Rovner-Pieczenik, Roberta. 1973. A Review of Manpower R&D Projects in the Correctional Field (1963-1973). Manpower Research Monograph, no. 28. U.S. Department of Labor: Washington, DC.

Rubin, M. 1990. "Urban Enterprise Zones: Do They Work? Evidence from New Jersey." Public Budgeting and Finance. 10: 3-17.

Rubinstein, Michael. 1995. Giving Youth a Second Chance: The Evaluation of the Alternative Schools Demonstration Program. Washington, DC: Policy Studies Associates.

Sadd, S., et al. 1983. Alternative Youth Employment Strategies Project: Final Report. New York: Vera Institute.

Saner, Hilary; Robert J. MacCoun and Peter Reuter. 1995. "On the Ubiquity of Drug Selling Among Youthful Offenders in Washington, D.C., 1985-1991." Journal of Quantitative Criminology. 11: 337-362.

Saylor, William G. and Gerald G. Gaes. 1996. PREP: Training Inmates through Industrial Work Participation, and Vocational and Apprenticeship Instruction. Washington, DC: U.S. Federal Bureau of Prisons.

Schwartz, Richard D. and Jerome H. Skolnick. 1964. "Two Studies of Legal Stigma." In Howard Becker, ed., The Other Side: Perspectives of Deviance. New York: Free Press.

Silverberg, Marsha. 1995. Facing the Challenge of Change: Experiences and Lessons of the School-to-Work/Youth Apprenticeship Demonstration. Princeton, NJ: Mathematica Policy Research.

Smith, Michael E. and James W. Thompson. 1983. "Employment, Youth, and Violent Crime." In Kenneth Feinberg, ed., Violent Crime in America. Washington, DC: National Policy Exchange.

Smith, Thomas J., Gary Walker, and Rachel Baker. 1987. Youth and the Workplace: Second Chance Programs and the Hard-to-Employ. Philadelphia: Public/Private Ventures.

Spencer, F. 1980. "The Effects of an Experimental Vocational Intervention Model upon Hard-Core Unemployed Ex-Offenders." Journal of Offender Counseling, Services and Rehabilitation. 4: 343-356.

Stewart, James K. 1986. "The Urban Strangler." Policy Review. summer: 6-10.

Taylor, Ronald L. 1990. "Improving the Status of Black Youth." Youth & Society. 22: 85-107.

Tennebaum, Judith. 1996. Southwest Metro Reverse Commute Project: Interim Reports and Preliminary Findings. Minneapolis, MN: Loring Nicollet-Bethlehem Community Centers, Inc.

Thornberry, Terence P., Melanie Moore, and R.L. Christenson. 1985. "The Effect of Dropping Out of High School on Subsequent Criminal Behavior." Criminology. 23: 3-18.

Uggen, Christopher. 1996. "Estimating the `True Effect' of Work on Crime: A Dynamic Analysis of Supported Employment and Desistance." Paper delivered at the American Society of Criminologists meetings.

_____. 1994. "Innovators, Retreatists, and the Conformist Alternative: A Job Quality Model of Work and Crime." unpublished paper, University of Wisconsin-Madison.

U.S. Department of Housing and Urban Development. 1996. Expanding Housing Choices for HUD-Assisted Families. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

U.S. Department of Labor. 1995. What's Working (and What's Not). Washington, DC: Office of the Chief Economist, U.S. Department of Labor.

_____. 1990. Guidebook for the Operation of the Federal Bonding Program. Washington, DC: U.S. Department of Labor, Employment and Training Administration.

_____. 1992. Training and Employment Report of the Secretary of Labor. Washington, DC: U.S. Department of Labor, Employment and Training Administration.

Van Stelle, Kit, Julie R. Lidbury, and D. Paul Moberg. 1995. Final Evaluation Report Specialized Training and Employment Project (STEP). Madison, WI: University of Wisconsin Medical School, Center for Health Policy and Program Evaluation.

Vera Institute of Justice. 1970. Pre-Trial Intervention: The Manhattan Court Employment Project. New York: Vera Institute of Justice.

Walker, Gary and Frances Viella-Velez. 1992. Anatomy of a Demonstration. Philadelphia: Public/Private Ventures.

Walker, R. and D. Greenstreet. 1991. "The Effect of Government Incentives and Assistance on Location and Job Growth in Manufacturing." Regional Studies. 25: 13-30.

White, Thomas, et al. 1993. Maryland's Tomorrow Evaluation: Year Four. Washington, DC: Pelavin Associates.

Wilder, Margaret G. and Barry M. Rubin. 1996. "Rhetoric vs. Reality: A Review of Studies on State Enterprise Zone Programs." Journal of the American Planning Association. Fall: .

Williams, Nicolas, Francis Cullen, John Paul Wright. 1996. "Labor Market Participation and Youth Crime: The Neglect of 'Working' in Delinquency Research." Forthcoming, Social Pathology.

Wilson, Paul R. 1994. "Recidivism and Vocational Education." Journal of Correctional Education. 45: 158-63.

Wilson, William Julius. 1987. The Truly Disadvantaged: The Inner City, The Underclass and Public Policy. Chicago, IL: University of Chicago Press.

_____. 1996. When Work Disappears: The World of the New Urban Poor. New York: Alfred A. Knopf.

Urban Institute. 1995. Federal Funds, Local Choices: An Evaluation of the Community Development Block Grant Program. Washington, DC: Urban Institute, Center for Public Finance and Housing.

Wolf, Wendy, Sally Leiderman, and Richard Voith. 1987. The California Conservation Corps: An Analysis of Short-Term Impacts on Participants. Philadelphia: Public/Private Ventures.

Wolf, Wendy, John M. Kelley, Jerene Good, and Richard Silkman. 1982. The Impact of Pre-Employment Services on the Employment and Earnings of Disadvantaged Youth. Philadelphia, PA: Public/Private Ventures.

Wolfgang, Marvin, Robert Figlio and Thorstin Sellin. 1972. Delinquency in a Birth Cohort. Chicago, IL: University of Chicago Press.

Wren, C. and M. Waterson. 1991. "The Direct Employment Effects of Financial Assistance to Industry." Oxford Economic Papers. 43: 116-138.

Chapter 7

PREVENTING CRIME AT PLACES

John E. Eck

WHY PLACES ARE IMPORTANT

Most places have no crimes and most crime is highly concentrated in and around a relatively small number of places. If we can prevent crime at these high crime places, then we might be able to reduce total crime. Do we have evidence that this is feasible?

Places have received relatively little attention in crime policy so it is important to define "place." A place is *a very small area reserved for a narrow range of functions, often controlled by a single owner, and separated from the surrounding area*. By small we mean that a location is smaller than a neighborhood or community. Examples of places include stores, homes, apartment buildings, street corners, subway stations, and airports. We will also include mobile places, such as buses, in our discussions.

Concentration of crime at places is predicted by routine activity theory (Cohen and Felson 1979; Felson 1994) and offender search theory (Brantingham and Brantingham 1981). Some of the original evidence for clustering of crime at places was found in Boston (Pierce, Spaar and Briggs 1986) and Minneapolis (Sherman, Gartin and Buerger 1989). Additional evidence for crime concentration at places has been found for specific types of crime. Crow and Bull (1975) noted over 20 years ago that most convenience stores have no or few robberies, but a few have many robberies. In England and Canada a growing body of research has revealed that in high burglary neighborhoods most residences have no burglaries, but a few residences suffer repeated burglaries (Forrester et. al. 1988; Forrester et. al. 1990; Polvi et. al. 1990; Farrell 1995). Among drinking establishments, a few bars have most tavern-related violence (Sherman, Schmidt, and Velke 1992). Ten percent of the fast food restaurants in San Antonio, Texas account for one third of the property crimes at such restaurants (Spelman 1995b). In Kansas City and Indianapolis, gun crimes were found to be highly concentrated at a few places (Sherman and Rogan 1995b). Drug dealing is highly concentrated in a few locations, even in areas with a high volume of drug dealing (Weisburd, Green and Ross 1994; Eck 1994; Sherman and Rogan 1995a). This clustering is most apparent when compared to repeat offending and repeat victimizations. Combining the results from several studies, Spelman estimated that 10 percent of the victims in the United States are involved in about 40 percent of the victimizations, that 10 percent of the offenders are involved in over 50 percent of the crimes, and that 10 percent of the places are sites for about 60 percent of the crimes (Spelman and Eck 1989). Further, the concentration of crimes at a few places is relatively stable over time (Spelman 1995a, 1995b). These findings suggest that something about a few places facilitates crimes and something about most places prevents crimes.

Blocking Criminal Opportunities

The oldest forms of crime prevention were undertaken with the knowledge that making changes to places might prevent criminal events. These changes involve making crime more difficult, risky, less rewarding, or less excusable. This approach is known as opportunity blocking (Clarke 1992; 1995; Clarke and Homel, forthcoming). Opportunity blocking does not have to be done at places. It can also be built into targets (for example, designing anti-theft devices into automobiles [Clarke 1995] or printing holograms and photos on credit cards to curtail forgery and fraud).

Designing methods for blocking crime opportunities is the domain of Situational Crime Prevention (Clarke 1992; 1995). In this chapter we examine opportunity blocking at places, a subset of Situational Crime Prevention. It not only has a much longer history than offender-based prevention measures, it is used much more widely and in more settings than any other form of crime prevention. The vast majority of efforts to block crime opportunities at places are carried out and paid for by businesses, individuals, and local governments. Because places themselves have only recently become a subject for study by criminologists (Eck and Weisburd 1995), the Office of Justice Programs has funded very few explicit place-focused programs or tests of place-focused prevention. We will see that this lack of attention has limited our knowledge about this approach to prevention.

Opportunity blocking at places may have a greater direct effect on offenders than other crime prevention strategies. This is because place-focused tactics might influence offenders when they are deciding to commit a specific crime. Most offender based

strategies try to sway offenders weeks, months, or years before they confront a tempting criminal opportunity. If offenders pay closer attention to the situation immediately before them than to the uncertain long term risks of their behavior, then it is quite possible that prevention at places may have a greater impact on offending than increases in penalties or less tangible increases in risks (e.g., decreases in police response time, increased police presence, or greater numbers of arrests and convictions). Because hotspots of crime are themselves clustered, if crime at these few places can be substantially reduced, communities can be made safer.

Although opportunity blocking takes a different approach than programs designed to change the life-course of potential and existing offenders, these two approaches can work together. Keeping cookies out of sight of toddlers is not only different from instructing them not to take the cookies -- and sanctioning them when they yield to temptation -- it reinforces instructions and sanctions by eliminating the temptation. For people with low self-control and low ability to see long term consequences of behavior (Gottfredson and Hirschi 1990) addressing the immediate circumstances surrounding crime opportunities may amplify the effectiveness of other strategies designed to address the prevalence of such offenders.

The evaluations selected for review in this chapter were required to meet three criteria. First, they must describe crime opportunity blocking at places. Second, they had to examine the manipulation of places, usually intentional changes in which the changes clearly precede any change in crime. Third, each evaluation must report outcome data, typically a measure of crime. We did not examine studies of implementation and management that did not measure an impact on crime. In short, we looked at evaluations of the impact on crime of intentional changes at places.

Over the last decade, police have paid attention to places, or "hotspots," of crime (Eck and Spelman 1989; Sherman and Weisburd 1995). This chapter does not review police efforts at places that relied solely on patrolling, investigations, or other enforcement. These are reviewed in Chapter 8 of this report. We did review evaluations of interventions involving police agencies when the intervention was a tactic that could also have been implemented by other agencies or institutions. Nuisance abatement, for example, has been implemented by police agencies, but it has also been implemented by prosecutors' offices, city attorneys, and citizen groups. In short, who implemented the tactic was of less importance than the fact that the tactic was applied at places.

Table 7-1 summarizes the evaluations examined. When a report described several separate quasi-experiments we treated them as distinct interventions. Two-thirds of the evaluations were conducted outside the United States, particularly in the United Kingdom and Australia. Only six studies were funded by an OJP-related agency. Although the OJP funded evaluations comprise only 15 percent of U.S. interventions, recent efforts by the National Institute of Justice (NIJ) are improving our understanding of places. NIJ's Drug Market Analysis Project helped introduce computer mapping of crime and drug places to police agencies and funded one of the randomized experiments described in this chapter (as well as several evaluations described in Chapter 8, on police prevention). The recent establishment of the Crime Mapping Research Center at NIJ has the potential to increase our knowledge of what works at places.

Violent crimes -- homicide, robbery and assault (no rape prevention evaluations were found) -- were the focus of 31 percent of the evaluations. Three of the six drug dealing prevention evaluations were OJP funded. Over half the evaluations examined serious crime (either a mixture of violent and non-violent crimes, or just non-violent crimes). Thus, 90 percent of the evaluations focused on serious property, personal, or drug crimes. Only 20 percent of the evaluations examined minor offenses, such as property damage, vandalism, minor thefts or incivilities.

As in earlier chapters, evaluations were graded using the scientific methods score (1=correlations between tactics and crime and studies without pre-intervention measures; 2=pre-post designs without control places; 3=pre-post designs with controls or time-series designs with at least five time periods prior to the intervention; 4=studies of interventions in a large sample of places compared to similar places without interventions; and 5=randomized controlled experiments). The modal score was 3, but a substantial number of evaluations only scored 2. There were few studies at either extreme (1 or 5).

Table 7-1: SUMMARY OF EVALUATIONS

Reports Examined	78	Percent of Interventions
Interventions Examined	99	100%
Funded by OJP agency*	6	6%

Setting & Crimes Study

U.S. Setting	40	40%
Violent Crime	31	31%
Drug Dealing	6	6%
Serious Crime	52	53%
Minor Crime	20	20%

Scientific Methods Score

1 -- correlation/cross section	7	7%
2 -- before/after (b/a)	36	36%
3 -- b/a with control & time series	50	51%
4 -- large sample quasi-exper.	4	4%
5 -- randomized experiments	2	2%

Evidence of Crime Change

Down	89	90%
Up	2	2%

* Including predecessor agencies within the Department of Justice.

GENERAL FINDINGS

These evaluations are consistent with the hypothesis that opportunity blocking at places can prevent crime, at least under some circumstances. Ninety percent of the evaluated interventions displayed evidence of crime reduction effects. Often these reductions were large. As we will see, these findings are consistent across a variety of evaluation designs, settings, and interventions. Although few of them have been replicated at a strong level of scientific evidence, there is good reason to invest in further testing of these tactics. Do these tactics displace crime? We will delve into this issue at the end of this chapter, but for now we will state that displacement seldom overwhelms prevention effects.

How much can we conclude about specific types of intervention, at specific places, against specific crimes? The answer is, we usually cannot be confident about what works where. We will discuss this finding in greater detail later in this chapter. We looked at nine types of places in four broad categories: In the following sections we describe the results of evaluations at residential places; money spending places (retail stores, banks and money handling businesses, and bars and drinking establishments); transportation places (public transportation facilities, parking lots, and airports); and other public places (open urban spaces and public coin machines). The nine types of places examined were not selected on theoretical grounds. They were selected because these were the places for which evaluations existed. Clearly, our knowledge about place-focused tactics is

limited to a relatively few place types. Within each category we examine look at a variety of crime prevention tactics.

APARTMENTS AND RESIDENCES

Places where people live are the subject of this section. We will examine six types of interventions at residential properties, many of which are in public housing in Great Britain and the United States. Public housing complexes have become notorious for high crime rates in the United States. Dunworth and Saiger (1994) found that public housing complexes in three cities had higher rates of violent crimes and drug arrests than nearby neighborhoods or surrounding cities, but there was a great deal of variation among housing projects within each of the cities. We will see that crime in British public housing estates can also be a problem. First we will look at efforts to reduce crime by restricting movement through apartment complexes. Next we will look at improving security by improving locks and barriers on windows and doors. Third, we will examine property marking. Improving watching of residences is the subject of the fourth section. In the fifth section we will look at the effectiveness of multiple tactic interventions to prevent burglaries at dwellings with a history of burglary. Finally, we will turn our attention to methods to compel place managers to reduce drug dealing on their rental property. Table 7-2 summarizes the evaluations of crime prevention in residential settings.

Restricting Pedestrian Access and Movement

Oscar Newman's *Defensible Space* (1972) stimulated interest in the link between the built environment and crime in residential areas. Newman compared two public housing complexes and asserted that the differences in design were the principal reasons for the differences in crime. The limited number of places observed and the failure to take into account other differences (most notably the age distribution of tenants) suggests that his conclusions may have been overstated (Mawby 1977; Mayhew 1979; Merry 1981; Taylor, Gottfredson, and Brower 1980). Newman expanded on his ideas in a later book (1980). Other studies of the influence of design have compared more sites (Coleman 1985; Poyner 1983; Poyner and Webb 1991). All pointed to the association of design features and crime, particularly features that allow unfettered movement through residential complexes. Two of these evaluations examine changes in residential sites that break up large residential complexes into smaller components.

Newman (1980; 1996) reports on the effect of changes to the Clawson Point public housing complex in the Bronx. The complex was changed by reducing the number of pedestrian routes through the project, creating separate areas within the complex, improving lighting, and enhancing the surface appearance of the buildings. Newman (1996) reports a 54 percent decline in the crime rate and a 62 percent decline in the rate of serious crime (burglary, robbery and assault). No control group was used.

Poyner (1994) describes a retrospective evaluation of the effect of the removal of elevated walkways connecting buildings in a British public housing complex. The walkways were thought to facilitate robberies of residents. He reports a reduction in purse snatching, but no reduction in burglaries. An entry phone was installed at one entrance and this too may have contributed to the decline in purse snatches. Although auto thefts declined, Poyner was unable to determine if this was due to the removal of the walkways or the presence of construction workers while the removal was underway. There was no comparison to control places.

Restricting the movements of pedestrians was also part of a 1991 effort to reduce crime in several of Chicago's worst public housing buildings (Popkin et. al. 1995b). The approach included door-to-door police inspections of all units within the buildings. Ground floor entrances were enclosed in new lobbies and guard stations were installed along with metal detectors. Residents were issued identification cards and asked to present them when entering the buildings. In addition to housing authority and private security guards, the Chicago Public Housing Authority organized tenant patrols. Finally, a set of drug prevention services were provided tenants.

Popkin and her colleagues (1995b) attempted to evaluate this program. They interviewed a sample of residents in two complexes and asked them if conditions had improved, remained the same, or became worse following the interventions. The surveys found that 74 percent and 88 percent of respondents (depending on the complex) said shootings and fighting in their building had declined. It also found that 40 percent and 64 percent of the residents interviewed said drug dealing in their building had declined. These retrospective assessments by residents were a substitute for pre-treatment measures of crime and drug problems. The lack of control groups and true pre-treatment measures of crime, along with the implementation of multiple simultaneous interventions means that we cannot determine if the restrictions on pedestrian access contributed to improvements.

Collectively, these evaluations are suggestive of possible beneficial effects of reducing pedestrian movement through large public housing complexes. The weak designs used to evaluate these interventions temper our confidence in these types of interventions.

Target Hardening

Providing locks and improved security to access points is a commonly used burglary prevention tactic. The installation of improved locks and doors at two English public housing complexes was evaluated by Tilly and Webb (1994). Both studies used a pre-post design compared to a control area. In one complex burglaries declined 59 percent. In the other, burglaries decline over 90 percent relative to the control area.

The displacement of burglars to less protected locations is commonly raised as a threat to the effectiveness of place-focused interventions. Patricia Allatt (1984) has been one of the few evaluators to explicitly test for displacement effects. In addition to identifying the target residences which received improved ground floor entrance security, she examined the residences in the area immediately adjacent to the target area. And she used a control area that was far enough from the treatment area that it would not be contaminated by displacement. She found that burglaries in the target area increased by 9 percent one year after implementation, but in the control area burglaries had increased 77 percent. This suggests the program may have reduced potential burglaries, compared to what they would have been in the absence of the program. Burglaries increased 86 percent in the displacement area, but relative to the control area this was only a 9 percent increase over what could have been expected without the program. Thus, she was able to determine that displacement may have occurred, but was small relative to the overall program effect on the target area.

Target hardening appears to reduce burglaries without major displacement effects. However, with only two studies, more rigorous evaluations would make valuable contributions to our knowledge of what works in place-focused crime prevention.

Property Marking

A third approach to controlling burglaries is to make burglary targets unattractive to offenders. Laycock (1985; 1991) reports on the evaluation of a property marking campaign in two isolated Welsh communities. She reports a 40 percent decline in burglaries at residences where people said they engaged in property marking compared to the control group of non-participating residences. These results might be due to property marking, but the results could also occur if less vulnerable residents participated in the program and more vulnerable residents did not participate. Gabor (1981) also evaluated property marking in a Canadian neighborhood. He found a 75 percent increase in seasonally adjusted burglaries per dwelling unit by comparing the 24 months before the program to 18 months after the property marking. Clearly, with two contradictory studies we cannot be confident that property marking is an effective method for reducing burglaries to residences.

Closed-Circuit Television (CCTV)

CCTV was used in fifteen housing complexes for elderly residents in Manchester, England. Chatterton and Frenz (1994) report a decline in burglary and burglary attempts of 79 percent across all complexes. Again, natural trends in burglary were not reported due to the absence of control places. This single weak study is insufficient as a basis for crime prevention policy. We will return to the use of CCTV in other settings.

Multi-tactic Interventions and Repeat Victimizations

Crime prevention in residential settings often involves the implementation of a variety of measures. Evaluations of such interventions usually cannot estimate the relative effectiveness of the component parts, but they can show whether prevention is possible. Meredith and Paquette (1992) examined a multiple tactic approach to controlling burglaries in a Canadian apartment building. The program included apartment watch (like neighborhood watch but for apartment dwellers), target hardening, property marking, lighting improvements, and an assortment of other interventions. Reported burglaries dropped 82 percent from the year before to the year after the prevention measures were put in place. No control group was used, so again this drop may have been due to a general trend toward fewer burglaries in the surrounding area.

A growing body of evidence suggests that a few victims are involved in a large proportion of victimizations (Farrell 1995). Most of the research on this topic has been conducted in Great Britain, where programs to reduce burglaries of dwellings have been based these findings. The Kirkholt public housing complex has received considerable attention in England because evaluations indicated that focusing on residences with previous burglaries is effective (Forrester, Chatterton, and Pease 1988; Forrester, et. al. 1990; Pease 1991; Tilly 1993a). A number of interventions were used at each targeted residence, including target hardening and organizing residents in surrounding homes to watch the burgled house. However, two tactics deserves special mention. Like many low income publicly subsidized projects in England, the residences in Kirkholt had coin-operated gas meters. Residents put coins in the meter to get a preset amount of gas for heating and cooking. Officials periodically empty these meters, but for weeks the meters can contain a great deal of cash. These meters were the target of many of the burglaries in Kirkholt and

removing them was an important tactic in the project. Another part of the Kirkholt repeat victimization project was organizing the residents surrounding burgled dwellings to watch the victimized home. This was referred to as "cocoon neighborhood watch" because instead of organizing the entire neighborhood, the police focused only on the people living around at-risk places (Forrester, Chatterton, and Pease 1988; Forrester, et. al. 1990).

The 40 percent decline in burglaries in the first year following the start of the program, and subsequent decline over the next three years (controlling for seasonality and surrounding area burglary trends) cannot be attributed to any single tactic (Forrester, Chatterton, and Pease 1988; Forrester, et. al. 1990). Thus, we do not know which tactics worked.

Another repeat victimization program in Great Britain used a graded response to repeat victimization (Anderson, Chenery, and Pease 1995a; 1995b). Residents that reported a single burglary received a "bronze" response. This included crime prevention advice from the police, cocoon neighborhood watch, and improvement in dwelling security. If a resident was a victim of a second burglary within a year the police stepped up patrolling of the location, and put warning stickers on the dwelling. This was the "silver" response. If a third burglary was reported within a year then the "gold" response was put into place. This included the use of video surveillance of the location and even more intense police patrols. Anderson, Chenery and Pease (1995b) report a 19 percent reduction in burglaries relative to changes in burglary in the surrounding area.

Repeat victimization and crime prevention programs based on repeat victimizations are interesting. Because housing projects in Great Britain and the United States have important differences (the presence of coin-operated gas meters is just one example), research in the United States should be undertaken to determine if repeat burglaries are a problem in the United States, and if repeat victimization responses are effective. The National Institute of Justice is currently sponsoring studies examining repeat victimization.

Reducing Drug Dealing and Crime in Private Rental Places

Despite the fact that the management of private rental housing has only recently been examined as a crime risk factor, we have strong evidence that improving management of rental properties can reduce drug related crime. A study of retail drug dealing locations in San Diego found that smaller apartment buildings were more likely to be selected by drug dealers than the larger buildings, primarily because owners of the smaller buildings had less management resources to control the behaviors of place users (Eck 1994; 1995). Spelman (1993) studied residential locations that had been abandoned by their owners and found that they were magnets for crime. The effectiveness of compelling place managers to control the behaviors of people that use their properties has been the subject of a number of evaluations.

The civil law has been the primary tool used to make owners of private rental property evict drug dealers or make physical changes to their property. Hope (1994) describes three case studies from St. Louis where police officers influenced the changing of ownership of drug houses. Calls for service from blocks with the houses declined 54 percent to 94 percent relative to nearby blocks, suggesting a decline in drug selling.

Most efforts to influence landlords threaten civil action, but do not typically result in the transfer of property ownership or the seizure of property. Nuisance abatement programs threaten court action to seize property unless owners take action to curtail drug dealing. Three evaluations of nuisance abatement programs were found.

Lurigio and colleagues (1993) evaluated an abatement program run by the State's Attorney Office in Cook County, Illinois. They compared the perceptions of residents living near 30 abated properties to the perceptions of residents on nearby untreated blocks. They found no difference in perceptions. If the abatement program did reduce drug dealing or related crime, nearby residents did not notice it. The weakness of this design is that it does not have a true pre-treatment measures of crime, but only perceptions of change.

Green (1993; 1995; 1996) examined changes in drug arrests, police field contacts, and citizen calls around 275 abated drug dealing sites in Oakland, California. Relative to citywide changes in these measures, Green found a 15 percent decline in arrests, a 38 percent decline in field contacts, and a 14 percent decrease in citizen calls.

Finally, Eck and Wartell (1996) report on the results of a randomized controlled experiment using threatened property seizure in San Diego, California. No landlords were taken to court and no properties were seized. Instead, following police drug enforcement, owners of properties in one randomly selected group received a letter from the police ("letter" group). Owners of properties in another randomly selected group met with a narcotics detective and a city codes inspector ("meeting" group). Owners of properties in a third (control) group received no follow-up contact from the police or the city. Drug offenders who were lease holders were more likely to be evicted from the properties in meeting group. Further, for the six month period

following treatment, the properties in the meeting group had a significantly lower number of reported crimes. The letter group also had a decline in crimes, but it was not significantly different from the control group or the meeting group.

Three of the four studies report some reduction in crime or calls for service at treated drug properties or the block around the properties. The three studies that reported the positive findings were more rigorous than the single study showing no results. Thus we can be reasonably confident that holding owners responsible for drug dealing on their property may reduce drug related crime.

Conclusions About Residences

Collectively, there is reason to be optimistic about the efficacy of opportunity blocking tactics in residential settings. As a group, these evaluations -- from the weakest to the strongest -- suggest that improvements in crime reduction can be achieved. Nevertheless, it is difficult to be precise about what works, at which types of residential sites, and against which crimes. One set of tactics, however, does have a limited number of rigorous evaluations. Nuisance abatement is a place-focused tactic that "works." With the evidence available we are relatively certain that holding private landlords accountable for drug dealing on their property by threatening abatement reduces drug related crimes. A weaker body of evidence suggests that reducing the ability of people to move freely about large public housing complexes can reduce crime.

Addressing repeat victimization deserves more attention in the United States but there is insufficient evidence to recommend that this tactic be applied wholesale at this time. Nevertheless, research on repeat victimization prevention in housing and other settings will be useful for public housing authorities, police agencies, and private landlords. Finally, by that standards used in this report, the evidence for target hardening is weak so it is of unknown effectiveness. Of particular concern is the lack of significance tests in target hardening evaluations that could provide evidence that observed crime reductions were not due to chance. More rigorous evaluations need to be conducted to improve our confidence in this tactic.

Table 7-2: RESIDENCES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Allatt 1984	3	target hardening	British public housing	52% reduction relative to controls in burglary
Anderson, Chenery, Pease 1995a; 1995b	3	graded response depending on number of prior burglaries	British public housing (Huttersfield)	19% reduction in burglary relative to control
Chatterton & Frenz 1994	2	cctv including dummy cameras	elderly housing complexes, Manchester, Great Britain	79% decline in burglary and attempt burglary
Gabor 1981	3	property marking	residential dwellings, Canada	75% increase in burglary
Laycock 1985, 1991.	3	property marking	public housing, Great Britain	40% reduction in burglary

Tilly & Webb. 1994	3	improving security of doors and windows	Birmingham public housing , Great Britain	59% reduction in burglary
	3	improved door locks and removal of prepayment meters	Bradford public housing, Great Britain	91% reduction in burglary
Forrester, Chatterton, & Pease 1988; Forrester, Frenz, O'Connell & Pease 1990. Pease 1991. Tilly 1993a.	3	removal of pay gas meters; Cocoon neighborhood watch; security survey and hardware installation	Public housing, Great Britain	40% reduction in burglary in one year; continued drop over next three years
Meredith & Paquette 1992	2	crime watch (and target hardening)	apartment building	82% drop in burglary, little drop in other crimes
Popkin, et. al. 1995a; 1995b	1	guards, design changes, enforcement, identification cards, and other changes	Two high rise public housing buildings, Chicago	40% to 64% drop in drug dealing; 74% to 88% drop in shootings and fighting
Newman 1996	2	restricting pedestrian movement and other design changes	Bronx public housing	54% drop in reported crime. 62% drop in burglary, robbery, & assault
Poyner 1994	3	closing walkways connecting buildings and installation of entry phone	London public housing	reported reduction in purse snatches
Eck & Wartell 1996	5	nuisance abatement	private residential rental property, San Diego CA	59% drop relative to controls in reported crime for most stringent intervention, 51% drop for less stringent intervention not significant

Green 1993; 1995; 1996	4	nuisance abatement	private residential properties with drug dealing in Oakland, CA	15% decline in arrests, 38% decline in field contacts, & 14% decline in calls
Hope 1994	3	closing or selling of property	3 addresses used for drug dealing in St. Louis, MO	54%, 67% and 95% reduction in calls for service
Lurigio, et. al. 1993	2	nuisance abatement	residential properties in Cook County, IL	no difference between treated and untreated blocks relative to drug dealing

RETAIL STORES

Places that sell goods to the public are frequent crime sites. The theft of goods represents a large proportion of these crimes. Some of these thefts are committed by patrons and some by employees. In addition to thefts, robberies of store clerks and burglaries after store hours can also be problems. In this section we examine all of these crime types. First we will look at convenience store robberies. Much has been written on this topic, but most of it describes correlational studies with very small samples, comparing stores with and without robberies. As we will see, the number of evaluations of interventions is limited. We will then turn to burglaries and robberies in other retail settings. Third, we will examine credit card fraud. The largest group of studies involves shoplifting prevention. Finally, we will look at thefts by employees.

Convenience Store Robberies

Although convenience stores have received considerable attention in the crime prevention literature, robberies of these retail establishments peaked around 1980-81, declined through 1983 and remained stable for the next 10 years at around 16,000 per year. Over the same period, the number of such stores has increased and gas station robberies have trended upward (Bellamy 1996). Comparisons of convenience stores with and without robberies have been carried out for over two decades. These studies attempted to find store features that are associated with few or no robberies. The studies generally suffer from three major scientific problems. First, they usually examine a variety of store features using a small sample of stores. Since these features are often correlated with each other, it is difficult to determine which features are related to robberies. Second, since the store features and robberies are measured at about the same time, it is unclear if the features preceded the robberies (and could possibly have influenced the chances of the crime) or whether the robberies cause store managers to change the store's features. Finally, most convenience stores have no robberies, but a few have many robberies. Crime prevention measures may work in the few stores with repeated robberies but have no influence on the other stores (Crow and Bull 1975). It is not surprising, therefore, that these studies can arrive at contradictory findings.

One of the most debated questions is whether two clerks reduces the risk of robberies. Hunter and Jeffrey (1992) cite a number of studies showing that stores with fewer robberies are associated with two clerks being on duty. LaVigne (1991) provides evidence that the number of clerks is unrelated to robberies. Another study, conducted by Robert Figlio, compared 230 convenience stores with two or more clerks on duty at night, to 346 stores with only one clerk on duty, and examined a subsample of one-clerk stores before and after they shifted to two clerks. The evaluation found no impact on robberies by the switch to two clerks, compared to similar stores that did not increase the number of clerks from one to two. However, for stores with robberies prior to the switch, two clerks did reduce the chances of a robbery (National Association of Convenience Stores 1991).

The Gainesville (Florida) Police Department evaluated a city ordinance requiring two clerks to be on duty. The police department found that convenience store robberies declined immediately after the ordinance took place (Clifton 1987). Wilson

(1990) reviewed the initial evidence and found that a plausible rival explanation for the decline in robberies was the arrest of active offenders responsible for a rash of convenience store robberies just before the ordinance took place. Although the short term reduction may have been due to these arrests, robberies of these stores in Gainesville continued to decline for seven years following the ordinance and the arrests of the repeat offenders (Bellamy 1996). The controversy surrounding this ordinance, and Florida-wide efforts to increase the number of clerks, may have sensitized the convenience store industry and the police to this problem. Thus, many other changes could have created the long term reduction. Changes in stores' operations may also have been responsible for the reduction in robberies. Thus we cannot be certain the decline was due to the two clerk rule.

One of the first randomized experiments in crime prevention was undertaken over 20 years ago to determine if prevention measures in convenience stores reduced robberies. Crow and Bull (1975) matched 120 stores according to previous robberies and other characteristics. These stores were randomly assigned to either a control group or a prevention group. The type of prevention was selected based on site visits, so it was not possible to determine what type of prevention had what effects. The treated stores with two or more previous robberies had 30 percent fewer robberies after treatment than the untreated stores with two or more previous robberies.

In a later convenience store study, cameras and silent alarms did not appear to prevent robberies when 55 convenience stores in Columbus, Ohio and New Orleans, Louisiana receiving these devices were compared to 53 stores in Dayton, Ohio and Baton Rouge, Louisiana not receiving them (Crow and Erickson 1984). In the treated stores signs announcing the equipment were posted. These changes were accompanied by publicity in the treatment areas. No significant changes in robberies were found.

The National Association of Convenience Stores (1991) reported on two other interventions evaluated by Robert Figlio. The installation of interactive CCTV (allowing communication between the clerk and the personnel watching the TV monitor in a remote location) reduced robberies in 189 stores by a statistically significant 31 percent in the first year following the installations. By the second year, the reduction had shrunk to 15 percent, which was not statistically significant. No control stores were used in the analysis. One chain of 81 stores installed color video monitors that were visible to patrons and staff. Robbery rates were reported to have declined by 53 percent a year after installation. Again, no control stores were used.

The convenience store industry has conducted some of the most sophisticated crime prevention experiments available. These studies suggest that there are two types of stores, those with few or no robberies where crime prevention efforts are unlikely to influence future robberies, and a fewer number of stores with several robberies where prevention efforts may be more productive.

Burglary and Purse Snatching in Other Retail Places

Burrows and Speed (1996) report on an effort to curb "wire-cut" burglaries of electronics stores. Since alarm systems in these stores are connected to a remote monitoring station, burglars cut the telephone lines before entering. Electronically monitoring the integrity of the phone lines appears to have reduced losses from these types of burglaries. Unfortunately the authors only show a graph of the data without reporting the figures for burglaries or losses. Trends in wire-cut burglaries were compared to other types of burglaries and indicated that the decline was unlikely to be due to a general decline in burglaries, independent of the preventive tactic studied.

"Ram-raiding" involves crashing a vehicle (often stolen) into the front of a retail establishment and then removing valuable products. The costs of the damage to the store are considerable and often exceed the costs of the stolen merchandise (Jacques 1994). This is a problem in Great Britain, but its extent in the United States is unknown. Jacques (1994) reports that the installation of metal shutters in six large retail establishments cut burglary costs 53 percent (from an average of 20,892 pounds sterling to 9613 pounds sterling). In one store, burglars shifted to a roof entry thus providing evidence of limited displacement in burglary tactics. No control stores were examined.

Thefts from shoppers at retail places can also be a problem. In shopping markets in one British city, women's purses were being taken from their shopping bags. The aisles of the markets were widened to reduce the bumping of patrons that facilitated the thefts. Poyner and Webb (1992) report that a comparison of reported thefts for the three years prior to the changes to the two years after, showed a 44 percent decline in these offenses. Simultaneous changes in nearby markets makes them unsuitable as control places, so we have no evidence about background trends.

Credit Card Fraud

Three evaluations examined attempts to prevent credit card fraud at the point of sales. All three involved staff training and increased attention to customers. Two studies describe providing clerks with more information about potential offenders, either

through liaison with law enforcement authorities (Masuda 1993) or by providing computer-aided identification of shoppers wishing to use credit cards to pay for purchases (Masuda 1996). Both evaluations compared pre-program losses to post-program losses, but did not use control stores. Losses declined 82 to 90 percent.

A British experiment in lowering the limit for unauthorized credit card purchases along with improved information exchange about possible offenders may have reduced fraud losses by 25 to 41 percent nationwide, depending on the length of the pre-treatment period used (Webb 1996).

Although these studies did not use strong evaluation designs, they consistently report that tightening restrictions on credit card use and use of information about people with a history of credit card fraud can reduce this crime. Such findings underscore the point that many losses by retailers are due to choices about how to conduct their business. Challenger's (1996) evaluation of refund fraud reduction reinforces this point. Refund fraud involves the return of stolen goods for a refund. The store ends up paying for the merchandise twice, the first time at the wholesale price and the second time at the retail price. Challenger (1996) reports that requiring proof of purchase may reduce the losses from this form of theft. For confidentiality reasons, he does not report the amount of losses for stores involved in the evaluation.

Shoplifting

Here we will look at several methods for preventing shoplifting. Two interventions, electronic article surveillance and ink tags, have received multiple evaluations. Electronic article surveillance (EAS) involves placing tags on merchandise that only clerks can remove at time of payment. If a clerk does not remove the tag and the shopper leaves the store, the tag causes an alarm to sound. EAS technology improves employee surveillance of goods. Ink tags deface the merchandise if it is removed from the store without paying. This destroys the value of the goods to thieves.

Five evaluations of EAS were reviewed and each reported reductions in crime events or shrinkage. All compared crime or shrinkage (unaccounted for declines in inventory) before the installation of EAS to the same measures after, and all used a control store to measure background trends. The reduction in shrinkage varied from 32 percent (Bamfield 1994) to 80 percent (DiLonardo 1996). Farrington and colleagues (1993) report even greater reductions in shoplifting in the two stores they examined (76 to 93 percent). Furthermore, EAS was found to be more effective than security guards (no improvement) or store redesign (50 to 80 percent improvement) (Farrington et. al. 1993). Unfortunately, with one exception (Farrington et. al. 1993) significance tests were not reported so we cannot determine the probability that the reported reductions were due to chance.

Ink tags may also reduce shoplifting, but we have fewer studies and they used weaker evaluation designs. DiLonardo and Clarke (1996) report on two quasi-experiments involving ink tags. Both used repeated inventory counts to measure inventory reduction before and after the installation of the tags. In the first study, 14 new stores were compared to the chain-wide average. Shrinkage was reduced 14 percent in the new stores. In the second study, ink tags were installed in four stores, but no control stores were used. Shrinkage declined by 47 percent. As we will see below, repeated inventory counts have been linked to reduced employee theft, so we cannot be certain that the changes reported in these two ink tag studies are due to the ink tags or the method of measuring shrinkage.

The final shoplifting evaluation is a case study of a single store where the problem was minor thefts by elementary school children. A combination of individual and collective rewards were offered the children for refraining from stealing small items. The period before the program, program period, and a period after the program ended were compared. Shoplifting of targeted items declined by 58 percent and profits increased 42 percent during the program period compared to the periods before and after the program.

Shoplifting appears to be controllable by the use of EAS technology, and possibly ink tags. If more evaluations had used significance tests we could have classified EAS as "works." In the absence of this information EAS must be placed in the "do not know" category. Limited evaluations of other approaches suggest that there may be alternative approaches as well. The single study that examined the value of guards found that they were of no assistance in reducing shoplifting, but as Farrington and colleagues (1993) point out, this may be due to an implementation failure.

Employee Theft

Masuda (1992) examined the effectiveness of increasing the frequency with which articles at great risk of theft are counted. Since the increased inventory counts were unknown to shoppers but were known to store employees, it is reasonable to assume that the 100 percent reduction in shrinkage he found was due to the deterrence of employees. The 85 percent reduction in non-target item shrinkage may be attributable to a diffusion of benefits effect. However, the absence of an uncontaminated control

makes it difficult to determine if this reduction was an unexpected program effect or evidence of declining shrinkage independent of the intervention.

Table 7-3: RETAIL STORES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Crow & Bull 1975	5	variety	convenience stores	stores with 2 prior robberies had 30% fewer robberies relative to controls
Crow & Erickson 1984	4	surveillance cameras	convenience stores	No significant change in robberies
National Association of Convenience Stores 1991	4	two clerks	convenience stores	15% reduction in robberies over 2 year period in high robbery stores
	2	cctv	convenience stores	15% reduction in robberies over 2 year period
	2	video monitors for patrons and staff	convenience stores	53% reduction in robberies
Poyner & Webb 1992	2	widening aisles in open market	public market in Birmingham, Great Britain	44% reduction in thefts from purses
Burrows & Speed 1996	3	electronic monitoring of phone lines	electronic retail stores	noticeable decline in wire cut burglaries but amount difficult to determine from chart provided
Jacques 1994	2	metal shutters	electronic retail stores	53% drop in losses due to ram-raiding burglaries
Masuda 1993	2	profiling offenders, training, liaison with law enforcement	retail store chain	82% decline in credit card fraud losses
Masuda 1996	3	computer aided	retail stores	90% reduction in credit card fraud

		positive identification at point of sales		losses
Webb 1996	2	lowering limits for use of credit cards, improved information exchange, and other tactics	point of sales in retail establishment in Great Britain	25% to 41% decrease in credit card fraud losses nationwide
Challinger 1996	3	requiring proof of purchase for refund, and related procedures to prevent refund fraud	retail stores	decline in losses and reports.
Bamfield 1994	3	EAS to prevent shoplifting	retail stores	32% reduction in shrinkage
DiLonardo 1996	3	EAS to prevent shoplifting	retail stores	47% decline in shrinkage over 5 years
	3	EAS to prevent shoplifting	retail stores	80% decrease when installed. When reinstalled over 80% decline repeated.
	3	EAS to prevent shoplifting	retail stores	52% decrease in shrinkage
DiLonardo & Clarke 1996	3	ink tags to prevent shoplifting	retail stores	14% reduction in inventory shrinkage
	3	ink tags replace EAS to prevent shoplifting	retail stores	47% decline in inventory shrinkage
Farrington et.al. 1993	3	uniformed guards	retail stores in Great Britain	No measurable impact on shoplifting
	3	store redesign	retail stores in Great Britain	58% drop in shoplifting at one store and 80% decline in another in target items stolen.

	3	tagging	retail stores in Great Britain	76% reduction in shoplifting at one store and 93% reduction in another in target items stolen.
McNees, Schnelle, Kirchner, & Thomas 1980	3	awards for compliance to prevent shoplifting by elementary school children	single convenience store	58% decline in shoplifting of targeted items. Estimated increase in profits of 42% during program
Masuda 1992	2	increased frequency of inventory counts to prevent employee theft	retail stores	Elimination of shrinkage for targeted products, 85% decline in shrinkage of non-targeted products

BANKS AND MONEY HANDLING PLACES

The robbery of banks and other places that provide money handling services is a serious problem in many countries. In this section we will examine evaluations of security measures in U. S. and Swiss banks, British post offices, and Australian betting shops.

Guards may prevent bank robberies. A study of 236 banks in the Philadelphia area found one less robbery per year at banks with guards compared to banks without them, controlling for the surrounding area, police response time, proximity to major streets, and other prevention measures used. Screens protecting tellers and cameras were not associated with fewer robberies (Hannan 1982). Since these tactics are often found together, the evidence about the effectiveness of any specific measure is weak. Though this is a correlational study, the evaluator made special efforts to control for temporal order. Information about security measures came from surveys administered by the Federal Reserve and only crimes reported after the survey were used in the analysis. Because we can be sure that the interventions were installed prior to the crimes, this evaluation was given a scientific methods score of 2.

Two other studies provide better evidence that screens protect clerks from robberies. A study of over 300 Swiss banks found that banks with screens had a 52 percent lower robbery rate than banks without them (Grandjean 1990). Eklom (1987, 1988) examined the installation of bullet proof barriers to protect post office clerks. He estimated that the barriers reduced robberies from 55 percent to 65 percent, net of changes in control group robberies. Both studies found evidence for displacement, but even accounting for displacement, robberies declined substantially.

Clarke and McGrath (1990) examined the effects of time-lock cash boxes and safes on Australian betting shop robberies. Relative to control places, robberies may have been reduced by 52 to 139 percent. The results may be highly unstable given that there were three interventions throughout a 10-year period.

An examination of a drop in the number of bank robberies in Victoria, Australia asserts that this was due to the installation of screens protecting clerks, guards, cameras, and other security devices (Clarke, Field, and McGrath 1991). After increasing from 1979 through 1987, the number of bank robberies dropped to levels similar to those found in earlier years. Similar patterns of growth and rapid decline were found in bank robberies in an adjacent state and in robberies of other businesses. It is unclear whether the protective measures were installed only in Victoria's banks and when they were installed.

We do not know what works to prevent crimes at banks and other money handling places because the scientific methods scores

for the interventions are either below 3 or significance tests were not reported. These evaluations suggest the possibility that guards, bullet proof screens, and secure cash containers might reduce crimes, but more rigorous evaluations are needed to draw firm conclusions.

Table 7-4: BANKS AND MONEY HANDLING PLACES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Clarke & McGrath. 1990	3	time-lock cash boxes and safes	Betting shops in Australia	robberies declined 52% to 139%
Clarke, Field & McGrath 1991	1	security screens, and other measures	Banks in Victoria, Australia	drop in bank robberies
Eckblom 1987 1988	3	counter screen barriers in front of clerks	Post offices in London	55% to 65% reduction in robberies
Grandjean 1990	2	bulletproof screens for tellers	Banks in Switzerland	52% reduction in robberies
Hannan 1982	2	security guards, screens and cameras	Banks in Philadelphia, PA area	reduction of one robbery per year for most robbery prone banks due to guards

BARS, TAVERNS AND DRINKING ESTABLISHMENTS

There is a consistent research literature that points to a relationship between the presence of bars and crime in the surrounding area (Roncek and Bell 1981; Roncek and Pravatiner 1989; Roncek and Meier 1991; Block and Block 1995). Despite this reputation, most bars may be relatively crime free while a few may be hotspots of crime (Engstad 1975; Sherman, Schmidt, and Velke 1992; Homel and Clark 1994). The behavior of bartenders and bouncers may contribute to violence in these places (Homel and Clark 1994) and changes in bar management practices (from server training and changes in legal liability of bartenders) may reduce assaults (Putnam et. al. 1993), drunk driving (Saltz 1987), and traffic accidents (Wagenaar and Holder 1991).

Two Australian programs to reduce violence created agreements among pub managers to improve the training of bouncers, reduce crowds of youths, and improve relationships with police, along with other tactics (Homel et. al. 1997). In one evaluation observers reported a 53 percent reduction in assaults per 100 hours of observation in the first year of the program. The prevention effects decayed over time. Three years after implementation the reduction had declined to 15 percent. No control pubs were observed (Homel et. al. 1997). The other evaluation examined serious assaults at downtown pubs for the year before and four years after the management accord, and compared these changes to the same period for six other cities in the same state. Serious assaults declined 40.5 percent in the target city but increased 14.3 percent in the control cities (Felson, et. al. 1997).

The consistent results from Australia and the United States summarized in Table 7-5, suggest that changing the management of drinking places is a promising method for prevention of drinking-related offenses.

Table 7-5: BARS AND TAVERNS

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Felson, et. al. 1997	3	code of practice for pubs	bars and drinking establishments in Geelong Australia	60% decline in serious assaults, net controls
Homel, et. al. 1997	2	training for bouncers, code of practice	bars and drinking establishments in Australian town	53% decline in assaults/100 hours of observation 1st year after implemented, but only 15% decline compared to 3 years after
Putnam, Rockett, & Campbell 1993	3	training of alcohol servers and police enforcement	alcohol sales outlets in one Rhode Island community	decline in alcohol related assaults & vehicle crash injuries, relative to control communities
Saltz, 1987	3	changing serving policies and training	Navy enlisted club in California	Over 50% reduction in driving when drunk

PUBLIC TRANSPORTATION

Two types of public transportation have been the subject of evaluations: buses and subways. Evaluations investigated prevention measures directed at four types of crime: crimes against riders; attacks on staff; fare evasion; and vandalism. The types of interventions have been quite varied, ranging from complete system design to volunteer citizen patrols.

Incivilities and Crimes Against the Public

The Washington, D.C. Metro System has been singled out in crime prevention literature as having been designed to prevent crime (LaVigne 1997) and is sometimes contrasted with the New York City subway system which gained a reputation for crime in the 1970's (Sloan-Howitt and Kelling 1990; Dwyer 1991). "Designing in" crime prevention may be effective, but it is difficult to determine if a design is effective. LaVigne (1997) compared the Washington, D.C. Metro to three other urban rail transit systems and found that it had less crime than the other systems. She also compared subway station crime to crime in the areas above-ground. If the system had no influence on crime then the above-ground crime levels and station crime levels should be correlated. If the system design prevented crime, then there should be no relationship between station and above ground crime. LaVigne (1997) found that, except for assaults, ground level and station crime were not correlated. Although this is not a strong research design, it is the best evidence available that system design influences crime patterns.

To improve passenger confidence in the safety of the New York subway system, an intensive cleanup program was undertaken to remove graffiti from all train cars and stations. Rapid cleanup would deprive vandals of the benefit of seeing their graffiti (Sloan-Howitt and Kelling 1990). By treating the physical appearance of the system, it was hoped that this would make the public feel safe and bring more people into the system. More riders would increase the number of people watching out for each other, and this could drive down crime. This chain of events is expected according to the "broken-windows" hypothesis (Wilson and Kelling 1982). Sloan-Howitt and Kelling (1990) show that graffiti was virtually eliminated, and despite increased police attention to graffiti, arrests for this offense also declined.

A similar effort was carried out by the Victoria (Australia) transit system which includes trains, trams and buses. The Victoria program involved rapid repair and cleaning of vandalized equipment, along with stepped up police enforcement. Carr and Spring (1993) show that train availability increased 45 percent and reported crimes against persons declined 42 percent.

Another comprehensive program to clean up a problematic transit facility has been described by Felson and colleagues (1997). The title of their paper, "Redesigning Hell," suggests the state of disrepair into which the New York Port Authority Bus Terminal had fallen. Sixty-three interventions were made at the terminal, at about the same time. These included closing off spaces, improving shopping, cleaning, increased enforcement, and other measures to remove situations that facilitated offending or increase the number of patrons and their ability to watch each other. Although robberies and assaults declined in the station, they also declined in the surrounding area. Outside crime control efforts or diffusion of crime control benefits to the surrounding area may account for these parallel trends. Annual surveys of patrons that began with the cleanup in 1991 show declines in incivilities and disorder.

Vandalism against buses is another problem in transit systems. Poyner (1988) describes how the installation of CCTV on a portion of a bus fleet was followed by reduced vandalism throughout the fleet. There was also a public information campaign directed at the group of people most likely to be responsible for the damage, school children. Poyner (1988) attributes the diffusion of benefits from the targeted buses to the entire set of buses, to offenders' confusion over which buses had the CCTV. Unfortunately, this evaluation only describes trends in vandalism after CCTV was installed.

Kenney (1986) evaluated the effectiveness of Guardian Angel patrols at stations by comparing crime changes to control stations without these patrols. He found that these citizen patrols had no discernible impact on crime in the patrolled stations. This may be because the base rates of crime in the stations were too low to detect an effect (Kenney 1986).

Webb and Laycock (1992) also found no evidence that the Guardian Angels reduced crime in the London Underground. They did find that the installation of CCTV in London Underground stations reduced robberies 11 to 28 percent, relative to control stations without CCTV. Twenty-two months of data before CCTV installation and 26 months after installation at selected stations were compared.

On the whole, we have limited information about how to prevent incivilities and crime against transit. In part this is due to the difficulty in assessing system-wide designs and comprehensive changes. Selecting a control system and disentangling the effects of multiple interventions is very difficult. Rapid cleanup and repair to deprive offenders of the pleasure of seeing their graffiti appears to be effective, but the evidence to date is weak.

Attacks On Bus Drivers

The two evaluations of attacks on bus drivers provide evidence that these crimes can be reduced. The rise in robberies of bus drivers in the late 1960's and early 1970's prompted New York City officials, along with transportation officials in other U.S. cities, to remove accessible cash that was the target of the robbers. They required passengers to give exact fares and prohibited bus drivers from giving change. Fares were put in secure boxes. Chaiken, Lawless, and Stevenson (1974) reported a 90 percent reduction in bus driver robberies following these changes. The Stanford Research Institute (1970) reported similar results in its review of the effect of exact fare systems in 18 other cities (Clarke 1992, page 216).

If the target of the attack cannot be removed, then maybe it can be protected. A bus company in northern England used two approaches to protect its drivers from assaults by riders (Poyner and Warne 1988). The first was to simplify the fare system so it would be less aggravating. They also installed protective screens around bus drivers. Assaults on drivers declined 90 percent following the installation of screens. Assaults on all employees fell during this period, but not as much as it fell for drivers (37 percent).

Fare Evasion

Transit systems suffer from people who try to enter without paying the correct fare. Fare evasion can simply mean jumping gates or moving through entries without paying, or it can involve the use of slugs in gates or ticket machines. Three evaluations examined the redesign of gates or ticket machines to curtail fare evasion. All three report evidence suggesting declines in this form of theft. Clarke (1993) reports an increase in ticket sales of 10 percent, relative to control stations where new automatic gates were not installed. Clarke, Cody and Matarajan (1991) show that one form of slug use was totally eliminated by modifying ticket machines so they would not accept a type of coin for which a slug could be substituted. This was a system-wide change so no control stations were available. Finally, Weidner (1997) gives results of the effect on fare evaders of the installation of new gates in the New York City subway. While arrests declined in the target station, they increased in adjacent control stations. Whether this was due to changes in police enforcement, displacement, or background trends cannot be determined from the evidence provided.

Two evaluations examined personnel changes to reduce fare evasion. Increases in ticket takers at a Canadian ferry terminal may have reduced fare evasion by 20 percent, although there were no control sites to assess background trends (DesChamps, Brantingham, and Brantingham 1992). A Dutch effort to reduce fare evasion in three cities decreased fare dodging by 18 to 78 percent. Authorities recruited over 1100 unemployed young people to monitor ticket use on the buses, trains and trams in the three cities. This report (vanAndel 1986) claims that there was also a 60 percent decline in assault on and harassment of patrons. Like the Canadian study, there was no control group.

Conclusions about Transportation System Prevention

Although there are several evaluations of crime prevention in transportation settings, we know relatively little about the effectiveness of these interventions. This is in part due to the variety of crime types that are applicable to transportation systems. It is also due to the number of settings (buses, trains, and stations) within the system, as well as the variety of victims (patrons, staff, and facilities). Thus a large number of studies are needed to learn what works to prevent crime in transit systems. However, there are methodological complications that make learning about crime prevention effectiveness quite difficult. Many of the systems are large and there are few, if any, plausible control settings are available to measure background trends. Places within systems are linked, so internal changes to part of a system can influence crime in other parts of the system. If untreated parts of the system are used as controls, diffusion of benefits or displacement effects can confound the findings. We cannot, therefore, identify, with reasonable certainty, any specific tactic against specific crimes, that can be said to "work" across similar settings in other cities.

Table 7-6: PUBLIC TRANSPORTATION FACILITIES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
LaVigne 1997	1	subway system design	Washington, DC metro subway	system design may prevent crime
Carr & Spring 1993	2	improved cleaning and vandalism repair; patrolling	public transportation system, Victoria, Australia	45% improvement in train availability. 42% reduction in crimes against persons
Felson et. al. 1997	3	63 different tactics implemented about the same time	Port Authority Bus Terminal, New York City	reduction in robberies & assaults but not compared to surrounding area; reductions in incivilities
Kenney 1986	3	Guardian Angels	subways	no detectable impact on crime
Poyner	1	cctv	buses	steady decline in

1988				vandalism
Webb & Laycock 1992	3	cctv (and other tactics)	stations on London Underground	11% to 28% reduction in robberies
Chaiken, Lawless, & Stevenson 1974	2	exact fare requirement	buses in New York City	90% decline in robberies of bus drivers
Poyner & Warne 1988	2	protective screens for drivers	buses in Cleveland, Great Britain	90% reduction in assaults on drivers
Clarke 1993	3	automatic gates to prevent fare evasion	London Underground	10% increase in ticket sales
Clarke, Cody & Matarajan 1991	2	modification of ticket vending machines	London Underground	elimination of problem of slug use within 4 months of modification
DesChamps, Brantingham, & Brantingham 1992	2	increase in rush hour attendants to check tickets, training in fraud detection	ferry terminal	20% reduction in fare evasion rate
vanAndel 1989	2	recruiting over 1100 young unemployed people as public transit monitors	buses, metro trains and trams in 3 large cities in the Netherlands	18% to 72% decrease in fare dodging depending on city and mode of transport, 60% decline in attack or harassment victimizations
Weidner 1997	3	installation of new fare gates	stations on New York City subway	fare evasions declined in target station

PARKING LOTS AND GARAGES

Evaluations of crime prevention in parking lots and garages examined changes in people who watch cars. These people were often security guards, although one evaluation looked at placing a taxi business near the entrance to a parking garage to increase informal guardianship (Poyner 1991). Another set of interventions used close-circuit television to centralize watching.

Guards and Security Attendants

Four evaluations are available reporting on the effectiveness of adding security guards to parking lots. Four showed reductions in car-related crimes (Barclay et. al. 1996; Laycock and Austin 1992; Poyner 1994; and Poyner 1991) and one found no

improvement (Hesseling 1995). Although these studies suggest auto thefts and thefts from automobiles might be prevented by increasing people who watch lots, there are two important caveats. Poyner (1991) notes that parking lot strategies that control access may curb thefts of vehicles, but may be ineffective at controlling thefts from vehicles. The failure of Hesseling (1995) to find a reduction in thefts from vehicles may be due to the way the guards were deployed. Thus, what the guards do may be as important as their deployment. Second, none of these studies examined personal violence against people using parking facilities. In conclusion, because of the mixed results of the evaluations, we do not know if guards or security attendants prevent crimes in parking lots.

Closed-Circuit Television

There are seven evaluations from Great Britain of the effects of CCTV on vehicle crimes (thefts of vehicles, thefts from vehicles, and damage to vehicles), but no evaluations of its effect on other crimes in parking facilities (Poyner 1992; Tilly 1993c). The weakest of the evaluations found no effect (Coventry lots, in Tilly 1993c). The other six evaluations found varying levels of decline in vehicle crimes. In the CCTV parking lots evaluated, thefts from vehicles declined 46 to 94 percent, and thefts of vehicles dropped 18 to 89 percent, depending on the evaluation. We do not know if these results can be replicated in the United States. There is no empirical basis for recommending CCTV to prevent parking lot violence. The results suggest that CCTV should be tested in high vehicle crime parking lots within the United States. Because of the lack of significance tests we must classify CCTV in parking facilities as having "unknown" prevention effectiveness.

Conclusions About Parking Facilities

Evaluations in parking lots and garages outside the United States consistently support the hypotheses that guards and CCTV reduce vehicle-related property crime. Though several CCTV studies had scientific methods scores of 3, they lacked of significance tests. Therefore, CCTV's effectiveness in parking lots is "unknown." These studies do not report on violent crimes in parking lots, including robberies and car-jacking. The highly crime-specific nature of intervention effectiveness suggests that we must be careful drawing inferences about the effectiveness of interventions to places and setting where they have not been tested.

Table 7-7: PARKING FACILITIES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Barclay et. al. 1996	3	security guards on bikes	commuter parking lot	53% reduction in car thefts/ month
Hesseling 1995	3	guards	parking area in Rotterdam	2% increase in thefts from automobiles relative to control
Laycock & Austin 1992	3	security attendant	parking area	52% to 60% in auto theft reduction
Poyner 1994	2	guard	parking area	Reduction in auto thefts. Amount cannot be estimated
Poyner 1991	3	restricting foot access, improved lighting, increased guardianship	parking garage	29% increase in thefts from vehicles, 35% reduction in thefts of vehicles

	3	cctv	parking lots	71% & 94% reduction in thefts from cars
Tilly 1993c	3	cctv	parking lots, Hartlepool, Great Britain	75% reduction in theft of autos, 60% reduction in theft from autos
	2	cctv	one parking lot, Hull, Great Britain	45% reduction in damage to autos, 89% reduction in theft of autos, and 76% reduction in theft from autos
	2	cctv	one parking lot, Lewisham, Great Britain	75% reduction in auto crimes
	3	cctv	one parking lot, Bradford, Great Britain	73% to 78% reduction in theft from autos, 49% to 75% reduction in thefts of autos
	2	cctv	one parking lot, Wolverhampton, Great Britain	18% reduction in thefts of autos, 46% reduction in thefts from autos
	2	cctv	5 parking lots, Coventry, Great Britain	no discernible pattern in auto crimes

AIRPORTS

Aircraft hijacking by armed passengers has been a problem since World War I. Wilkinson (1977) has documented the worldwide trends in this problem. From 1948 (when records were first kept) through 1957 there were 15 attempts worldwide and none involved aircraft originating in the United States. In the next decade there were 48 hijackings worldwide (23 of them North American originating flights). In 1968, the number of world-wide aircraft hijackings began an explosive climb. There were 38 that year, and 82 the next. In response, policy makers implemented a number of strategies, including treaties to ensure the return of hijackers and aircraft. By 1973, hijacking attempts had dropped to 22 worldwide and 2 in the United States (Wilkinson 1977).

Since several interventions were put into place over a short time period during the early 1970s, it is difficult to determine which tactics made the greatest contribution to the decline. Sky marshals (armed nonuniformed security guards) were assigned to selected flights beginning in 1970. To thwart parachuting from aircraft, modifications were made to the rear doors of Boeing 727's and DC 9's to prevent them from being opened in flight (Landes 1978). In early 1973, the U.S. and Cuba signed a treaty that required each country to extradite or punish hijackers (Landes 1978).

Landes (1978) attempted to determine the effectiveness of sky marshals and passenger screening. He used a time series analysis of 64 quarter years and 143 incidents. He also controlled for hijacking of aircraft originating from foreign airports to remove world-wide trends in skyjacking and attempted to remove the effects of the Cuba treaty. He provides evidence for an 82 percent

decline in U.S. hijacking due to the combined effects of the Cuba treaty, sky marshals, and passenger screening. He then estimated the contribution of the three policies: screening was the cause of a decline of 45 percent, sky marshals created a 28 percent decline, and the remainder (9 percent) was probably attributed to the Cuba treaty.

Two other studies, using annual data for different time periods and weaker evaluation designs, also found large declines in aircraft hijacking in the United States following passenger baggage screening (Wilkinson 1977; Eastal and Wilson 1991). These studies did not attempt to estimate the effects of different hijacking programs.

The variation in aircraft hijacking from year to year and the virtually simultaneous implementation of multiple prevention methods at airports around the world make it difficult to come to definitive conclusions regarding any particular intervention. Nevertheless, the weight of the evidence supports the effectiveness of passenger screening.

These findings are important. First, they demonstrate the potential utility of opportunity blocking against highly determined offenders. Second, they illustrate some of the difficulties of evaluating place-focused prevention (multiple simultaneous interventions, detecting reductions in rare events, and the difficulty of finding control places). And third, they may have implications for other places.

What do these findings about the use of metal detectors to screen for weapons at airports tell us about their deployment at other places? These devices have been used to enhance the security of court buildings, schools, government offices, and public housing. Are they effective? From an empirical perspective, we can only say we do not know. Evaluations are scant and weak. A New York City study of the use of metal detectors found that weapon carrying in schools with metal detectors (n=19) was lower than in schools without the devices (n=96), but there were no differences in assaults within or outside these schools (Centers for Disease Control and Prevention 1993). This evaluation has a scientific methods score of four, and although there was a decline in risk-factors for violence, there was no significant decline in violence. In the residential places section we noted an evaluation of a multi-tactic intervention in a particularly troubled set of public housing buildings (Popkin, et. al. 1996). Metal detectors were a part of this program, but it is impossible to determine what, if any, influence they had because so many other things were implemented at the same time. We cannot, therefore, be confident about the transferability of this tactic to other, very different settings.

Table 7-8: AIRPORTS

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Eastal & Wilson. 1991	2	passenger screening with metal detectors	US Airports and originating flights	64% reduction in hijacking of passenger aircraft
Landes 1978	3	passenger screening with metal detectors	US Airports and originating flights	45% reduction in hijacking of passenger aircraft
	3	sky marshals		28% reduction in hijacking of passenger aircraft
Wilkinson 1977	3	passenger screening with metal detectors	airports	41% reduction in hijacking of passenger aircraft in US, 3% drop world-wide

OPEN PUBLIC SPACES

The places considered in this section are open spaces in cities, including street corners and segments. Four types of interventions will be examined. The first is the control of problem offenders. The second is improved lighting. The fourth is the use of closed-circuit television (CCTV). Finally, we examine street closures and rerouting.

Controlling Problem Offenders

Two efforts to control public drinking as a means to reduce assaults and incivilities in downtown areas provide evidence that controlling problem offenders may be effective. Ramsay (1990; 1991) reports on the banning of public drinking in one English town. Comparing the year before and the year after the ban (with no control group) he found no changes in assaults, but surveys of people using the area suggest that there may have been a reduction in incivilities. A Swedish effort to reduce disorder at an annual festival reported a decline in drunkenness and disorderly conduct arrests following the prohibition of public drinking, banning high risk offenders, and the closing of a popular camping site (Bjor, Knutsson and Kuhlhorn 1992). This study compared arrests at the previous year's festival to arrests at the festival with the restrictions, without control area comparisons.

Lighting

Lighting campaigns seek to enhance the ability of people to provide protection for each other. In 1979, the predecessor agency of NIJ, the National Institute of Law Enforcement and Criminal Justice, reported on a review of 60 lighting evaluations. The authors of this review concluded:

"Is street lighting an effective approach in the reduction and deterrence of crime? The answer is inconclusive. The paucity of reliable and uniform data and the inadequacy of available evaluation studies preclude a definitive statement regarding the relationship between street lighting and crime." (Tien, et. al. 1979, page 93, emphasis in the original)

Almost twenty years later, we know little more about the effectiveness of lighting.

In the 1980's, a borough in London upgraded all of its street lighting. Atkins, Husain and Storey (1991) compared reported crimes the year before the relighting to the year following for 39 sections of the borough. No control areas were used, so background trends in crime cannot be assessed. No systematic changes in crime were detected. Surveys of residents of one area found no changes in perceptions of security.

A Scottish study of relighting in a Glasgow neighborhood and a small town near Glasgow found that there was a short term reduction in victimizations that varied from 32 percent to 68 percent, depending on how victimization was measured (respondent victimizations, victimization of respondents' children, victimization of other family members, victimization of friends, or car victimization). Reported crime dropped 14 percent. The evaluators compared a three-month period prior to relighting to a three-month period following (Ditton and Nair 1994). No control group was used and the results for the two neighborhoods were combined.

Finally, we need to consider three separate evaluations, with similar designs, undertaken by Painter (1994). She examined lighting improvements on two separate street segments and a footpath, all located in "crime prone" areas within London. Pedestrians were interviewed before and after the lighting improvement. All interviews were conducted after dark and were completed within 6 weeks of the relighting. No interviews were conducted in control areas. Substantial reductions in robberies, auto crimes, and threats were reported in two sites (86 percent, 79 percent). These crimes were eliminated in the third site, but the number of crimes before relighting was small so this could have been the result of other factors.

Not much has changed since Tien and his colleagues (1979) gave their critical assessment of the impact of lighting on crime. In part this is due to the lack of research on lighting, particularly in the United States. However, the limited research on lighting continues to use weak designs (typically without control areas) which fail to substantially reduce our uncertainty about the effect of lighting on crime. We may speculate that lighting is effective in some places, ineffective in others, and counter productive in still other circumstances. The problematic relationship between lighting and crime increases when one considers that offenders need lighting to detect potential targets and low-risk situations (Fleming and Burrows 1986). Consider lighting at outside ATM machines, for example. An ATM user might feel safer when the ATM and its immediate surrounding area are well lit. However, this same lighting makes the patron more visible to passing offenders. Who the lighting serves is unclear.

Closed-Circuit Television

Closed-circuit television (CCTV) enhances the ability of a designated guardian to watch people in an area and to call for police intervention if potential trouble is detected. This is supposed to increase the risks of offending, but only if the CCTV surveillance is well known to the people who use the area. This project was unable to locate any published scientific evaluations of the use of CCTV in urban areas of the United States.

Three CCTV evaluations have been reported in Great Britain (Brown 1995). As deployed, a set of video cameras are posted in center city areas and monitored at a central station. The cameras cover many, but not all locations in the target area. Finding locations with clear unobstructed views, year round, can be difficult. CCTV cameras were installed around the town center of Newcastle-upon-Tyne in late 1992 and early 1993. Using a time series of 23 months prior to the installation of cameras, four months during, and 14 months after, and comparing CCTV covered areas to uncovered areas in the same period, Brown (1995) found that burglaries declined by 18 percent, auto thefts dropped 9 percent, thefts from autos went down 11 percent, and other thefts declined 7 percent. No effect was found for robberies.

Brown (1995) used a similar design to assess the impact of CCTV in Birmingham. He compared reported crime 12 months before, two months during, and 30 months after installation to control areas. Unfortunately, no figures were provided with the reported charts, but visual inspection of the time-series charts provided suggests reductions in robbery, burglary, and thefts. Similar results were reported for another town center in Great Britain, King's Lynn. Four quarters of reported crime before installation were compared to seven quarters after. A control area was used. Again, the data was not given, but visual inspection of the charts suggests reductions in burglary, assaults, thefts from vehicles, and thefts of vehicles. Significance tests were not reported in any of these case studies.

The effectiveness of CCTV in open spaces is unknown due to the lack of significance tests. Given recent interest in the use of CCTV in the United States, this tactic should be given a high priority for rigorous evaluations. Absent evaluation results from installations in the United States, the level of uncertainty about CCTV effectiveness is too high to advocate its use except to test its effectiveness.

Street Closures

Research has suggested that areas with easy access have more crime than areas with street layouts that restrict access (White 1990; Beavon, Brantingham and Brantingham 1994). Oscar Newman (1982) reported on crime and its association with privately owned streets with limited access. He compared these streets in a St. Louis neighborhood to nearby publicly owned, free access streets and found that the private streets had less crime. In this section we will examine five evaluations that support the hypothesis that closing and rerouting automobile traffic can reduce crime.

In 1986 the citizens of Miami Shores, Florida (just outside Miami, in Dade County) voted to increase taxes to fund closing off 67 streets (Atlas and LeBlanc 1994). The closings took place between July 1988 and March 1991. The evaluation compared changes in reported crime within the town to the changes in the same crimes in the surrounding county and Miami. Mean 1986 and 1987 crimes (before installation) were compared to the mean number of reported crimes in 1991 and 1992 (Atlas and LeBlanc 1994). There were no significant changes in reported robberies and aggravated assaults within Miami Shores compared to the two control jurisdictions. Relative to changes in Dade County, reported burglaries significantly declined at least 8 percent. Larcenies and auto theft in Miami Shores also declined significantly, relative to changes in Miami and Dade County.

Newman (1996) reports the results of a street closure program in a Dayton, Ohio neighborhood. The Five Oaks neighborhood is a half-mile square area containing 2,000 homes on a grid street layout. Streets were closed off so that the area was subdivided into small areas and so one could not drive directly through the area. Newman (1996) summarized the City of Dayton evaluation results. Police-reported crime statistics showed that crime in the city rose one percent, but that total crime in the target neighborhood declined 26 percent, and violent crime declined 50 percent. Significance tests were not reported. Citizen surveys reported that over half of the residents felt crime had declined. Newman also reports that housing values increased after having declined prior to the street closures.

Two efforts to curb prostitution activity in London neighborhoods used road closures and rerouting coupled with increased police enforcement. In the Finsbury Park area police had steadily increased enforcement for two years prior to changes in the street closures. However, with the changes in the streets, "Soliciting and curb-crawling virtually disappeared and the area was transformed from a noisy and hazardous 'red-light' district into a relatively tranquil residential area." (Matthews 1992, page 94). Reported crime declined 50 percent for the 12-month period after the street closures compared to the previous 12 months. Observations of the area suggest that most of the prostitutes left the area but did not displace to adjacent neighborhoods (Matthews 1992).

In the Streatham neighborhood of London, street closures were also used in conjunction with increased police enforcement. Matthews (1993) reports a decline in traffic flow along key streets. Although police enforcement was maintained, arrests of "curb-crawlers" seeking sexual services declined by two-thirds (comparing the first quarter of 1990, after the program, to the first quarter of 1988, before the program began). Interviews of residents suggests a decline in noticeable prostitution activity, although some of this activity may have shifted to the periphery of that area.

The final evaluation of street closures was a retrospective analysis of the Los Angeles Police Department's Operation Cul-De-Sac. In 1990 the Los Angeles Police Department installed traffic barriers on 14 streets in a South Central Los Angeles neighborhood with a high level of drug activity, shootings and homicides. Much of the violence was created by disputes over drug sales locations by local gang members. The barriers were designed to make the driveup purchase of drugs more difficult and prevent drive-by shootings. This effort was part of a larger law enforcement effort to suppress these crimes. Two years following the installation of the barriers, the barriers were abandoned and then removed as the police became embroiled in the controversy surrounding the Rodney King beating.

The evaluation of the Los Angeles Police Department project compared reported crimes in the neighborhood for four quarters before the barriers were installed, the eight quarters while they were being maintained, and 16 quarters after the program was abandoned (Lasley 1996). Reported crime for the four adjacent areas was also examined. If one uses the surrounding beats as control areas, the net effect of the installation of the barriers (before, compared to during) was that homicides decreased 65 percent. In fact, during the two years when the barriers were installed there was only a single killing in the target area. Once the barriers were no longer maintained and were removed (comparing the installed period, to the after period) homicides rose 800 percent, relative to the surrounding area killings. Total violent crimes (homicide, rape, street robbery, aggravated assault and purse snatching) declined from the pre-program period to the two years during the program (8 percent for the first year and 37 percent for the second year) and then rose again after the program fell into disuse. At the same time the surrounding areas remained relatively stable. Lasley attributes most of the decline in violent crime to changes in aggravated assaults. Significance tests were not reported for any of these comparisons.

Closing streets makes offenders' escapes more problematic. In the case of prostitution cruising and drive-by shootings, the offenders are likely to follow a circular driving pattern in their search for targets. By making circular driving patterns more difficult and increasing the chances offenders will find themselves at the end of a dead end street, criminal behavior may be thwarted.

The street closure evaluations used moderately strong designs and their conclusions are consistent with theory and prior research. This gives us confidence that this approach to curbing crime should be classified as "promising." In at least three of the programs (the two London prostitution cases and the Los Angeles drive-by shooting case), the street closures were undertaken along with police crackdowns. Matthews (1992) hypothesizes that street closures and enforcement may be more effective when used together than when used separately and enforcement should be used prior to street changes. This opportunity-blocking tactic for controlling crime in open urban areas deserves more attention by, particularly since it might reduce violence under some circumstances.

Conclusions for Open Urban Places

Four types of tactics were considered in this section. There is limited evidence that controlling offenders, particularly public drinking, might be useful. However, the evaluations are small in number and weak in design, leaving its effectiveness unknown.

Lighting has received considerable attention. Yet, evaluation designs are weak and the results are mixed. We can have very little confidence that improved lighting prevents crime, particularly since we do not know if offenders use lighting to their advantage. In the absence of better theories about when and where lighting can be effective, and rigorous evaluations of plausible lighting interventions, we cannot make any scientific assertions regarding the effectiveness of lighting. In short, the effectiveness of lighting is unknown.

The installation of CCTV in urban areas might be a fruitful area for research, but its effectiveness is unknown. Though several evaluations had scientific methods scores of 3, the absence of significance tests limits what we can claim for the effectiveness of this tactic. We cannot recommend the adoption of this tactic, except for purposes of testing.

Finally, compared to the other tactics examined, street closure evaluations have been conducted with greater rigor. We also have evaluation evidence that is consistent with theory and research. This tactic appears to be promising and deserves greater attention, particularly in high crime areas.

Table 7-9: OPEN PUBLIC PLACES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Bjor, Knutsson, & Kuhlhorn 1992	2	ban on public drinking & high risk offenders & closing of a parking site	Open spaces of downtown area, Sweden	8% reduction in drunkenness arrests 64% reduction in disorderly conduct arrests
Ramsay 1991 Ramsay 1990	2	ban on public drinking	Open spaces of a British downtown area	No change on assaults 33% reduction in insults from strangers
Atkins, Husain, and Storey. 1991	2	lighting	39 sections of London	no systematic effect of lighting
Ditton & Nair 1994	2	lighting	Glasgow neighborhood	32% to 68% reduction in victimizations. 14% reduction in reported crime
Painter 1994	2	lighting	London	86% reduction in street robberies, auto crimes, and threats
	2	lighting	London	78% reduction in street robberies, auto crimes, and threats
	2	lighting	London	100% reduction in street robberies, auto crimes, and threats (base rates too small to be meaningful)
Brown 1995	3	cctv	town center, Newcastle upon Tyne Great Britain	decline in burglary (18%), criminal damage (9%), auto theft (7%), theft from auto (11%), other theft up (7%).
	3	cctv	town center, Birmingham, Great Britain	charts suggest reductions in robbery, burglary, and theft but do

				not allow calculation of reductions
	3	cctv	town center, King's Lynn, Great Britain	charts suggest reductions in burglary, assaults, thefts from autos, and thefts of autos but do not allow calculation of reductions
Atlas, and LeBlanc 1994	3	street closures	Florida town	8% decline in burglary, drops in larceny and autotheft. No change in robbery or aggravated assault
Lasley 1996	3	street barricades	Los Angeles, CA	65% reduction in homicides
Matthews 1992	2	street closures & rerouting	Finsbury Park, London	reduction in prostitution activity
Matthews 1993	2	street closures & rerouting	Streatham, London	reduction in prostitution activity
Newman 1996	3	street closures	Dayton, OH	26% reduction in reported crime and 50% reduction in violent crime

PUBLIC COIN MACHINES

Parking meters and public telephones are the principal subject of this section. These devices occupy small but important places in cities and are subject to fraud and vandalism. The six studies we will examine here show reductions in property offenses due to changes in the physical structure (target hardening) or operations of these devices.

Two evaluations examined the effectiveness of strengthening the material used in public telephone cash boxes. Target hardening was supplemented by other prevention measures in both instances. In Britain, electronic monitoring of phone booths helped identify attacks quickly and act as a deterrent (Barker and Bridgeman 1994). The evaluators reported a 49 percent reduction in attacks on cash compartment attacks as a result of these changes. Australian evaluators claimed a comparable reduction in vandalism incidents following a combined target hardening and rapid repair program (Challinger 1991). Both studies have weak designs due to their absence of control places.

Fraudulent use of public telephones has been addressed in two studies. In both, new systems were installed that prohibited calls that prior analysis suggested were likely to be fraudulent. At the New York Port Authority Bus Terminal, international calls were blocked, keypads were disabled to prevent routing calls through outside automated systems, and the number of available phones were reduced and relocated (Bichler and Clarke 1997). Calls and number of minutes of phone use declined from the pre-intervention period to the post-intervention period. This is indirect evidence of a drop in fraudulent phone use because one cannot distinguish between reduced legitimate phone use due to increased inconvenience to users and reduced illegitimate phone

use.

LaVigne (1994) evaluated the effects of restricting inmate access to phones at Rikers Island, a New York City jail facility. The Department of Corrections restricted inmate phone use to control the costs of fraudulent calls. Not only did phone costs go down, but phone related fights among inmates declined, controlling for overall trends in fights and changes in inmate population.

Finally, Decker (1972) examined the effectiveness of a target hardening method to prevent slug use in parking meters (i.e., installation of meters that reject certain types of slugs and display the last coin inserted). Rates of slug use were measured in 10 areas of New York. Slug use declined in all areas. In another study, Decker (1972) looked at the effectiveness of warning labels on parking meters. He found short-term reductions in slug use for some labels, but overall the labels were less effective than meters that reject slugs.

These evaluations imply that target hardening is a promising method for reducing theft and vandalism. When evaluators looked for displacement effects, they were not found. LaVigne's (1994) evaluation suggests that illegal use of some facilities might stimulate other more serious criminal behavior and blocking minor offenses might reduce other more serious crimes. The Rikers Island evaluation is an illustration of the possible diffusion of crime prevention benefits (Clarke and Weisburd 1994).

Table 7-10: PUBLIC COIN MACHINES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Barker & Bridgeman 1994	2	publicity, target hardening, electronic monitoring	public telephones in Great Britain	49% reduction in vandalism/theft
Wilson 1988; Challinger 1991	2	hardened coin boxes, and other changes, and rapid repair	Australian public telephones	48% reduction in vandalism
Bichler & Clarke 1996	3	removing international dialing capacity and disabling telephone keypads to prevent pay phone toll fraud	Port Authority Bus Terminal, Manhattan	37% reduction in calls and 72% reduction in minutes of phone use. No displacement found
LaVigne 1994	3	restrictions on inmate phone use and phone system	Rikers Island, New York	46% reduction in telephone related fights. 49% reduction in phone costs
Decker 1972	4	installation of slug rejecting parking meters &	parking meters in New York	reduction in slug use due to changes in meters. Short term reduction with two labels, but no

warning signs
on parking
meters

long term effect of
any labels

SCIENTIFIC CONCLUSIONS

Blocking crime opportunities at places can reduce crime, under some circumstances. Over 90 percent of the interventions reported evidence of crime reduction following the installation of an opportunity blocking tactic. This evidence is encouraging but it must be tempered by three considerations.

First, we know little about the place- and crime-specific effects of these tactics. That there is a great deal of uncertainty about what works, at which places, against which crimes, should not distract us from the broader finding that opportunity blocking tactics at places can be productive. We will address specific tactics below.

Second, 94 percent of these evaluations are case studies of a very few sites, typically a single site. We cannot treat the 99 interventions as a random sample of all interventions of this type. These may have been evaluations of programs that were far more likely to succeed than is typical. Nevertheless, authors of many of the evaluations asserted that their places were hotspots of crime and had resisted other interventions, such as police enforcement. Thus, the interventions may have tackled tougher problems than would be found at the average place.

Third, many of the evaluations studied the effect of multiple interventions implemented at about the same time. Even when the effects of a single tactic were identified, it was sometimes reported that other changes had occurred that could confound the evaluation results. Thus we might learn that crime was prevented, but we do not know what caused the prevention. The large number of multiple interventions deserves some explanation. Many of the efforts evaluated were the result of some form of problem-solving process in which a specific crime problem was analyzed and a set of appropriate solutions were implemented. This must be contrasted with efforts undertaken to test the efficacy of a particular prevention measure in a particular setting. Problem-specific interventions may have a greater likelihood of success than generic interventions, but we may have more difficulty learning from them. Later we will return to the subject of problem-solving and situational crime prevention.

Fourth, the scientific rigor (as shown by the scientific methods score) supporting the conclusions is usually moderate at best, and is frequently weak. Forty-three percent of the studies did not use control places or measure crime for a minimal number of pre-intervention time periods. Only 6 percent of the evaluations compared the same intervention in at least 20 places and used control places. There were only two randomized controlled experiments among the studies examined. Often evaluators did not report significance levels for crime reductions, so we cannot determine the chances that the results were due to random changes in crime. In summary, a typical evaluation of a place-focused intervention involves a before-after comparison of a prevention tactic at a single location, compared to a roughly similar location or the surrounding area.

The Effects of Displacement are Limited

There is little reason to believe that side effects from place-focused efforts are greater than the intentional effects. Further, some of these side effects enhance prevention, rather than undermine it. There are two side effects: displacement of crime and diffusion of prevention benefits.

One reason for community resistance to place-focused prevention (or any area specific tactic) is the fear of the displacement of crime from the target places to other, presumably safer, locations nearby. Displacement can take on a number of forms. Offenders can change locations. They can change the times of offending. They can change the target of their criminal behavior. They can adopt new behaviors to attack the same targets. And they can switch the type of crime they commit. Fear of displacement is often based on the assumption that offenders are like predatory animals (they will do what ever it takes to commit crimes just as a rat will do whatever it takes to steal food from the cupboard).

In the last 10 years there have been four reviews of the empirical evidence and theoretical underpinnings for displacement. Theoretical explorations based on a rational choice perspective (Cornish and Clark 1986) find no basis for believing offenders always completely displace if they cannot attack their favorite targets (Cornish and Clark 1987; Barr and Pease 1990; Eck 1993; Barnes 1995; Bouloukos and Farrell 1997). Reviews of empirical studies examining place-focused prevention, police

enforcement, and other preventive tactics in the United States, Canada, Great Britain, continental Europe, and Australia, find that there is often no displacement, but when displacement occurs it does not overwhelm other gains from blocking crime opportunities (Cornish and Clark 1987; Barr and Pease 1990; Eck 1993; Hesselning 1995). There is no evidence to suggest that these interventions increase crime by displacing it. There have been only a very few examples where something close to 100 percent displacement has been observed (for example, 100 crimes are prevented at one set of targets, but there is an increase of 100 crimes at similar targets). Displacement far less than 100 percent is not uncommon (for example, 100 crimes are prevented against one set of targets but there is an increase of 30 crimes against other targets, yielding a net reduction of 70 crimes). But usually, evaluators who have looked for empirical evidence of displacement have found little evidence of displacement. Concern about displacement is usually based more on pessimism than empirical fact.

It is possible that more displacement would be found if evaluators were more diligent in their search for it. Most prevention evaluations do not report on possible displacement effects and when they do, the evidence used is almost always weaker than the evidence used to support the main findings. Still, if the evidence for limited displacement is weak, the evidence for large amounts of displacement is even weaker.

Prevention Benefits Can Spread

Overlooked in our concern about displacement is the possibility of just the opposite effect, diffusion of crime prevention benefits (Clarke and Weisburd 1994). For example, Scherdin (1992) reported that when magnetic tags were put in books in a university library, book theft declined. But so did the theft of audio and video tapes which were not tagged. Thieves apparently were unaware of which items were protected. We have noted several other examples of possible diffusion of benefits effects in the evaluations examined in this chapter (Felson et. al. 1997; LaVigne 1994; Masuda 1992; Poyner 1988). Evidence for diffusion of benefits is weaker than evidence against displacement, largely because few people have looked for it. Nevertheless, this possibility cannot be rejected on empirical or theoretical grounds. In fact, there are good theoretical reasons to believe diffusion of benefits might be common. Diffusion is the flip side of the coin of crime contagion. Contagion suggests that when offenders notice one criminal opportunity they often detect similar opportunities they have previously overlooked. Crime then spreads. The broken-windows theory (Wilson and Kelling 1982) is an example of a contagion theory. Thus under some circumstances offenders may be uncertain about the scope of prevention efforts and avoid both the blocked opportunities and similar unblocked opportunities. When this occurs, prevention may spread.

There is Much Uncertainty About Place- and Crime-Specific Tactics

Table 7-11 summarizes the place-specific findings described in detail in the body of this chapter. Each evaluated intervention was put into one of four categories. Tactics that "work" had to have two or more positive studies with a scientific methods score of 3 or more and had to report the statistical significance of the findings. Only one tactic, nuisance abatement to control drug dealing and related crime at private rental places, received this classification.

To be classified as "does not work" an intervention had to meet the same qualifications as "works" but the findings reported no relationship between the intervention and crime. The scientific methods used were insufficient to detect tactics that did not work, so we have no tactics in this category. With improved knowledge from more rigorous evaluations some of the tactics in the "unknown" category might move into this category. Most tactics may be effective at some type of place and against particular crimes, but it is unlikely that all tactics are effective at all places against all crimes. The absence of tactics in the "does not work" category reveals our ignorance.

"Promising" tactics had to have at least one evaluation with a scientific methods score of 3 that used significance tests, and showed that crime declined. If significant tests had been reported some tactics of "unknown" effectiveness might have been classified as "promising." Seven interventions had sufficient scientific evidence to be classified as "promising." Putting metal detectors in this category reveals the limits of the application of standard social science research methods. Few would question the efficacy of metal detectors and passenger screening to prevent aircraft hijacking, but because this tactic has not been widely studied and many of the studies use weak research methods, we cannot put this tactic in the "works" category. We can be far less certain about its effectiveness in other settings. Street closures may be another tactic that is underrated because of a lack of rigorous evaluations, particularly the absence of significance tests.

The "unknown" category contains the majority of interventions. Many of these interventions had multiple studies showing positive effects, but the evaluations had scientific methods scores less than 3, or did not report significance test results. Examples of these tactics include CCTV in open spaces and parking lots, and EAS in retail stores. Other tactics had several weak studies reporting conflicting results. Lighting in open areas is an example of this type of tactic. Finally, some tactics may not prevent crime. Cameras were found to be ineffective at preventing robberies of convenience stores in a single rigorous test.

In a less rigorous analysis, cameras were found to be unrelated to bank robberies.

Clearly there is much to learn if we are to develop a set of well-tested interventions that can be applied to specific problems. Most cells in Table 7-11 empty and the places listed are only a small set of places with crime problems. Even when we have tactics that work or look promising, they have only been tested against a limited set of crimes.

Table 7-11: SUMMARY OF PLACE SPECIFIC-FINDINGS

	Works	Does Not Work	Promising	Unknown
Residential	nuisance abatement			target hardening restricting movement guards CCTV cocoon watch property marking
Commercial				
stores			multiple clerks store design	EAS CCTV target hardening frequent inventory counts prohibiting offenders electronic monitoring ink tags guards cameras restricting movement
banking & money handling				cameras target hardening guards
bars & taverns			server training	
Transport				
public transportation				removing targets rapid cleanup design informal watching
parking lots				CCTV guards restricting

		movement
airports	metal detectors guards	
Public Setting		
open spaces	street closures	CCTV prohibiting offenders controlling drinking lighting
public facilities	target hardening	removing targets signs

Situational Crime Prevention and Problem-Solving are Promising

This chapter has described what we have learned about the effectiveness of specific tactics to prevent crimes at specific types of places. It is based on the assumption that if know the type of place and the type of crime, we should be able to recommend a specific tactic that can prevent crimes of this type and this place. We have seen limited evidence that this assumption is valid.

There is another approach to addressing crime problems, however, that may also be valid. Rather than look for a generic solution to a specific crime problem at a place, one could undertake a thorough examination of the problem and then craft a unique set of interventions to address this problem. Such an approach is advocated by both situational crime prevention (Clarke 1992) and problem-oriented policing (Goldstein 1990). Many of the evaluations examined multiple simultaneous interventions that addressed specific problems at places. In these projects the selection of tactics was preceded by some form of crime analysis. Their evaluations are examinations of the effectiveness of problem-solving and situational crime prevention. Additionally, one of the two randomized experiments was a study of problem-solving (scientific methods score=5). Stores in the treatment groups did not get a standard intervention, but had an on-site diagnosis and a recommendation of a set of tactics that fit the circumstances (Crow and Bull 1975). Repeat victimization evaluations (Anderson, Cheery and Pease 1995; Forrester, Chatterton and Pease 1988) are also a form of problem-solving because the complex interventions were based on site-specific analysis (both with scientific methods scores=3). It is difficult to determine how many of the studies reviewed in this chapter should be considered as problem-solving or situational crime prevention efforts, but almost half provide evidence they can be interpreted in this light. This implies that we have relatively strong evidence for the effectiveness of problem-solving and situational crime prevention. At minimum, these complementary strategies are a promising approach to crime prevention.

EFFECTIVENESS OF DOJ PROGRAMS

There is no single program within the Department of Justice that funds place-focused prevention. Instead, place-focused prevention tactics maybe scattered throughout a variety of program areas. Within the Byrne Formula Grant Program, place-focused tactics may be funded under the domestic drug control, community crime prevention, property crime prevention, law enforcement effectiveness, and public housing purpose areas. These areas comprises \$151.8, or about 8 percent of all Byrne Funds for fiscal years 1989 through 1994 (Dunworth, Haynes and Saiger 1997). We do not know what proportion of these funds actually went to place-focused tactics, but it is probably very small. Within the Local Law Enforcement Block Grant Program for 1996 through 1997, \$50 million has been allocated to security measures and crime prevention. This comprises about 14 percent of the program total. Once again, we cannot determine how much of these funds go to place-focused crime prevention.

Programs to foster problem-solving and situational crime prevention efforts at places may be effective. The NIJ sponsored the earliest research on problem-solving in Madison, Wisconsin (Goldstein 1990) and Newport News, Virginia (Eck and Spelman 1987). The Bureau of Justice Assistance has funded a number of programs that applied problem-solving, including the Problem-

Oriented Approach to Drug Enforcement, the Systems Approach to Crime and Drug Prevention, and the Comprehensive Gang Initiative. The COPS program, with its focus on the police problem-solving with communities, could make good use of place-focused crime prevention. Improving the ability of police and communities to identify and analyze problems and then craft effective prevention methods to alleviate these problems may improve police effectiveness.

Though police problem-solving has received much attention in the United States, the police are not the only social institution that uses problem-solving to prevent crime problems. Improving the ability of small businesses, social organizations, community groups, and non-criminal justice public agencies to craft problem-specific solutions to crime problems would have the effect of democratizing crime prevention. Two types of knowledge are required for such efforts. First, people addressing crime problems at places must know how to go about identifying problems, analyzing the causes of problems, crafting feasible solutions, and determining if the problems have declined. Second, these people need knowledge about what place-focused prevention have been tried and which have been found to be effective. Congressional support for developing both sets of knowledge might improve the ability of private and public institutions to prevent crime.

To the extent that Department of Justice program funds are used to support nuisance abatement to prevent drug dealing and related crime, these funds are probably being used in an effective manner. The Bureau of Justice Assistance has singled out three programs (Boston's Safe Neighborhood Initiative, Lansing's Neighborhood Reclamation program, and Los Angeles's FALCON Narcotics Abatement Unit) involving nuisance abatement as particularly innovative (Bureau of Justice Assistance 1995).

Nuisance abatement points out a very important fact about place-focused prevention. Most place-focused prevention takes place at privately owned locations. If these owners do not employ prevention measures at their places, then mechanisms are required to induce them to undertake relevant prevention measures. Nuisance abatement provides a threat in order to compel the installation of prevention. A positive alternative is landlord training. Landlord training programs provide information to landlords to help them manage their properties and prevent drug dealing. Unfortunately, this positive approach has not been evaluated so we do not know how effective it is, either in absolute terms or relative to nuisance abatement.

IMPROVING EFFECTIVENESS THROUGH EVALUATION AND RESEARCH

Providing citizens and businesses, as well as local governments, with scientifically based information on crime prevention may be more productive than directly funding such programs. Such information can only be provided by a program of rigorous research.

What should a research program look like? First, it must enlist the active participation of the people and organizations that own and control places. Some basic research can be undertaken using police records, other public data bases, and surveys. Most systematic evaluation and experimentation involving changes to the characteristics of places will require the cooperation of the businesses and property owners.

Second, a place-focused research and evaluation program should build a body of theoretically sound and rigorously tested interventions. The program should address six questions:

1. Where is each type of crime most likely to occur?
2. What place characteristics protect places from crime or facilitate crime?
3. What innovative prevention tactics come from problem-solving and situational crime prevention efforts?
4. What methods for analyzing problems and developing prevention tactics are particularly useful for local decision makers?
5. Which tactics are found effective, based on impact evaluations with scientific methods scores not less than 3?
6. Of those tactics that appear promising based on impact evaluations in single sites, which survive multi-site evaluations with scientific methods scores of 4 and 5?

The Drug Market Analysis Project (DMAP) is a useful example of how demonstration, research and evaluation can work together. In five cities (Jersey City, Hartford, Pittsburgh, Kansas City, and San Diego) NIJ funded the development of advanced computer mapping. These efforts improved police ability to analyze their crime and drug problems and they supported basic research into drug market places and rigorous evaluations of interventions to control drug dealing.

DMAP also addressed another research priority. A place-focused research program should foster improvements in scientific methods used in evaluations. All evaluations should employ control groups or interrupted time-series designs, unless there are overwhelming reasons why such controls cannot be employed. Further, significance tests and effect sizes should be reported. NIJ's new Crime Mapping Research Center has the potential to expand on what was learned through DMAP and to extend our knowledge of effective place-focused tactics.

Special efforts need to be made to address side effects: displacement and diffusion of benefit. These side effects can contaminate control groups and confound evaluation results. If crime displaces into control places then program effects can be overestimated. If crime prevention diffuses into control places then program effects will be underestimated. In neither case can diffusion or displacement effects be estimated. Evaluation protocols for separating control places and displacement/diffusion places need to be required for all federally funded research. Additionally, these side effects should be the subject of research to determine the conditions under which they are most likely to occur and what can be done to reduce displacement and facilitate diffusion.

Several place-focused interventions should be given priority for testing to determine if they are effective at controlling violence. These include street closures around retail drug markets, CCTV at locations that are hotspots for robberies and assaults, landlord training programs to curb drug related violence in apartment buildings, and metal detectors in schools and public housing with high violent crime rates. Research into the relationship between lighting and violent crime needs to be conducted. Such research should examine how offenders use lighting, the circumstances under which lighting facilitates crime, and the conditions under which lighting is associated with low crime rates. Evaluations could then be undertaken at places where this earlier research suggested that lighting improvements might be effective. Finally, studies should examine how repeat victimization, repeat crime places, and repeat offenders are related.

REFERENCES

Allatt, Pat

1984 Residential security: Containment and displacement of burglary. *Howard Journal of Criminal Justice*. 23:99-116.

Anderson, David, Sylvia Chenery, and Ken Pease

1995a Biting Back: Tackling Repeat Burglary and Car Crime. Crime Detection and Prevention Series Paper 58. London: Home Office.

Anderson, David, Sylvia Chenery, and Ken Pease

1995b Preventing repeat victimizations: A report on progress in Huddersfield. Home Office Police Research Group Briefing Note 4/95. London: Home Office.

Atkins, Stephen, Sohail Husain, and Angele Storey

1991 The Influence of Street Lighting on Crime And Fear of Crime. Crime Prevention Unit Paper 28. London: Home Office.

Atlas, Randall and William G. LeBlanc

1994 The impact on crime of street closures and barricades: A Florida case study. *Security Journal*. 5:140-45.

Bamfield, Joshua

1994 Electronic article surveillance: Management learning in curbing theft. In Martin Gill (ed.) *Crime at Work: Studies in Security and Crime Prevention*. Leischester: Perpetuity Press.

Barclay, Paul, Jennifer Buchley, Paul J. Brantingham, Patricia Brantingham, and Terry Whinn-Yates

1996 Preventing auto theft in suburban Vancouver commuter Lots: Effects of a bike patrol. In Ronald V. Clarke (ed.) *Preventing Mass Transit Crime*. Crime Prevention Studies. Vol. 6. Monsey, NY: Criminal Justice Press.

Barker, Mary and Cressida Bridgeman

1994 Preventing Vandalism: What Works? Crime Detection and Prevention Series paper 56. London: Home Office.

Barnes, Geoffrey C.

1995 Defining and optimizing displacement. In John E. Eck and David Weisburd (eds.) Crime and Place. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Barr, Robert and Ken Pease

1990 Crime placement, displacement, and deflection. In Michael Tonry and Norval Morris (eds.), Crime and Justice: A Review of Research, Vol. 12. Chicago, IL: University of Chicago Press.

Beavon, Daniel J.K., P.L. Brantingham and P.J. Brantingham

1994 The influence of street networks on the patterning of property offenses. In Ronald V. Clarke (ed.). Crime Prevention Studies. Vol. 2. Monsey, NY: Criminal Justice Press.

Bellamy, Lisa C.

1996 Situational crime prevention and convenience store robbery. Security Journal. 7:41-52.

Bichler, Gisela and Ronald V. Clarke

1996 Eliminating pay phone toll fraud at the Port Authority buss terminal in Manhattan. In Ronald V. Clarke (ed.) Preventing Mass Transit Crime. Crime Prevention Studies. Vol. 6. Monsey, NY: Criminal Justice Press.

Bjor, Jill, Johannes Knutsson, and Eckhart Kuhlhorn

1992 The celebration of midsummer eve in Sweden: A study in the art of preventing collective disorder. Security Journal. 3:169-74.

Block, Richard and Carolyn Block

1995 Space, place and crime: Hot spot areas and hot place of liquor-related crime. In John E. Eck and David Weisburd (eds.) Crime and Place. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Bouloukos, Adam C. and Graham Farrell

1997 On the displacement of repeat victimization. In Graeme Newman, Ronald V. Clarke, and S. Giora Shoham (eds.), Rational Choice and Situational Crime Prevention: Theoretical Foundations. Dartmouth, NH: Dartmouth University Press.

Brantingham, Patricia L. and Paul J. Brantingham

1981 Notes on the geometry of crime. In Paul J. Brantingham and Patricia L. Brantingham (eds.), Environmental Criminology. Beverly Hills, CA: Sage.

Brown, Ben

1995 CCTV in Town Centres: Three Case Studies. Crime Detection and Prevention Series Paper 68. London: Home Office.

Bureau of Justice Assistance

1995 Ten Years of Innovation: Pioneering BJA Programs. Washington, DC: Bureau of Justice Assistance.

Burrows, John and Martin Speed

1996 Crime analysis: Lessons from the retail sector. *Security Journal*. 7:53-60.

Carr, Kerri, and Geoff Spring

1993 Public transport safety: A community right and a communal responsibility. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 1. Monsey, NY: Criminal Justice Press.

Centers for Disease Control and Prevention

1993 Violence-related attitudes and behaviors of high school students -- New York City, 1992. *Morbidity and Mortality Weekly Report*. 42: 773-77.

Chaiken, Jan M., Michael W. Lawless, and Keith A. Stevenson

1974 Impact of Police on Crime: Robberies on The New York City Subway System. R-1424-NYC. New York: The New York City Rand Institute.

Challinger, Dennis

1991 Less telephone vandalism: How did it happen? *Security Journal*. 2:111-19.

Challinger, Dennis

1996 Refund fraud in retail stores. *Security Journal*. 7:27-35.

Chatterton, Michael R. and Samantha J. Frenz.

1994 Closed-circuit television: Its role in reducing burglaries and the fear of crime in sheltered accommodation for the elderly. *Security Journal*. 5:133-39.

Clarke, Ronald V. ed.

1992 *Situational Crime Prevention: Successful Case Studies*. Albany, NY: Harrow and Heston.

Clarke, Ronald V.

1993 Fare evasion and automatic ticket collection in the London underground. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 1. Monsey, NY: Criminal Justice Press.

Clarke, Ronald V.

1995 Situational crime prevention. In Michael Tonry and David P. Farrington (eds.) *Building a Safer Society: Strategic Approaches to Crime Prevention*. *Crime and Justice*. Vol. 19. Chicago, IL: University of Chicago Press.

Clarke, Ronald V., Ronald Cody, and Mangai Natarajan

1994 Subway slugs: Tracking displacement on the London underground. *British Journal of Criminology*. 34:122-38.

Clarke, Ronald V., Simon Field, and Gerry McGrath

1991 Target hardening of banks in Australia and displacement of robberies. *Security Journal*. 2:84-90.

Clarke, Ronald V. and Ross Homel

in press "A revised classification of situational crime prevention techniques." In Steven P. Lab (ed.), *Crime Prevention at the Crossroads*. Cincinnati, OH: Anderson.

Clarke, Ronald V. and Gerry McGrath

1990 Cash reduction and robbery prevention in Australian betting shops. *Security Journal*. 1:160-63.

Clarke, Ronald V. and David Weisburd

1994 Diffusion of crime control benefits: Observations on the reverse of displacement. In Ronald V. Clarke (ed.), *Crime Prevention Studies*. Vol. 2. Monsey, NY: Willow Tree Press.

Clifton, Wayland, Jr.

1987 Convenience store robberies in Gainesville, Florida: An intervention strategy by the Gainesville Police Department. Gainesville, FL: Gainesville Police Department. Photocopy.

Cohen, Lawrence E. and Marcus Felson

1979 Social change and crime rate trends: A routine activity approach. *American Sociological Review*. 44:588-605.

Coleman, Alice

1985 *Utopia on Trial*. London: Hilary Shipman, Ltd.

Cornish, D. and R. V. Clarke

1986 *The Reasoning Criminal*. New York: Springer-Verlag.

Cornish, D. and R. V. Clarke

1987 Understanding crime displacement: An application of rational choice theory. *Criminology*. 25:933-947.

Crow, W.J., and J.L. Bull

1975 *Robbery Deterrence: An Applied Behavioral Science Demonstration--Final Report*. La Jolla, CA: Western Behavior Sciences Institute.

Crow, W.J., and Rosemary J. Erickson

1984 *Cameras and Silent Alarms: A study of Their Effectiveness as a Robbery Deterrent*. Jackson Hole, WY: Athena Research Corporation.

DesChamps, Scott, Patricia Brantingham, Paul Brantingham

1992 The British Columbia transit fare evasion audit. In Ronald V. Clarke (ed.) *Situational Crime Prevention: Successful Case Studies*. New York: Harrow and Heston.

Decker, John F

1972 Curbside deterrence: An analysis of the effect of a slug rejection device, coin view window and warning labels on slug usage in New York City parking meters. *Criminology*. 10:127-42.

DiLonardo, Robert L.

1996 Defining and measuring the economic benefit of electronic article surveillance. *Security Journal*. 7:3-9.

DiLonardo, Robert L. and Ronald V. Clarke

1996 Reducing the rewards of shoplifting: An evaluation of ink tags. *Security Journal*. 7:11-14.

Ditton, Jason and Gwyneth Nair

1994 Throwing light on crime: A case study of the relationship between street lighting and crime prevention. *Security Journal*. 5:125-32.

Dunworth, Terence and Aaron J. Saiger

1994 *Drugs and Crime in Public Housing: A Three City Analysis*. Washington, DC: National Institute of Justice.

Dunworth, Terence, Peter Haynes, and Aaron J. Saiger

1997 National Assessment of the Byrne Formula Grant Program. *Research in Brief*. Washington, DC: National Institute of Justice.

Dwyer, Jim

1991 *Subway Lives: 24 Hours in the Life of the New York City Subway*. New York: Crown.

Easteal, Patricia Weiser and Paul R. Wilson

1991 *Preventing Crime on Transport*. Canberra: Australian Institute of Criminology.

Eck, John E.

1993 The threat of crime displacement. *Criminal Justice Abstracts*. 25:527-46.

Eck, John E.

1994 Drug markets and drug places: A case-control study of the spatial structure of illicit drug dealing. Unpublished Ph.D. dissertation, University of Maryland, College Park.

Eck, John E.

1995 A general model of the geography of illicit retail marketplaces. In John E. Eck and David Weisburd (eds.) *Crime and Place*. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Eck, John E. and William Spelman

1987 *Problem-solving: Problem Oriented Policing in Newport News*. Washington, DC: Police Executive Research Forum.

Eck, John E. and Julie Wartell

1996 *Reducing Crime and Drug Dealing by Improving Place Management: A Randomized Experiment*. Report to the San Diego Police Department. Washington, DC: Crime Control Institute.

Eck, John E. and David Weisburd

1995 *Crime and Place*. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Eklom, Paul

1987 *Preventing Robberies at Sub-Post offices: An Evaluation of a Security Initiative*. Crime Prevention Unit Paper no. 9. London: Home Office.

Ekblom, Paul

1988 Preventing post office robberies in London: Effects and side effects. *Journal of Security Administration*. 11:36-43.

Engstad, Peter A.

1975 Environmental opportunities and the ecology of crime. In Robert A. Silverman and James J. Teevan (eds.), *Crime in Canadian Society*. Toronto: Butterworth.

Farrell, Graham

1995 Preventing repeat victimization. In Michael Tonry and David P. Farrington (ed.) *Building a Safer Society: Strategic Approaches to crime Prevention*. Crime and Justice. Vol. 19. Chicago, IL: University of Chicago Press.

Farrington, David P., Sean Bowen, Abigail Buckle, Tony Burns- Howell, John Burrows, and Martin Speed

1993 An experiment on the prevention of shoplifting. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 1. Monsey, NY: Criminal Justice Press.

Felson, Marcus

1994 *Crime and Everyday Life: Insight and Implications for Society*. Thousand Oaks, CA: Pine Forge Press.

Felson, Marcus, Mathieu E. Belanger, Gisela M. Bichler, Chris D. Bruzinski, Glenna S. Campbell, Cheryl L. Fried, Kathleen C. Grofik, Irene S. Mazur, Amy B. O'Regan, Patricia J. Sweeney, Andrew L. Ullman, and LaQuanda M. Williams

1996 Redesigning hell: Preventing crime and disorder at the Port Authority bus terminal. In Ronald V. Clarke (ed.) *Preventing Mass Transit Crime*. *Crime Prevention Studies*. Vol. 6. Monsey, NY: Criminal Justice Press.

Felson, Marcus, Robyn Berends, Barry Richardson, and Arthur Veno

1997 A community policing initiative to discourage abuse of alcohol. In Ross Homel (ed.) *Crime Prevention Studies*. Vol. 7. Monsey, NY: Criminal Justice Press.

Fleming, R. and J. Burrows

1986 The case for lighting as a means of preventing crime. (Research Bulletin, Research and Planning Unit, No. 22, pp. 14-17). London: Home Office.

Forrester, David H., Michael R. Chatterton, and Ken Pease

1988 The Kirkholt Burglary Prevention Demonstration Project, Rochdale. *Crime Prevention Unit Paper no. 13*. London: Home Office.

Forrester, David H., Samantha Frenz, Martin O'Connell, and Ken Pease

1990 The Kirkholt Burglary Prevention Project: Phase II. *Crime Prevention Unit Paper no. 23*. London: Home Office

Gabor, Thomas

1981 The crime displacement hypothesis: An empirical examination. *Crime and Delinquency*. 26:390-404.

Goldstein, Herman

1990 *Problem-oriented Policing*. New York: McGraw-Hill.

Gottfredson, Michael R. and Travis Hirschi

1990 *A General Theory of Crime*. Stanford, CA: Stanford University Press.

Grandjean, Christian

1990 Bank robberies and physical security in Switzerland: A case study of The escalation and displacement phenomena. *Security Journal*. 1:155-59.

Green, Lorraine

1995 Cleaning Up drug Hotspots in Oakland, California: The displacement and diffusion effects. *Justice Quarterly*. 12:737-54.

Green, Lorraine

1996 *Policing Places with Drug Problems*. Thousand Oaks, CA: Sage.

Green, Lorraine

1993 *Treating deviant places: A case study examination of the beat health program in Oakland, California*. Ph.D. dissertation, Rutgers, The State University of New Jersey.

Hannan, Timothy H.

1982 Bank robberies and bank security precautions. *Journal of Legal Studies*. 11:83-92.

Hemingway, Richard C.

1989 Environmental design, access control, and surveillance as deterrents to thefts in hospitals. *Security Journal*. 1:47-57.

Hesseling, Rene B. P.

1995 Displacement: A review of the empirical literature. In Ronald V. Clarke (ed.), *Crime Prevention Studies*. Vol. 3. Monsey, NY: Criminal Justice Press.

Hesseling, Rene'

1995 Theft from cars: Reduced or displaced? *European Journal of Criminal Policy and Research*. 3:79-92.

Homel, Ross and Jeff Clark

1994 The prediction and prevention of violence in pubs and clubs. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 3. Monsey, NY: Criminal Justice Press.

Homel, Ross, Marg Hauritz, Richard Wortley, Gillian McIlwain, and Russell Carvolth

1997 Preventing alcohol-related crime Through community action: The Surfers Paradise safety action project. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 7. Monsey, NY: Criminal Justice Press (forthcoming).

Hope, Tim

1994 Problem-oriented policing and drug market Locations: Three case studies. In Ronald V. Clarke (ed.). *Crime Prevention Studies*. Vol. 2. Monsey, NY: Criminal Justice Press.

Hunter, Ronald D. and C. Ray Jeffrey

1992 Preventing convenience store robbery through environmental design. In Ronald V. Clarke (ed.) *Situational Crime Prevention: Successful Case Studies*. Albany, NY: Harrow and Heston.

Jacques, Christopher

1994 Ram raiding: The history, incidence and scope for prevention. In Martin Gill (ed.) *Crime at Work: Studies in Security and Crime Prevention*. Leicester: Perpetuity Press.

Kenney, Dennis J

1986 Crime on the subways: Measuring the effectiveness of the Guardian Angels. *Justice Quarterly*. 3:481-496.

Landes, William M.

1978 An economic study of U.S. aircraft hijacking, 1961-1976. *Journal of Law and Economics*. 21:1-32.

Lasley, James R.

1996 Using Traffic Barriers to 'Design out' crime: A Program Evaluation of LAPD's Operation Cul-De-Sac. Report to the National Institute of Justice. California State University, Fullerton (November).

LaVigne, Nancy G.

1991 Crimes of convenience: An analysis of criminal decision-making and convenience store crime in Austin, Texas. Master's thesis. University of Texas at Austin.

La Vigne, Nancy G.

1994 Rational choice and inmate disputes over phone use on Rikers Island. Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 3. Monsey, NY: Criminal Justice Press.

La Vigne, Nancy G.

1997 Safe Transport: Security by design on the Washington Metro. In Ronald V. Clarke (ed.) *Preventing Mass Transit Crime*. *Crime Prevention Studies*. Vol. 6. Monsey, NY: Criminal Justice Press.

Laycock, Gloria

1985 Property Marking: a Deterrent To Domestic Burglary? *Crime Prevention Unit Paper no. 3*. London: Home Office.

Laycock, Gloria

1991 Operation identification, or the power of publicity? *Security Journal* 2:67-72.

Laycock, Gloria and Claire Austin

1992 Crime prevention in parking facilities. *Security Journal*. 3:154-60.

Lurigio, Arthur J., Robert C. Davis, Thomas A. Regulus, Victoria E. Gwiasda, Susan J. Popkin, Mark L. Dantzker, Barbara Smith, and Lawrence Ouellet

1993 An Evaluation of the Cook County State's Attorney's Office Narcotics Nuisance Abatement Unit. Chicago, IL: Illinois Criminal Justice Information Authority.

Masuda, Barry

1996 An alternative approach to the credit card fraud problem. *Security Journal*. 7:15-21.

Masuda, Barry

1992 Displacement vs. diffusion of benefits and the reduction of inventory losses in a retail environment. *Security Journal*. 3:131-36.

Masuda, Barry

1993 Credit card fraud prevention: A successful retail strategy. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 1. Monsey, NY: Criminal Justice Press.

Matthews, Roger

1993 Kerb-Crawling, Prostitution and Multi-Agency Policing. Police Research Group. Crime Prevention Unit Series Paper 43. London: Home Office.

Matthews, Roger

1992 Developing more effective strategies for curbing prostitution. In Ronald V. Clarke (ed.) *Situational Crime Prevention: Successful Case Studies*. New York: Harrow and Heston.

Mawby, R. I.

1977 Defensible space: A theoretical and empirical appraisal. *Urban Studies*. 14:169-79.

Mayhew, Pat

1979 Defensible space: The current status of a crime prevention theory. *Howard Journal of Penology and crime Prevention*. 18:150-59.

McNees, M.P., J.F. Schnelle, R.E. Kirchner, and M.M. Thomas

1980 An experimental analysis if a program to reduce retail theft. *American Journal of Community Psychology*. 8:379-385.

Meredith, Colin and Chantal Paquette

1992 Crime prevention in high-rise rental apartments: Findings of a demonstration project. *Security Journal*. 3:161-69.

Merry, Sally F.

1981 Defensible space undefended: social factors in crime prevention through environmental design. *Urban Affairs Quarterly*. 16:397-422.

National Association of Convenience Stores

1991 Convenience store security Report and Recommendations: November 1991. Alexandria, VA: National Association of Convenience Stores.

Newman, Oscar

1972 *Defensible Space*. New York: Macmillan.

Newman, Oscar

1980 *Community of Interest*. Garden City, NY: Anchor Press.

Newman, Oscar

1996 Creating Defensible Space. Washington, DC: U.S. Department of Housing and Urban Development.

Painter, Kate

1994 The impact of street lighting on crime, fear and pedestrian use. *Security Journal*. 5:116-24.

Pease, Ken

1991 The Kirkholt project: Preventing burglary on a British public housing estate. *Security Journal*. 2:73-77.

Pierce, Glenn L., Susan Spaar, and LeBaron R. Briggs

1986 The Character of Police Work: Strategic and Tactical Implications. Center for Applied Social Research. Northeastern University. Photocopy.

Polvi, Natalie, Terah Looman, Charlie Humphries and Ken Pease

1990 Repeat break-and-enter victimizations: Time-course and crime prevention opportunity. *Journal of Police Science and Administration*. 17:8-11.

Popkin, Susan J., Victoria E. Gwiasda, Dennis P. Rosenbaum, Andrea A. Anderson, Lynn M. Olson, Arthur J. Lurigio, and Nina Taluc

1995a An Evaluation of the Chicago Housing Authority's Anti-Drug initiative: A Model of comprehensive crime Prevention in Public Housing. Cambridge, MA: Abt Associates Inc.

Popkin, Susan J., Lynn M. Olson, Arthur J. Lurigio, Victoria E. Gwiasda, and Ruth G. Carter

1995b Sweeping out drugs and crime: Residents' views of the Chicago Housing Authority's public housing drug elimination program. *Crime and Delinquency*. 41: 73-99.

Poyner, Barry

1983 Design Against Crime: Beyond Defensible Space. London: Butterworths.

Poyner, Barry

1994 Lessons from Lisson Green: An evaluation of walkway demolition on a British Housing estate. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 3. Monsey, NY: Criminal Justice Press.

Poyner, Barry

1991 Situational crime prevention in two parking facilities. *Security Journal*. 2:96-101.

Poyner, Barry

1988 Video cameras and bus vandalism. *Journal of Security Administration*. 11:44-51.

Poyner, Barry and Caroline Warne

1986 Violence to Staff: A Basis for Assessment and Prevention. London: Tavistock.

Poyner, Barry and Barry Webb

1991 Crime Free Housing. London: Butterworths-Architecture.

Poyner, Barry and Barry Webb

1992 Reducing theft from shopping bags in city center markets. In Ronald V. Clarke, (ed.) Situational Crime Prevention: Successful Case Studies. New York: Harrow and Heston.

Putnam, Sandra L., Ian R. Rockett and Miriam K. Campbell

1993 Methodological issues in community-based program effects. In Thomas K. Greenfield and Robert Zimmerman, (ed.) Center for Substance Abuse Prevention Monograph 14. Rockville, MD: U.S. Department of Health and Human Services.

Ramsay, Malcolm

1991 A British experiment in curbing incivilities and fear of crime. Security Journal. 2:120-125.

Ramsay, Malcolm

1990 Lagerland Lost: An Experiment in Keeping Drinkers off the Streets in Central Coventry and Elsewhere. Crime Prevention Unit Paper 22. London: Home Office.

Roncek, Dennis W. and Ralph Bell

1981 Bars, blocks and crime. Journal of Environmental Systems. 11:35-47.

Roncek, Dennis and Pamela A. Meier

1991 Bars blocks and crimes revisited: Linking the theory of routine activities to the empiricism of 'hot spots'. Criminology. 29:725-55.

Roncek, Dennis W. and Mitchell A. Pravatiner

1989 Additional evidence that taverns enhance nearby crime. Sociology and Social Research. 73:185-188.

Saltz, R.F.

1987 The role of bars and restaurants in preventing alcohol-impaired driving: An evaluation of server education. Evaluation in Health Professions. 10:5-27.

Scherdin, Mary Jane

1992 The halo effect: Psychological deterrence of electronic security systems. In Ronald V. Clarke (ed.) Situational Crime Prevention: Successful Case Studies. Albany, NY: Harrow and Heston.

Sherman, Lawrence W., Patrick R. Gartin, and Michael E. Buerger

1989 Hot spots of predatory crime: Routine activities and the criminology of place. Criminology. 27:27-55.

Sherman, Lawrence and Dennis P. Rogan

1995a Deterrent effects of police raids on crack houses: A randomized, controlled experiment. Justice Quarterly. 12:755-781.

Sherman, Lawrence and Dennis P. Rogan

1995b Effects of gun seizure on gun violence: "Hot spots" patrol in Kansas City. Justice Quarterly. 12:755-781.

Sherman, Lawrence, Janell D. Schmidt, and Robert J. Velke

1992 High Crime Taverns: A RECAP Project in Problem-Oriented Policing. Final report to the National Institute of Justice. Washington, DC: Crime Control Institute.

Sloan-Howitt, Maryalice and George L. Kelling

1990 Subway graffiti in New York City: 'Gettin up' vs. 'meanin it and cleaning it.' Security Journal. 1:131-36.

Spelman, William

1993 Abandoned buildings: Magnets for crime? Journal of Criminal Justice. 21:481-495.

Spelman, William

1995a Criminal careers of public places. In John E. Eck and David Weisburd (eds.) Crime and Place. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Spelman, William

1995b Once bitten, then what? Cross-sectional and time-course explanations of repeat victimization. British Journal of Criminology. 35:366-383.

Spelman, William and John E. Eck

1989 Sitting ducks, ravenous Wolves, and Helping Hands: New approaches to Urban policing. Public Affairs Comment. 35(2):1-9.

Stanford Research Institute

1970 Reduction of Robbery and Assault of Bus Drivers. Vol. 3. Technological and Operational Methods. Stanford, CA: Stanford Research Institute.

Taylor, Ralph B., Stephen D. Gottfredson, and Sidney Brower

1980 The defensibility of defensible space. In Travis Hirschi and Michael Gottfredson (eds.) Understanding Crime. Beverly Hills: Sage.

Tien, J.M., V.F. O'Donnell, A. Barnett, and P.B. Mirchandani

1979 Phase I Report: Street Lighting Projects. Washington, DC: U.S. Government Printing Office.

Tilly, Nicholas

1993a After Kirkholt--Theory, Method and Results of Replication Evaluations. Crime Prevention Unit Paper 47. London: Home Office.

Tilly, Nicholas

1993b The Prevention of Crime Against Small Businesses: The Safer Cities Experience. Crime Prevention Unit Paper 45. London: Home Office.

Tilly, Nicholas

1993c Understanding Car Parks, Crime and CCTV: Evaluation Lessons from Safer cities. Crime Prevention Unit Paper 42. London: Home Office.

Tilly, Nicholas, and Janice Webb

1994 Burglary Reduction: Findings From Safer Cities Schemes. Crime Prevention Unit Paper 51. London: Home Office.

vanAndel, Henk

1989 Crime prevention that works: The case of public transport in the Netherlands. *British Journal of Criminology*. 29:47-56.

Veno, Arthur and Elizabeth Veno

1993 Situational prevention of public disorder at the Australian motorcycle Grand Prix. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 1. Monsey, NY: Criminal Justice Press.

Wagenaar, Alexander C. and Harold D. Holder

1991 Effects of alcoholic beverage server liability on traffic crash injuries." *Alcoholism: Clinical and Experimental Research*. 15:942-947.

Webb, Barry

1996 Preventing plastic credit card fraud in the UK. *Security Journal*. 7:23-25.

Webb, Barry and Gloria Laycock

1992 Reducing Crime on The London Underground: An Evaluation of Three Pilot Projects. Crime Prevention Unit Paper 30. London: Home Office.

Weidner, Robert R

1997 Target hardening at a New York City subway station: Decreased fare evasion -- At what price? In Ronald V. Clarke (ed.) *Preventing Mass Transit Crime*. Crime Prevention Studies. Vol. 6. Monsey, NY: Criminal Justice Press.

Weisburd, David, Lorraine Green and D. Ross

1994 Crime in street level drug markets: A spatial analysis. *Criminologie*. 27:49-67.

Weisel, Deborah L.

1990 Tackling Drug Problems in Public Housing: A Guide for Police. Washington, DC: Police Executive Research Forum.

White, Garland F.

1990 Neighborhood permeability and burglary rates. *Justice Quarterly*. 7:57-67.

Wilkinson, Paul

1977 *Terrorism and the Liberal State*. New York: John Wiley and Sons.

Wilson, James Q. and George L. Kelling

1982 Broken windows. *Atlantic Monthly*. (March):29-38.

Wilson, Jerry V.

1990 Gainesville convenience store ordinance: Findings of fact, conclusions and recommendations. Crime Control Research Corporation.

Wilson, Paul

1988 Reduction of telephone vandalism: An Australian case study. *Security Journal*. 1:149-154.

Chapter Eight

POLICING FOR CRIME PREVENTION

by Lawrence W. Sherman

The more police we have, the less crime there will be. While citizens and public officials often espouse that view, social scientists often claim the opposite extreme: that police make only minimal contributions to crime prevention in the context of far more powerful social institutions, like the family and labor markets. The truth appears to lie in between. Whether additional police prevent crime may depend on how well they are focused on specific objectives, tasks, places, times and people. Most of all, it may depend upon putting police where serious crime is concentrated, at the times it is most likely to occur: policing focused on risk factors.

The connection of policing to risk factors is the most powerful conclusion reached from three decades of research. Hiring more police to provide rapid 911 responses, unfocused random patrol, and reactive arrests does not prevent serious crime. Community policing without a clear focus on crime risk factors generally shows no effect on crime. But directed patrols, proactive arrests and problem-solving at high-crime "hot spots" has shown substantial evidence of crime prevention. Police can prevent robbery, disorder, gun violence, drunk driving and domestic violence, but only by using certain methods under certain conditions.

These conclusions are based largely on research supported by the National Institute of Justice, the research arm of the Office of Justice Programs in the U.S. Department of Justice. In recent years, increasing numbers of police executives have incorporated these findings into their crime prevention strategies. University of Wisconsin law professor Herman Goldstein's (1979) paradigm of "problem-oriented policing" directed research attention to the specific things police do, and how they can focus their resources to attack the proximate causes of public safety problems. The Justice Department's adoption of this perspective has yielded an increasingly complex but useful body of knowledge about how policing affects crime.

One of the most striking recent findings is the extent to which the police themselves create a risk factor for crime simply by using bad manners. Modest but consistent scientific evidence supports the hypothesis that the less respectful police are towards suspects and citizens generally, the less people will comply with the law. Changing police "style" may thus be as important as focusing police "substance." Making both the style and substance of police practices more "legitimate" in the eyes of the public, particularly high-risk juveniles, may be one of the most effective long-term police strategies for crime prevention.

This chapter begins with a review of the eight major hypotheses about how the police can prevent crime (Figure 1). It then describes the varying strength of the scientific evidence on those hypotheses, in relation to the "rigor" of the scientific methods used to test them. The available studies are summarized for both their conclusions and their scientific rigor. The chapter then attempts to simplify these results by answering the questions about what works, what doesn't, and what's promising. Major gaps in our knowledge are also examined. The chapter concludes with recommendations derived from these findings for future federal investment in both evaluation research and police methods to be developed for evaluation.

Figure 8-1

Eight Major Hypotheses About Policing and Crime

Other things being equal,

1. **Numbers of Police.** The more police a city employs, the less crime it will have.
2. **Rapid Response to 911.** The shorter the police travel time from assignment to arrival at a crime scene, the less crime there will be.
3. **Random Patrols.** The more random patrol a city receives, the more a perceived "omnipresence" of the police will deter crime

in public places.

4. Directed Patrols. The more precisely patrol presence is concentrated at the "hot spots" and "hot times" of criminal activity, the less crime there will be in those places and times.

5. Reactive Arrests. The more arrests police make in response to reported or observed offenses of any kind, the less crime there will be.

6. Proactive Arrests. The higher the police-initiated arrest rate for high-risk offenders and offenses, the lower the rates of serious violent crime.

7. Community Policing. The more quantity and better quality of contacts between police and citizens, the less crime.

8. Problem-Oriented Policing. The more police can identify and minimize proximate causes of specific patterns of crime, the less crime there will be.

VARIETIES OF POLICE CRIME PREVENTION

1. Numbers of Police. Like the deterrence hypothesis itself (Gibbs, 1975), the claim that police prevent crime is not a "theory" in a truly scientific sense. The idea was developed not as a mathematical equation but as a general "doctrine" of public policy in the heat of democratic debate. The doctrine was based not just on speculation, but also on the apparent results of several "demonstration projects" with some empirical results. These included the court supervised "Bow Street Runners" (Lee, 1901 [1971]; Pringle, 1955) and the privately operated but publicly chartered Thames River "Marine Police" (Stead, 1977). As the level of violence throughout the 19th century declined while the number of police increased (Gurr, et al, 1977: 93-96; 140), many observers concluded that the more police, the less crime.

2. Rapid Response to 911. The general form of this claim is that the shorter the police travel time from assignment to arrival at a crime scene, the more likely it is that police can arrest offenders before they flee. This claim is then extended to rapid response producing three crime prevention effects. One is a reduction in harm from crimes interrupted in progress by police intervention. Another, more general benefit of rapid response time is a greater deterrent effect from the threat of punishment reinforced by response-related arrests. The third hypothesized prevention effect comes from the incapacitation through imprisonment of offenders prosecuted more effectively with evidence from response-related arrests. All of these claims presume, of course, that police are notified during or immediately after the occurrence of a crime. This premise, like the hypotheses themselves, is empirically testable, and its falsification could logically falsify the hypotheses built upon the assumption of its validity.

3. Random Patrols. Early beat officers were directed to check in at specific places at specific times, with rigid supervision of the prescribed patrol patterns (Reiss, 1992). The increasing emphasis on rapid 911 response in automobiles gradually put an end to directed patrols, allowing officers to patrol at random far beyond their assigned beats. This policy was justified by the theory that unpredictability in patrol patterns would create a perceived "omnipresence" of the police that deters crime in public places. Chicago Police Chief and Berkeley Criminology Dean Orlando W. Wilson (1963: 232) was a widely cited proponent of this view. Although he favored the use of police workload analysis to determine how many officers should be assigned to different beats and shifts, modern police practice shows little variation in patrol presence by time and place. Nonetheless, many police chiefs and mayors claim that hiring more officers to patrol in this fashion would reduce crime.

4. Directed Patrols. Since the advent of computerized crime analysis, however, a far greater precision in the identification of crime patterns has become possible. Police have used that precision to focus patrol resources on the times and places with the highest risks of serious crime. The hypothesis is that the more patrol presence is concentrated at the "hot spots" and "hot times" of criminal activity, the less crime there will be in those places and times. The epidemiological underpinning for this claim is NIJ-funded research showing that the risk of crime is extremely localized, even within high crime neighborhoods, varying widely from one address to another (Pierce, Spaar and Briggs, 1988; Sherman, Gartin and Buerger, 1989).

5. Reactive Arrests. Like police patrol, arrest practices can be either unfocused or focused on crime-risk factors. Reactive arrests (in response to specific citizen complaints) are like random patrol in that they cast a wide net, warning all citizens that they can be arrested for all law violations at all times. This net is necessarily quite thin. Observations of thousands of police encounters with criminal suspects shows that police choose **not** to arrest suspects in the majority of the cases in which there was legal basis to do so (Black, 1980: 90; Smith and Visher, 1981: 170). The frequent decision not to arrest has been noticed by crime victims' advocacy groups, who argue that more arrests will produce less crime. This hypothesis, like deterrence generally, is expressed at two levels of analysis: the "general" or community-wide, and the "specific" or individual-level. The individual-

level hypothesis has been questioned for decades by social scientists, and even some police, who suggest exactly the opposite: that arrest, especially for minor offenses (which are by far the most common), provokes a response by offenders making them more likely to commit future crime than if they had not been arrested.

6. Proactive Arrests. Like directed patrol, proactive (police-initiated) arrests concentrate police resources on a narrow set of high-risk targets. The hypothesis is that a high certainty of arrest for a narrowly defined set of offenses or offenders will accomplish more than low arrest certainty for a broad range of targets. In recent years the theory has been tested with investigations of four primary high risk targets: chronic serious offenders, potential robbery suspects, drug market places and areas, and high-risk places and times for drunk driving. All but the first can be tested by examining the crime rate. The hypothesis about chronic serious offenders is tested by examining the rate at which such offenders are incapacitated by imprisonment from further offending.

Another version of the proactive arrest hypothesis is called "zero tolerance," based on the "broken windows" theory (Wilson and Kelling, 1982). The theory is that areas appearing disorderly and out-of-control provide an attractive climate for violent crime--just as a window with one broken pane attracts more stones than a completely unbroken window. The crime prevention hypothesis is that the more arrests police make for even petty disorder, the less serious crime there will be (Skogan, 1990).

Community vs. Problem-Oriented Policing

The hypotheses about community- and problem-oriented-policing are less focused than the others, so much so that some observers have even advised against trying to test them (Moore 1992: 128). They both involve far more variations and possible combinations of police activities than the narrow deterrence hypotheses. As in the community- and school-based programs reviewed in chapters 2 and 4, community and problem-oriented policing are put into practice more like a "stew" of different elements than a single type of "food." Yet it is just this flexibility that proponents hypothesize to give them their power. Crime problems vary so widely in nature and cause that effective policing for prevention must vary accordingly, and arguably require many elements to succeed.

While community and problem-oriented policing are often said to be overlapping strategies (Skogan, 1990; Moore, 1992), they actually have very different historical and theoretical roots. Community policing arises from the crisis of legitimacy after the urban race riots of the 1960s, the proximate causes of which several blue-ribbon reports blamed on police (President's Commission on Law Enforcement and Administration of Justice, 1967; National Advisory Commission on Civil Disorders, 1968). The reports claimed police had lost contact with minority group residents, both by changing from foot patrols to radio cars and by taking a more legalistic approach to law enforcement. In various ways, most notably "team policing" (Task Force Report; Sherman, et al 1973), the police were urged to increase their contact with citizens in more positive settings than just responding to emergencies. Thus for almost three decades the **Community Policing** hypothesis has been that increasing the quantity and quality of police-citizen contact (Kelling, 1988) reduces crime.

Problem-oriented policing, in contrast, arose from the crisis of police effectiveness at crime prevention provoked in the 1970s by some of the very studies reviewed in this chapter. As one of its early sponsors, Gary Hayes (1979), put it, the studies told police chiefs that nothing they were doing--putting more police on the street into random patrols, rapid responses--was working to fight crime. The strategy of problem-oriented policing conceived by Professor Goldstein (1979) provided a new paradigm in which to focus innovation, regardless of any contact with the citizenry. Where the core concept of community policing was community involvement for its own sake, the core concept for problem-oriented policing was **results**: the effect of police activity on public safety, including (but not limited to) crime prevention. Nonetheless, community policing has also been justified by its hypothesized effects on crime, not the least of which has been the rationale for the 100,000 federally funded police officers.

7. Community Policing. The crime prevention effects of community policing are hypothesized to occur in four major ways.

7.a. Neighborhood Watch. This hypothesis justifies one of the most widespread community policing programs, "block watch": increasing volunteer surveillance of residential neighborhoods by residents, which should deter crime because offenders know the neighbors are watching.

7.b. Community-Based Intelligence. This hypothesis justifies the many community meetings (Sherman et al, 1973) and informal contacts police sought through storefront offices, foot patrol (Trojanowicz, 1986) and other methods: increasing the flow of intelligence from citizens to police about offenses and offenders, which then increases the probability of arrest for crime and the deterrent incapacitative effects of arrest. The increased flow of citizen intelligence can also increase police effectiveness at crime prevention through problem-solving strategies.

7.c. Public Information About Crime. This hypothesis is just the reverse of the last one: increased flow of police intelligence about crime back to citizens improves citizen ability to protect themselves, especially in light of recent changes in crime patterns and risks. The latest version of this idea is "reverse 911," under which police fax out warnings of criminal activity to a list of residential and business fax numbers requesting the service.

7.d. Police Legitimacy. Given the historical roots of community policing, perhaps the most theoretically compelling version of its crime prevention hypothesis addresses police legitimacy, or public confidence in the police as fair and equitable (Eck and Rosenbaum, 1994). Recent theoretical and basic research work in "procedural justice" (Tyler, 1990) provides a more scientifically elaborate version of this hypothesis than its proponents in the 1960s intended. The claim is not just that police must be viewed as legitimate in order to win public cooperation with law enforcement. The claim is that a legitimate police institution fosters more widespread obedience of the law itself. Gorer (1955: 296) even attributes the low levels of violent crime in England to the example of law-abiding masculinity set by 19th Century police, a role model that became incorporated into the "English character." There is even evidence that the police themselves become less likely to obey the law after they have become disillusioned with its apparent lack of procedural justice (Sherman, 1974).

8. Problem-Oriented Policing offers infinite specific hypotheses about crime prevention, all under this umbrella claim: the more accurately police can identify and minimize proximate causes of specific patterns of crime, the less crime there will be. In recent years this claim has taken two major forms:

8.a. Criminogenic Commodities. The more police can remove criminogenic substances from the micro-environments of criminal events, the fewer crimes there will be. This claim arises from the growing emphasis on the causation of criminal events as partly independent of the causation of individual criminality (Hirschi, 1986). Like the theories about preventing crime in places (Chapter 7), the premise is that many crimes require certain preconditions, such as guns or cash or moveable property (Cohen and Felson, 1979).

8.b. Converging Offenders and Victims. Another precondition of violent criminal events is that victims and offenders must intersect in time and space. A major problem-solving theory of crime prevention is to keep the more basic elements of criminal events from combining: the more police can reduce the intersection of motivated offenders in time and space with suitable targets of crime, the less crime there will be.

TESTING THE HYPOTHESES

All of these hypotheses pose formidable challenges to scientific testing. The measurement of crime is difficult under any circumstances, let alone in relation to experiments or natural variation in police practices. Control over police practices is difficult for police administrators under normal conditions, let alone under experimental protocols. Measuring the many dimensions of police activity, from effort to manners, is expensive and often inaccurate. Only a handful of studies have managed to produce strong scientific evidence about any of these hypotheses. But the accumulated evidence of the more numerous weaker studies can also provide some insights on policing for crime prevention.

As noted in chapter 1, this report employs a scale of 1 to 5 to summarize several different dimensions of scientific "rigor": the strength of scientific evidence. A score of 5 = strongest evidence for inferring cause and effect, while 1 = the weakest. These dimensions vary somewhat by institutional setting, with different issues inherent in the kinds of programs being evaluated. problems. In the police evaluation literature, crime is almost always measured by either official crime reports (with all their flaws) or by victimization surveys of the public (with all their costs). Police practices are measured either not at all, through citizen perceptions of those practices, through police records, or (in one instance) through direct observation of police patrol activity. It is not clear that any of these methods except the last is superior to any others in drawing valid inferences about the actual practices of the police. Thus the greatest difference across police evaluations lies not in their methods of measurement, but in their basic research designs: the logical structure for drawing conclusions about cause and effect.

Evaluations of police crime prevention generally follow five basic research designs, which can be ranked for overall strength of the inferences they can suggest about cause and effect. These designs are 1) correlations at the same point in time (e.g., in 1995 the cities with the most police had the most crime) 2) before-and-after differences in crime without a comparison group (e.g., doubling drunk driving arrests was followed by a 50% reduction in fatal accidents, 3) before-after differences with comparison (e.g., the 50% reduction in fatal crashes compared to a 10% increase in fatal crashes in three cities of comparable size in the same state), 4) before and after large sample comparisons of treated and untreated groups (e.g., 30 neighborhoods organized for neighborhood watch compared to 30 that were not), and 5) randomized controlled experiments (300 offenders selected by a computerized equal probability program to be arrested had higher repeat offending rates than 300 offenders selected to be given warnings only).

SCIENTIFIC EVALUATIONS

This section reviews and interprets the reported tests of each of the hypotheses. The discussion attempts to integrate both the scientific score of the various studies and the number of studies converging on the same conclusion. More detailed discussion is offered for some of the major findings, in order to connect the evidence more clearly to the hypotheses. The main concern throughout this section is the cumulative success or failure of the studies in ruling out competing theories in the attempt to provide a conclusive test of each hypothesis.

1. Numbers of Police

As Table 1 shows, most of the studies of the effects of police numbers on crime are scientifically weak. They consist of two basic research designs. One is evidence from police strikes¹ about a sudden and drastic reduction in police numbers. The other is evidence from correlational studies of police strength and crime rates.

The police strike evidence, while weak in both measurement and design, is fairly consistent in showing the effect of this natural experiment: crime rates skyrocket instantly. The strongest design is the Makinen and Takala (1980) study of crime in Helsinki before and during a police strike. The Helsinki measures included systematic observation counts of fights in public places, as well as emergency room admissions for assault-related injuries. Both measures rose substantially during the strike despite severe winter weather. The only purportedly negative evidence on this conclusion is the Pfuhl (1983) study of police-recorded crime in 11 American police strikes, in which 89% of the "strike" period in the analysis consisted of non-strike days. Both the measure and the definition of the strike period hopelessly confound cause and effect, rendering the study irrelevant to the conclusion reached from the stronger evidence.

None of the strike findings have comparison groups, so in theory it is possible that crimes would have risen dramatically during the strike period even without the strike. The substantial magnitudes of some of the increases, however, greatly exceed typical daily variations in crime in big cities. In the Montreal police strike of 1969, for example, there were 50 times more bank robberies and 14 times more commercial burglaries than average (Clark, 1969). Thus despite the weak research design, the large effect size suggests that abolishing a police force can cause crime to increase.

Table 8-1: Numbers of Police

The more police a city employs, the less crime it will have.

Studies	Scientific Methods Score	Findings
Andenaes 1974	2	1944 No Danish Police, large robbery & larceny increase
Clark 1969	2	Police Strike, major increase in violent & property crime
Russell 1975	2	Same as preceding (Boston)
Sellwood 1978	2	Same as preceding (Liverpool)
Makinen and Takala 1980 (Helsinki)	2	Same as preceding
Pfuhl 1983	1	No crime increase during quarters with police strike
Marvell & Moody 1996	3	Higher police numbers in cities reduce most types of

Whether adding more officers to an already large police force causes crime to decrease, however, is somewhat less clear. A recent review of 36 correlational studies, most of them weak in research design, found little evidence that more police reduce crime (Marvell and Moody, 1996). The same authors, however, offer a twenty-year analysis of 56 cities of over 250,000 people each and of 49 states. Using a complex technique called the Granger test, Marvell and Moody (1996) find consistent evidence that increases in the numbers of police cause reductions in crime in the following year. This study rates a level 4 because it employs multiple comparison groups and uses appropriate controls for well-specified differences across units. While it lacks random assignment, it is the best evidence available about the effect of modest increases in police numbers. While it runs against the conclusion of the preponderance of the other studies, the difference in scientific rigor tips the preponderance of the evidence in the direction of the conclusion that police numbers alone do help to reduce crime in a big city or a state. What the causal mechanism for that effect may be or how it may be enhanced, however, is not clear.

The Marvell and Moody (1996: 632) analysis also allows a test of the hypothesis that the prevention benefits of hiring more police officers are greater in higher-crime cities than across the country in general. The analysis estimates that for each additional officer added to a police force in a big city, 24 Part I crimes are prevented annually. For each officer hired anywhere in a state, only 4 Part I crimes are prevented. States, on average, have much lower crime rates than the big cities (over 250,000 population); in 1995 the rate of Part I crimes was 8,563 per 100,000 in the big cities, compared to 5,624 per 100,000 across all police agencies. Yet the ratio of crime prevention benefit is far greater than the ratio of reported crime risks. The Marvell and Moody estimate shows that six times as much crime is prevented for each officer added in cities than added in all places on average. Why the benefit ratio exceeds the risk ratio is unknown, but one likely candidate is the greater population density in cities which lets additional police officers have greater effects on patrol visibility per resident.

2. Rapid Response to 911

One major theory about the crime prevention benefits of hiring more officers is that it reduces police response time. The research on this theory is an excellent example of how different conclusions can result from research results with very different levels of scientific strength. The initial studies of the response time hypothesis produced strong support, suggesting that shaving minutes off response time could lead to the arrest of many more offenders. The extension of this hypothesis into a strategy of policing included the development of 911 systems to speed victim contact with police radio dispatchers, and the hiring of more police nationwide in the early 1970s in order to reduce average response times and deter crime through greater certainty of arrest. Only the 1977 NIJ response time analysis in Kansas City study, and the NIJ replications in four other cities, were able to call that strategy into question, and open the door to more focused alternatives (Goldstein, 1979).

The original test of the hypothesis was based on a scientifically weak research design, a non-random sample of 265 police responses to citizen calls by the Los Angeles Police Department (Isaacs, 1967). Its results were confirmed by a later study in Seattle (Clawson and Chang, 1977): the probability of arrest per police response increased as police time in travel to the scene decreased. Two other studies (Brown, 1974; Holliday, 1974, as cited in Chaiken, 1978) failed to find that pattern, perhaps because, as Chaiken (1978: 130) observes, "the curves are essentially flat for response times larger than three minutes, and therefore a substantial amount of data for responses under three minutes is needed to observe any effect."

The Kansas City (1977) response time analysis took a far more systematic approach to the issue. Its first step was to divide crimes into victim-offender "involvement" (e.g., robbery, assault, rape) and after-the-crime "discovery" categories (e.g., burglary, car theft). It then focused response time analysis on involvement crimes, since the offender would not be present at the discovery crimes. The analysis then divided the involvement crime "response time" into three time periods: crime initiation to calling the police ("reporting time"), police receipt of call to dispatch ("dispatch time"), and "travel time" of police from receipt of dispatch to arrival at the scene. Using systematic observation methods and interviews of victims, the Kansas City study (1977, Vol. 2: 39) found that

Table 8-2: Rapid Response

The shorter the police travel time from assignment to arrival at a crime scene, the less crime there will be.

Studies	Scientific Methods Score	Findings
Isaacs 1967	1	Shorter police travel time, more arrests
Clawson and Chang 1977	1	Same as preceding
Pate et al 1976 unrelated	1	Police travel time to arrest
Kansas City (MO) Police 1977	2	Same as preceding, most crimes
Spelman and Brown 1981	2	Same as preceding

there was no correlation between response-related arrest probability and reporting time once the time exceeded 9 minutes. The average reporting time for involvement crimes is 41 minutes (K.C.P.D. 1977, Vol. 2: 23). Cutting police travel time for such crime from 5 to 2.5 minutes could require a doubling of the police force, but it would have almost no impact on the odds of making an arrest.

Police chiefs in the Police Executive Research Forum (PERF) told NIJ that they did not think citizens in their own communities would take so long to call the police. NIJ responded by commissioning PERF to replicate the citizen reporting component of the response time analysis in four other cities. Over 4,000 interviews about 3,300 "involvement" crimes produced unequivocal support for the findings of the Kansas City response time analysis (Spelman and Brown, 1981). The probability of arrest in those serious crimes was only 29 per 1,000 reports, with 75% of serious crimes being discovered by victims long after the crimes occurred. Of the 25% that directly involved the victims, almost half were reported five minutes or more after the crime was completed. The findings were consistent across cities, including one that had a 911 system and three that did not.

The conclusion that reduced response time will not reduce crime is based on strong but indirect evidence. The evidence is strong because it is based on large samples, careful measurement, and a replicated research design in five diverse cities showing little variation in arrest rates by police travel time, the main factor that tax dollars can affect. It is indirect because an experimental test of the effects of reduced police travel time on city-wide arrest and crime rates has never been conducted. Yet there is neither empirical nor theoretical justification for such an expensive test. Given the strong evidence of citizen delays in reporting involvement crimes, and the small proportion of serious crimes that feature direct victim-offender involvement, further tests of this theory seem to be a waste of tax dollars. Those dollars might be better spent on communicating the findings to the general public, which still puts great priority on police travel time for public safety (Sherman, 1995).

3. Random Patrols

Another major theory about the benefits of more police is that they can conduct more random patrols. Table 3 summarizes the evidence for the police numbers hypothesis tested at the level of uniformed patrols within cities, in non-directed or random patrol patterns. The Table shows weak evidence of no effect of moderate variations in numbers or method of patrols. The most famous test of the **random** preventive patrol hypothesis, the Kansas City Preventive Patrol Experiment (Kelling et al, 1974), reveals some of the difficulty in testing this claim. This experiment claimed to have varied the dosage of patrol presence for one year across three groups of five randomly assigned beats each, preceded and followed by extensive measures of crime from both household surveys and official records. The results of the experiment showed no statistically significant differences in

Table 8-3: Random Patrol

The more random patrol a city receives, the more a perceived "omnipresence" of the police deters crime in public places.

Studies	Scientific Methods Score	Findings
Kelling et al 1974	3	No difference in crime by N of police cars assigned
Police Foundation 1981	3	No difference in crime by N of foot patrol assigned
Trojanowicz 1986	3	Foot patrol areas had fewer crimes than controls, but no significance tests reported.

crime across the three groups.

Many criminologists conclude from this experiment that there is no crime prevention effect of adding patrol presence in a big city, where low density of crime makes the extra patrol a mere drop in the bucket (Felson, 1994). Yet the experiment has been criticized for its failure to measure the actual differences in patrol dosage and the possible lack of them (Larson, 1975), its inadequate statistical power to detect large percentage differences in crime as not due to chance (Fienberg, et al, 1976), and its failure to assign patrol dosage at random (Farrington, 1982). Similar limitations are found in the Newark Foot Patrol Experiment (Police Foundation, 1981), where despite large victimization surveys no crime prevention effects were detected in association with adding or eliminating daytime and early evening foot patrols from selected patrol beats.

The weakness of the evidence is even greater for the one study claiming to find a crime prevention effect from random patrols not focused on crime risks (Trojanowicz, 1986). The design of this study was limited to recorded crime and calls for service, with no victimization surveys. After daytime foot patrols were added to 14 beats in Flint Michigan for three years, the official crime counts in those beats were down by 9% in the foot patrol beats and up 10% in the other beats city-wide. Large increases in burglary and robbery in the foot patrol areas were matched by reportedly greater increases in the rest of the city. No significance tests were reported, nor were there any controls for the demographic characteristics of the areas selected for foot patrol compared to the rest of the city. Since the foot patrol areas were not selected at random, it is possible that those areas might have experienced different crime trends even without the foot patrols. The fact that the increase in burglary and robbery occurred largely at night when the foot patrols were not working is perhaps the most interesting fact in the study, supporting the conclusion reached from evaluations of directed patrols focused on high crime-risk times and places.

4. Directed Patrols

The evidence from the **directed** preventive patrol hypothesis is more voluminous, scientifically stronger (in two tests), and consistently in the opposite direction from the weight of the (weak) evidence on the random patrol hypothesis. In order to be assigned to this category, the studies had to indicate that they were somehow focused on high-crime places, times or areas. In the New York City study (Press, 1971: 94), for example, the test precinct was known as a high robbery area, and had over three times as many robberies per week as each group of five areas in the Kansas City experiment. All eight of the reported tests of this hypothesis show crime reductions in response to increased patrol presence.

Table 8-4 Directed Patrol

The more precisely patrol presence is concentrated at the "hot spots" and "hot times" of criminal activity, the less crime there will be in those places and times.

Studies	Scientific Methods Score	Findings
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Press 1971	3	40% more police, reductions of outdoors crime
Chaiken et al 1975; Chaiken 1978	3	Police on subways at night reduced crime
Dahman 1975	2	More police, reductions of outdoors crime
Schnelle et al 1977	2	400% more patrol, less Part I crime
Sherman and Weisburd 1995	5	100% more patrol, less observed hot spot crime
Koper 1995 longer	4	Longer patrol visits, post-visit crime-free time
Reiss 1995 Review:		
Barker et al 1993	2	Squad focused on hot spots, where street crime dropped
Burney 1990	2	Saturation patrols, reduced street crime

The crime prevention effects of extra uniformed patrol in marked police cars at high crime "peaks" are especially evident in two very different research designs imposed on one large NIJ study designed to improve upon the Kansas City Preventive Patrol Experiment. Based on the NIJ-funded research showing extreme concentrations in spatial and temporal distributions of crime, the Minneapolis Police Department (MPD) reorganized its entire patrol force in 1988-89 to test a pattern of directed patrols at hot spots during hot times. With the unanimous consent of the City Council, the MPD substantially reduced patrols from low-crime areas in order to provide 2 to 3 hours of extra patrol each day during high crime hours at 55 street corner hot spots. The corners were randomly selected for extra patrols from a carefully compiled list of 110 high crime locations that were visually separate from each other (Buerger, Petrosino and Cohn, 1995). Under a million dollar NIJ grant, both the patrolled and unpatrolled hot spots were subjected to over 7,000 randomly selected hours of observations by independent researchers over the course of a year. The observers recorded every minute of 24,813 instances of police presence in the hot spots, and 4,014 observed acts of crime and disorder (Koper, 1995: 656).

Koper's (1995) analysis of the Minneapolis Hot Spots Patrol data found a very strong relationship between the length of each police patrol presence (which averaged 14 minutes) and the amount of time the hot spot was free of crime after the police left the scene. The longer the police stayed before they left, the longer the time until the first crime (or disorderly act) after they left. This relationship held for each additional minute of police presence from one to fifteen minutes, after which the relationship began to reverse. Thus the "Koper curve" in the Minneapolis data suggests the optimum length of a police patrol visit to a hot spot for the purpose of deterring crime is about 15 minutes.

Koper's correlational analysis of all police presences observed in both the extra-patrol and no-extra-patrol hot spots combined is consistent with the results of Sherman and Weisburd's (1995) comparisons of the two groups. The experimental analysis found that there was an average of twice as much patrol presence and up to half as much crime in the extra-patrol hot spots as in the no-extra-patrol group. The observational data showed crime or disorder in 4 percent of all observed minutes in the control group compared to 2 percent in the experimental group (Sherman and Weisburd, 1995: 64). Most of the difference in the observed crime was found when police were not present in the hot spots. Crime-related calls for service increased for both groups of hot spots over the one-year experiment as well as city-wide, but the average growth per hot spot was up to three times as great in the no-extra-patrol group (17%) as in the extra patrol group (5%) (Sherman and Weisburd, 1995: 644).

These findings can be questioned, like most place-linked crime prevention effects, with the possible side effect that the crime simply moved elsewhere (but see the discussion of displacement in Chapter Seven). So, too, can a reduction of crime in one city

be questioned on the grounds that offenders may have focused on other jurisdictions. The theoretical perspective of "routine activities" (Cohen and Felson, 1979; Felson, 1994), under which crimes are only likely to happen in certain places and times, makes the displacement hypothesis less plausible. It suggests that if crime is displaced, it would have to be displaced to other hot spots. That argument is still consistent with the experimental-comparison group analysis, given the rising numbers of calls in the experimental year relative to the baseline year. But it does not explain away Koper's cross-sectional analysis of the effects of longer patrol presence on post-patrol crime rates.

5. Reactive Arrests

The evidence in support of the reactive arrest hypothesis is remarkably unencouraging at both the community and individual levels of analysis. As a matter of general deterrence, the tests are all fairly weak and generally negative. As a matter of individual deterrence, the results are consistently negative for juveniles, and contradictory for two different groups of domestic assailants, employed and unemployed. The scientific evidence for the latter is among the strongest available in the police literature, while the evidence about juveniles is much weaker. Taken as a whole, these results make a vivid demonstration of the complexity of police effects on crime.

The evidence on the **general deterrent** effects of reactive (Reiss, 1971) arrests is based on correlational analyses, with and without temporal order. There is some weak evidence that there is a threshold beyond which the effect of increased arrest rates becomes evident, while no such effect is apparent below the "tipping point" of minimum dosage level (Tittle and Rowe, 1974). This evidence is complicated by the suggestion that the arrest effects are only evident among cities of less than 10,000 people, even with the "tipping point." The finding by Greenberg and his colleagues (1979, 1982) of no arrest rate deterrent effects in a temporal sequence design in big cities throws great doubt on a simple claim of general deterrence. Here again, without focusing arrests on high risk persons or places, the effects of higher arrest levels may get lost in the many factors causing crime.

Table 8-5 Reactive Arrests

The more arrests police make in response to reported or observed offenses of any kind, the less crime there will be.

5.a. **General Deterrence.** The higher the arrest rate per crime for each type of crime in a city, the lower the city's rate of that type of crime.

Studies	Scientific Methods Score	Findings
Tittle and Rowe 1974	2	Cities with higher arrest rates beyond a "tipping point" have less crime, but under tip point no arrest effects
Logan 1975	2	No correlation of arrest rates and crime across cities
Brown 1978	2	Tipping effect limited to cities under 10,000 people
Greenberg et al 1979 on	2	No effect of arrest rates crime across cities
Greenberg and Kessler 1982	3	No arrest rate effect even when other factors controlled
Chamlin 1988	3	More arrests reduce robberies, not 4 property crimes

Chamlin 1991	3	No arrest rate effect for cities over 10,000
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5.b. **Specific Deterrence.** Individual offenders arrested for an offense are less likely to repeat that offense in the future than offenders who are not arrested.

Table 8-5b: **Specific Deterrence**

Studies	Scientific Methods Score	Findings
Juvenile Offenses:		
Gold and Williams 1970	2	Arrested juveniles offend more post-arrest than those not arrested
Klein 1986	4	More formal arrest processing increased recidivism
Huizinga and Esbensen 1992	2	Same as preceding
Smith and Gartin 1989	2	Arrested juveniles offend less post-crime than those not arrested, if they are first offenders; others
more		
Farrington 1977	2	Arrested juveniles offend more post-arrest than those not arrested
Domestic Violence		
Sherman and Berk 1984	4	Arrest reduced recidivism 50%
Dunford et al 1990	5	Arrest had no effect on recidivism at 6 mos
Dunford 1992	5	Arrest increased offense frequency at 12 mos
Dunford 1990	5	Arrest warrant reduced absent offender recidivism 50%
Sherman et al 1991	5	Arrest had no effect on recidivism at 6 mos; short arrest increased recidivism after 12 mos
Sherman et al 1992		
(Milwaukee)	4	Arrest deters employed, criminogenic for unemployed

(Omaha)	4	Same as preceding
Berk et al 1992a	5	Arrest reduced recidivism
Berk et al 1992b	4	Arrest deters employed, not unemployed
Pate et al 1991	5	Arrest reduced recidivism
Pate and Hamilton 1992	5	Arrest deters employed, criminogenic for unemployed
Hirschel et al 1992	5	Arrest increases official recidivism
Marciniak 1994	4	Arrest deters in areas of high employment & marriage; increases recidivism in areas of low employment & marriage

The consistent **individual level** evidence of the criminogenic effects of arrests for juveniles is all longitudinal, but only one of the studies is a randomized experiment (Klein, 1986). The other studies are natural observations of the difference in self-reported offending before and after juvenile offenders were arrested. These studies cannot adequately control for the rival hypothesis that the same factors that led to the youth being arrested also caused a higher level of repeat offending. A pattern of "defiance" (Sherman, 1993), for example, would account for both variables and their correlation. The Klein (1986) experiment reported some difficulties in maintaining random assignment, but still managed to make the formal charging of juveniles in police custody a matter of equal likelihood across cases. Holding juvenile characteristics relatively constant, then, Klein found that the more legalistic the processing of a juvenile suspect, the higher the official recidivism rate.² In interpreting these results, it is necessary to recall that most juvenile offenses are for fairly minor offenses, and that most juveniles with one police contact never have another (Wolfgang, Figlio and Sellin, 1972). Thus to a certain degree, arresting some juveniles and not others for such offenses may be perceived as arbitrary or procedurally unfair.

The evidence on the effects of arrest for misdemeanor domestic violence is contradictory across cities but consistent within arrestee characteristics. While three experiments have found some evidence of deterrent effects of arrest (Sherman and Berk, 1984; Pate, Annan and Hamilton, 1991; Berk et al, 1992), three other experiments have found some evidence that arrest increases the frequency of officially detected offending (Sherman, et al, 1991; Hirschel et al, 1992; Dunford, 1992). All four of these six experiments for which the data have been analyzed separately by employment status of the offender show consistent results. Arrest increases repeat offending among unemployed suspects while reducing it among employed suspects. Marciniak (1994) has shown that this difference operates even more powerfully at the census tract level than at the individual level, with arrest backfiring irrespective of individual employment status in neighborhoods of concentrated unemployment and single parent households. There is a literature raising concerns about measurement issues in these data (Garner and Fagan, 1995; Fagan, 1996) that are not generally raised about other studies in the police literature. Yet there is no other example in the police literature of six similar randomized experiments all testing similar hypotheses with similar (though not identical) designs, and these studies feature a scientific rigor score that is twice the mean of all studies classified for this chapter. The consistency of the effects of arrest on crime for employed and unemployed offenders even extends to similarity in effect sizes.

6. Proactive Arrests

Like the evidence on focused patrol, the evidence on the focused proactive arrest hypothesis is generally supportive across a wide range of studies and research designs. While most of the studies are relatively modest in scientific strength, there are some randomized controlled experiments. With the exception of arrests targeted on drug problems, there appear to be substantial results from focusing scarce arrest resources on high risk people, places, offenses and times.

The evidence on high-risk people comes from two strong (level 4) evaluations of police units aimed at repeat offenders. The

Washington, D.C. unit employed pre-arrest investigations, designed to catch offenders in the act of crime to enhance the strength of evidence. The Phoenix police unit employed post-arrest investigations, designed to enhance the evidence in the offenders latest case based upon the length and nature of the offender's prior record. Both projects aimed at increasing the incarceration rate of the targeted offenders, and both succeeded. Just how serious or active the offenders were is an important issue in these studies, one which could illuminate future analyses of dollars invested per crime prevented.

Two weaker studies use national samples of cities to test the effects of police arrest rates for minor offenses on robbery. Both employ multivariate models to control for the effects of some of the other factors that could influence the city's robbery rate. Both find that the higher the per capita rates of traffic arrest, the lower the rates of robbery. One uncontrolled factor in these analyses is the number of pedestrian robbery opportunities. This may be much higher in cities where there is less use of automobiles, such as New York City, in which under 3% of the US population suffers 12% of the reported robberies. Since that is the only crime type for which New York is so disproportionate, and since other dense, pedestrian cities like Baltimore and Boston also have high robbery rates, there may be a spurious relationship between traffic enforcement and robbery. That is, the more cars per capita, the fewer robbery opportunities and the more traffic enforcement opportunities.

Table 8-6: Proactive Arrests.

The higher the arrest rate for high-risk offenders and offenses, the lower the rates of serious violent crime.³

8-6.a. Repeat Offenders.

Studies	Scientific Methods Score	Findings
Martin and Sherman 1986	4	Targeted offenders more likely to be arrested and incarcerated (Washington)
Abrahamse et al 1991 enhancement (Phoenix)	4	Post-arrest case increases odds of arrestees being incarcerated

Table 8-6.b. Traffic and disorderly conduct arrests

Studies	Scientific Methods Score	Findings
Wilson and Boland 1978	2	Cities with higher arrest rates have less crime
Sampson and Cohen 1988	2	Same as preceding
Weiss and McGarrell 1996	3	Increased traffic tickets, reduced robbery

Table 8-6.c. Drug market areas

Studies	Scientific Methods Score	Findings
Kleiman 1988 (Lynn)	2	Crackdown on heroin market, violence down
Kleiman 1988 (Lawrence)	2	Crackdown on heroin market, violence up
Zimmer 1990 and Kleiman 1988 (NYC)	2	Crackdown on heroin market, violence down
Sviridoff et al 1992	3	Crackdown on crack market, violence flat
Uchida et al 1992 (Birmingham)	3	Inconsistent changes in violence after arrests up
Uchida et al 1992 (Oakland)	3	Buy & bust plus door-to-door, robbery down Each strategy alone, no effect
Sherman and Rogan 1995	5	Raids of crack houses reduced crime for 12 days
Weisburd and Green 1995	4	Crackdowns on hot spots reduced disorder; no effects
Annan and Skogan 1993	3	Drug crackdown in public housing, no effect on crime

Table 8-6.d. Drunk driving

Studies	Scientific Methods Score	Findings
Ross 1981 review: Ross 1973 (U.K.)	2	Arrests up sharply, drop in crashes decays over time
Ross 1975 (Scandinavia)	2	Same as preceding
Ross 1977 (Cheshire 1)	2	Same as preceding
Ross 1977 (Cheshire 2)	2	Same as preceding
Hurst-Wright 1980 (NZ1)	2	Same as preceding
Hurst-Wright 1980 (NZ2)	2	Same as preceding

Ross et al 1982 (France)		
Homel 1993	3	Increased state arrest rate reduced deaths over 10 years, but not in comparable states

Table 8-6.e. Zero Tolerance Arrests

Studies	Scientific Methods Score	Findings
Boydston 1975; Sherman 1990	3	More field interrogations, fewer outdoors crimes
Reiss 1985 crimes	3	More police regulation of conduct, fewer "soft"
Pate et al 1985; Skogan 1990	3	Same as preceding
Sherman 1990	2	Disorder crackdown, no robbery reduction
Kelling and Coles 1996 subways	2	Fare-beating, crackdown, robbery reduction in

That is just the kind of limitation in causal inference that experiments can address. Quasi-experimental evidence on this hypothesis was recently reported by the Hudson Institute study of the Indianapolis Police Department, in which substantial increases in traffic enforcement in a high robbery area were followed by a sharp reduction in robbery (Weiss and McGarrell, 1996).

The evidence on drug crackdowns shows no consistent reductions in violent crime during or after the crackdown is in effect. The strongest evidence is the randomized experiment in raids of crack houses (Sherman and Rogan, 1995), in which crime on the block dropped sharply after a raid. The rapid decay of the deterrent effect in only seven days, however, greatly reduces the cost-effectiveness of the labor-intensive raid strategy. Only the high yield of guns seized per officer-hour invested (Shaw, 1994) and its possible connection to community gun violence over a longer time period (Sherman, Shaw and Rogan, 1995) showed great cost-effectiveness. Other drug enforcement strategies in open-air markets have even less encouraging results, with the exception of the Jersey City experiment in which the principal outcome measure was disorder, not violence.

The evidence on drunk driving, in contrast, is one of the great success stories of world policing. Despite relatively low rigor scores, the sheer numbers of consistent results from quasi-experimental evaluations of proactive drunk driving arrest crackdowns suggest a clear cause and effect. The ability of the police to control drunk driving appears to be a direct and linear function of the amount of effort they put into it (Homel, 1990). Since more deaths are caused annually by drunk driving than by homicide, the cost effectiveness of saving lives through DUI enforcement may well be far greater than for homicide prevention. The evidence on drunk driving prevention sees far clearer than anything we know how to do to have police prevent murders.

The evidence for the **broken windows-zero tolerance arrests** hypothesis (Wilson and Kelling, 1982) is also consistently supportive. The research designs are only moderately strong, but they all suggest that a police focus on street activity can help reduce serious crime. The specific tactics by which this is accomplished can be controversial, and some methods used in the 1982 Newark test have been described in the literature as "unconstitutional" (Skolnick and Bayley, 1985:199), including the ordering of loitering teenage males off of street corners on the grounds of obstructing traffic. Field interrogations have often been a flash point of poor police-community relations, yet they have also been a favorite crime prevention tactic for police in both the US and Europe. The evidence from both the San Diego field interrogation experiment (Boydston, 1975) and the NIJ Oakland city center study (Reiss, 1985) suggest that it is possible to regulate public behavior in a polite manner that fosters rather than hinders police legitimacy. That possibility, however, is by no means guaranteed, and generally takes substantial managerial investment in order to bring about.

The larger concern about zero tolerance is its long-term effect on people arrested for minor offenses. Even while massive arrest increases, such as those in New York City, may reduce violence in the short run--especially gun violence--they may also increase serious crime in the long run. The negative effects of an arrest record on labor market participation are substantial (Schwartz and Skolnick, 1963; Bushway, 1996). The effects of an arrest experience over a minor offense may permanently lower police legitimacy, both for the arrested person and their social network of family and friends. The criminogenic effect of arrest may make arrestees more defiant (Sherman, 1993) and more prone to anger in domestic violence and child abuse. The data suggest that zero tolerance programs should be evaluated in relation to long-term effects on those arrested, as well as short-term effects on community crime rates. Program development to foster greater legitimacy in the course of making the arrests is also advisable, based on findings from procedural justice research (see hypothesis 7.d below). This could include, for example, a program to give arrested minor offenders an opportunity to meet with a police supervisor who would explain the program to them, answer questions about why they are being arrested, and give them a chance to express their views about the program while listening respectfully to them. Such innovations would not be expensive, but would also pose many testable hypotheses.

7. Community Policing

The results of available tests of the community policing hypotheses are mixed. The evidence against the effectiveness of police organizing communities into neighborhood watches is consistent and relatively strong. The evidence about the crime prevention benefits of more information flowing from citizens to police is at best only promising. The two tests of police sending more information to citizens are both very strong, but clearly falsify the hypothesis. The tests of increasing police legitimacy are the most promising, especially since they draw on a powerful theoretical perspective that is gaining growing empirical support.

One of the most consistent findings in the literature is also the least well-known to policymakers and the public. The oldest and best-known community policing program, **Neighborhood Watch**, is ineffective at preventing crime. That conclusion is supported by moderately strong evidence, including a randomized experiment in Minneapolis that tried to organize block watch programs with and without police participation in areas that had not requested assistance (Pate et al, 1987). The primary problem found by the evaluations is that the areas with highest crime rates are the most reluctant to organize (Hope, 1995). Many people refuse to host or attend community meetings, in part because they distrust their neighbors. Middle class areas, in which trust is higher, generally have little crime to begin with, making measurable effects on crime almost impossible to achieve. The program cannot even be justified on the basis of reducing middle class fear of crime and flight from the city, since no such effects have been found. Rather, Skogan (1990) finds evidence that Neighborhood Watch increases fear of crime.

Another popular program for increasing contact between police and public is **community meetings**. The careful NIJ evaluation of the Madison, Wisconsin community policing project in which meetings played a central role found no reduction in crime (Wycoff and Skogan, 1993). A different approach to the meetings in Chicago shows more promise, with the meetings focused much more precisely on specific crime patterns in the area and ideas for what the police should do to attack those problems. While the crime reduction evidence for "community policing, Chicago style" is mixed, it is striking that Chicago has mobilized high crime communities to participate in these meetings (Skogan, 1996). Unlike neighborhood watch meetings, the Chicago meetings are held in public places rather than local residences. The best attendance at these meetings for almost two years has been found in the police districts with the highest crime rates.

A less popular but often effective community policing practice is **door to door visits** by police to residences during the daytime. These visits may be used to seek information, such as who is carrying guns on the street (Sherman, Shaw and Rogan, 1995). The visits may be used to give out information, such as burglary reduction tips (Laycock, 1991). The visits may be used simply to introduce local police officers to local residents, to make policing more personal (Wycoff et al, 1985). Four out of six available tests of the door to door visits show modestly strong (rigor = 3) evidence of substantial crime prevention. In the NIJ-funded Houston test, for example, the overall prevalence of household victimization dropped in the target area substantially, with no reduction in the comparison area. The prevention effects were primarily for car-breakins and other minor property crime. Here again, however, there was a substantial "Matthew effect" (see Chapter 1): the benefits of the program were highly concentrated

among white middle class homeowners, with virtually no benefit for the Asian, Hispanic and African-American minorities living in rental housing in the target area (Skogan, 1990).

A far more popular program is far less effective. **Police storefronts** are often requested by communities, often staffed during business hours by a mix of sworn police, paid civilians and unpaid volunteers. The evidence from tests of substations in Houston, Newark and Birmingham

(continued after Tables)

Table 8-7: Community Policing

Increasing the quantity and quality of police-citizen contact reduces crime. Tests of this basic hypothesis omitting measurement of an intervening causal mechanism have been done:

Table 8-7.a. Neighborhood Watch

Studies	Scientific Methods Score	Findings
Lindsay and McGillis 1986	3	Burglary reduced for 18 mos
Pate et al 1987; Skogan 1990	4	No effect of block watch on crime Poorer areas had less surveillance
Rosenbaum 1986	3	Same as preceding
Bennett 1990	3	Same as preceding

Table 8-7.b. Intelligence from citizens to police.

Studies	Scientific Methods Score	Findings
Community Meetings		
Wycoff and Skogan 1993 in	3	No drop in victimization after increase in police-community meetings target district
Skogan et al 1995 in	3	After 18 monthly police-community meetings each beat in 5 districts, reductions in some crimes and victimization measures but not others
Door-to-Door Contacts		
Wycoff et al 1985; Skogan	3	Door-to-door police visits;

1990		victimization dropped
Pate et al 1985; Skogan 1990	3	Door-to-door visits & storefront, crime dropped
Laycock 1991	3	Door-to-door visits, burglary down by ___%
Sherman et al 1995 drop	3	Door-to-door visits, no in crime
Uchida et al 1992	3	Visits plus Buy and Bust, crime down
Uchida et al 1992	3	Visits alone, no crime reduction
Storefronts		
Wycoff and Skogan 1986	3	Storefront open, no drop in victimization
Uchida et al 1992	3	Storefront open, no difference in crime
Pate et al 1985; Skogan 1990	3	(See above under "door-to-door")

Table 8-7.c. Increasing the flow of information from police to citizens.

Studies	Scientific Methods Score	Findings
Pate et al (Newark) recipients	5	Monthly newsletter with crime data failed to reduce victimizations of
Pate et al (Houston)	5	Same as preceding

Table 8-7.d. Legitimacy

Studies	Scientific Methods Score	Findings
Skogan 1990 (Houston)	3	Doorknock visits reduced fear of police, reduced crime
Tyler 1990	1	Definition of past police

in		treatment as fair increases expected obedience to law
		the future
Paternoster et al 1996	2	Definition of treatment at arrest as fair, lower recidivism in domestic violence
Skogan et al 1995	3	Perceived increased responsiveness of police to community in 4 districts, perceived reduction in serious crime in 3 of those 4

(AL) consistently shows no impact on crime. While there are some positive citizen evaluations associated with storefronts, the problems of staffing the offices once they are open may counterbalance any non-crime benefits.

Increasing the flow of information from police to public has been tested in the form of **police newsletters**. In two randomized NIJ-funded experiments, the Newark and Houston police departments found no effect of newsletters on the victimization rates of the households receiving them. The finding was true for both newsletters with and without specific data on recent crimes in the community.

The most promising approach to community policing is also the most theoretically coherent. Based on two decades of laboratory and field studies on the social psychology of "procedural justice," a growing body of research suggests that **police legitimacy** prevents crime. Tyler (1990) finds a strong correlation across a large sample of Chicago citizens between perceived legitimacy of police and willingness to obey the law. The legitimacy was measured by citizen evaluations of how police treated them in previous encounters. This finding is consistent with the Houston door-to-door experiment, in which citizen fear of police after a major scandal over police beating to death a Mexican immigrant was reduced by the door-to-door visits. Community policing Chicago style (Skogan, et al 1996) also find the greatest perceived reduction in serious crime in the districts where surveys showed police were "most responsive" to citizen concerns. The most powerful test of this hypothesis is the Paternoster et al (1996) reanalysis of the Milwaukee Domestic Violence Experiment, which found that repeat domestic violence was lowest among arrestees who thought police had treated them respectfully; a powerful effect on recidivism was associated with police simply taking the time to listen to the offender's side of the story. The capacity of police legitimacy to prevent crime is something community policing may well be effective at creating; Skogan's (1994: 176) review of six community policing evaluations (SM scores = 2 or 3) found every one showed positive or improved perceptions of police in the treated areas.

Still in progress, but with encouraging preliminary results, is the Australian test of **community accountability conferences**. The Australian Federal Police in the Australian capital, Canberra, use this procedure as an alternative to prosecuting juveniles. Only cases in which the offender(s) admit(s) guilt and the victim(s) are willing to attend the conference are eligible. The conference of offenders and victims with their respective families and friends is led by a trained police officer, who focuses the discussion on what happened, what harm it caused, and how the harm can be repaired. The officer tries to insure that everyone, especially victims, is allowed to have their say. Sometimes offenders apologize, but always an agreement for repaying the cost of the crime to the victim is reached; failure to do so results in the case being prosecuted. Preliminary findings from subsequent interviews with victims and offenders in a randomized experiment show that the procedure greatly increases respect for police and a perception of justice, regardless of the outcomes (Strang, 1996; Barnes, 1996). The National Institute of Justice has funded a similar ongoing project in Bethlehem, Pennsylvania. This method may turn out to have long-term effects on police legitimacy in the eyes of both juvenile offenders and their families, which could in turn reduce crime.

The interesting point about the Australian model of community policing, as noted in Chapter 2, is that it builds on actual community ties rather than anonymous geographic areas. Moreover, the attendees form a community of concern about the criminal act bringing them together, holding the offender accountable for over an hour to a "village-like" community rather than for a few minutes to a distant and anonymous judge. Of all the approaches to community policing yet tried, this one may have

the most focused empowerment of "community" to prevent future crimes.

8. Problem-Oriented Policing

The tests of this hypothesis are generally more positive than the tests of community policing. As Moore (1992) suggests, however, this may be due to a process of selective reporting, in which failures are not included. The most basic problem with testing this very rich and complex hypothesis is that it is essentially about insight, imagination and creativity. The essence of problem-oriented policing as Goldstein (1979) defined it is science itself (Sherman and Strang, 1996): classification, prediction, and causation. Evaluations of the scientific method, paradoxically, are not readily susceptible to the scientific method--except in gross comparison to **un**scientific methods. From this perspective, problem-oriented policing embraces all of the other strategies described in this chapter, with the problem to be solved that of crime prevention.

This section reviews some evidence on police efforts to prevent crime that do not fall into the preceding seven hypotheses, and that self-consciously adopted a scientific process that involved police officers in analyzing crime patterns, imagining and creating an intervention, and testing it in the field. The two basic categories of interventions reported in the literature to date are "removing criminogenic substances" and "separating potential victims and offenders." These two categories simply reflect a convergence of police and criminological thinking about the proximate causes of criminal events. There is nothing in the basic problem-oriented policing (POP) strategy (Goldstein, 1979) that requires the use of these two approaches. Many others are possible, and may even be more effective. If POP succeeds at making scientific research and development the core technology of police work (Reiss, 1992), we may expect that its approaches to crime prevention will evolve with the evolution of knowledge about crime causation.

8.a. Criminogenic Substances. The evidence on **cash control** is weak but suggestive. As part of a multiple intervention strategy to reduce crime in an English public housing project, the coin-operated gas heaters were removed from residences. Rather than having the cash in the house as an attraction to burglars, the gas charges were switched to monthly billing. Burglary went down substantially. It is uncertain, however, whether other efforts, such as the "cocoon" neighborhood watch around recently burglarized residences, might account for the crime reduction.

The evidence on **gun carrying** is stronger. In the NIJ Kansas City Gun Experiment, police focused traffic enforcement and field interrogations on gun crime hot spots during hot times (Sherman, Shaw and Rogan, 1995). With special training in the detection of carrying concealed weapons, police focused on seizing illegally carried weapons. Gun seizures in the target area rose by 60%, and gun crimes dropped by 49%. A similar area in a different part of town showed no change in either guns seized or gun crimes. In Boston, police have used a mix of strategies to discourage gun carrying in public places among juveniles, especially gang members and probationers. Qualitative evidence from an NIJ project suggests gun carrying by the high-risk groups has been substantially reduced, while early quantitative evidence shows an elimination of juvenile gun homicide (Kennedy et al 1996).

The evidence on **alcohol** and **prostitution** is also encouraging, and was presented in Chapter Seven in the discussions of taverns, bars, traffic barriers and street closures.

In the Minneapolis RECAP (REpeat Call Address Policing) experiment, however, four police officers were unable to implement a **broad mix** of efforts to separate potential victims and offenders across a sample of 250 target addresses. The YMCA refused to limit access to its lobby during evening hours, the Public Library refused to bar intoxicated persons, public housing officials were unable to segregate young "disabled" but predatory alcoholics from elderly co-residents, and private landlords resisted efforts to evict drug dealers (Sherman, 1990; Buerger, 1994). While a randomized experimental design gave the test strong science, police inexperience at persuading property managers gave the strategy a weak technology. Given the theoretical power of the idea, further development of the methods of persuasion might be justified, and only then followed by further research.

One of the most popular practices for separating victims and offenders is evening curfews for juveniles. While such curfews give police additional powers to search for guns, they have not been used consistently in that fashion. The primary objective is to get kids, not guns, off the streets. Some cities, such as San Antonio, have reported reductions in reported crimes against juveniles. But in preliminary results of an NIJ evaluation, Adams (1996) finds no consistent crime reduction effects across cities adopting curfews. The scientific rigor of these studies is quite low given their complete absence of control groups, and there may also be difficulties in police willingness to follow curfew policies. Thus the question of the effectiveness of curfews at preventing youth violence is still quite open to further research and development.

Table 8-8: Problem-Oriented Policing

The more accurately police can identify and minimize proximate causes of specific patterns of crime, the less crime there will be.

Table 8-8.a. Reducing Gun Carrying in Public. The more police can remove guns from public places or deter people from carrying them in the micro-environments of criminal events, the fewer crimes there will be.

Studies	Scientific Methods Score	Findings
Sherman et al 1995	3	Increased gun seizures, reduced gun crimes
Kennedy et al 1996	2	Reduced gun carrying, fewer gun crimes

Table 8-8.b. Separating Potential Victims and Offenders. The more police can reduce the intersection of motivated offenders in time and space with suitable targets of crime, the less crime there will be.

Studies	Scientific Methods Score	Findings
Sherman 1990; Buerger 1994	5	Unable to get landlords to restrict offender access
Adams 1996 consistent	2	Youth curfews, no reduction in crime.

CONCLUSIONS

For all of its scientific limitations, the evidence shows substantial consistency on a number of the hypotheses, and some tentative conclusions on others. All science, of course, is provisional, with better research designs or theories revealing previously undiscovered patterns. It is no small achievement that police crime prevention research has developed to the point of having reached some conclusions to discard.

The available evidence supports two major conclusions about policing for crime prevention. One is that the effects of police on crime are complex, and often surprising. The other is that the more focused the police strategy, the more likely it is to prevent crime. The first conclusion follows from the findings that arrests can sometimes increase crime, that traffic enforcement may reduce robbery and gun crime, that the optimal deterrent effect of a police patrol may be produced by 15 minutes of presence in a hot spot, and that prevention effects generally fade over time without modification and renewal of police practices. The second conclusion follows from the likely failure to achieve crime prevention merely by adding more police or shortening response time across the board.

The substantial array of police strategies and tactics for crime prevention (Reiss, 1995) has a small but growing evaluation literature. Using the standard of at least two consistent findings from level 3 scientific methods score (well-measured, before-after studies with a comparison group) **and** a preponderance of the other evidence in support of the same conclusion, the research shows several practices to be supported by strong evidence of effectiveness, and several with strong evidence of ineffectiveness.

What works:

- o increased directed patrols in street-corner hot spots of crime
- o proactive arrests of serious repeat offenders
- o proactive drunk driving arrests
- o arrests of employed suspects for domestic assault

What doesn't:

- o neighborhood block watch
- o arrests of some juveniles for minor offenses
- o arrests of unemployed suspects for domestic assault
- o drug market arrests
- o community policing with no clear crime-risk factor focus

Several other strategies fail to meet the test of strong evidence for generalizable effectiveness, but merit much more research and development because of encouraging findings in the initial research.

What's Promising:

- o police traffic enforcement patrols against illegally carried handguns
- o community policing with community participation in priority setting
- o community policing focused on improving police legitimacy
- o zero tolerance of disorder, if legitimacy issues can be addressed
- o problem-oriented policing generally
- o adding extra police to cities, regardless of assignments
- o warrants for arrest of suspect absent when police respond to domestic violence

What is notably absent from these findings, however, are many topics of great concern to police. Gang prevention, for example, is a matter about which we could not find a single impact evaluation of police practices. Police curfews and truancy programs lack rigorous tests. Police recreation activities with juveniles, such as Police Athletic Leagues, also remain unevaluated. Automated identification systems, in-car computer terminals, and a host of other new technologies costing billions of dollars remain unevaluated for their impact on crime prevention. There is clearly a great deal of room for further testing of hypotheses not listed here due to the absence of available scientific evidence.

These conclusions suggest important implications for both DOJ crime prevention funding of police agencies, and improving that effectiveness through stronger evaluations.

The Effectiveness of DOJ Programs

Local police agencies receive crime prevention funding from a wide range of DOJ programs (see Chapter One). The evidence cited in this chapter indicates that most of the funding supports programs shown to be effective. There is also evidence that Congress could increase the effectiveness of the funding with modifications to several formula grant allocation criteria. The two

largest components (multijurisdictional task forces and police equipment) of the two largest OJP programs (estimated \$361 million total in FY 1996 funding) are of unknown effectiveness, suggesting a high priority for evaluation research. Also of unknown effectiveness are the Violence Against Women grants for police. Byrne grants in the drug enforcement purpose area supporting unfocused proactive arrest programs in drug market areas appear from the available evidence to be ineffective at preventing crime.

How Police Funds Are Allocated. The largest single funding source is the Office of Community-Oriented Policing Services (COPS), which distributes funding for the 100,000 planned extra police officers irrespective of crime rate and partially on the basis of population served by each police agency; the major constraint is that half of all funds must go evenly to police agencies serving over 150,000 people. Other DOJ funds for police are distributed through the Office of Justice Programs (OJP) and its constituent offices.

Figure 8-2

Federal Funding Programs for Local Police

DOJ Office and Program	Purpose Areas	Total Funding (in bold)
COPS Office	Cops on the beat	\$1.4 Billion
Office of Justice Programs		
Bureau of Justice Assistance	Law Enforcement Equipment	\$171 million
	Law Enforcement Hiring	65 million
Local Law Enforcement Block Grants	Law Enforcement Overtime	51 million
	Total	\$287 million
Bureau of Justice Assistance	Multijurisdictional Task Forces	\$190 million
Byrne Memorial Grants ⁴	against drugs	26 million
	Urban Enforcement vs. drugs	
	Law Enforcement Effectiveness	15 million
	Organized Crime	3 million
	Total	\$234 million
Violence Against Women Grant Office		
Encourage Arrests Program	Total	\$46 Million
Violence Against Women Grant Office	Law Enforcement	
STOP Block Grants	Total	\$30 Million
OJJDP Community Policing for Juveniles	Total	\$16 million
Other Programs, amounts n.a.: Weed and Seed, OJJDP Serious Chronic Violent and Anti-Gang, BJA Comprehensive Communities Program, others		
Total of Major Funding Programs		\$2.013 Billion

Because each OJP grant award may be allocated among a variety of local agencies including police, there is no exact count of how much federal funding goes to police agencies. Purpose areas within the major funding programs, however, provide a good approximation (See Figure 8-1). While simply summing the purpose area allocations may overestimate police agency funding as distinct from other "enforcement" agencies, such as prosecutors, the difference is probably more than made up by other programs for which we have no precise estimates.

The largest OJP source of local police funding is apparently the Local Law Enforcement Block Grants Program, which distributes formula grants to units of local government on the basis of both state and local Part I violent crimes for the preceding three years; 71 percent of the \$405 million (\$287 million) in 1996 formula funds were allocated to Purpose Areas specifically directed to law enforcement, and more may have been awarded through other purpose areas. At similar levels of funding are the \$475 million in 1996 formula funds provided as Byrne Grants on the basis of population, of which 50% (\$237 million at 1996 funding levels) were allocated to Purpose areas specifically directed to law enforcement in 1989-94 (Dunworth, et al, 1997). The Violence Against Women Act includes two major funding mechanisms for local policing, the \$120 STOP Violence Against Women Formula Grants (of which 25%, or \$30 million in FY 1996, must be allocated to improving law enforcement) and the competitive Grants To Encourage Arrest Policies (\$46 million in 1996). There are also funds for community policing components appropriated through Weed and Seed, BJA's Comprehensive Communities Program (CCP), and these OJJDP Programs: Kids and Guns, the Comprehensive Community-Wide Gang Prevention, Intervention and Suppression Program, the Comprehensive Strategy for Serious, Violent and Chronic Offenders, and Juvenile and Child-Centered Community-Oriented Policing. Many other smaller funding programs support local police crime prevention programs. The current estimated total is in excess of \$2 billion per year.

Implications of Available Science. The DOJ funding programs support a wide range of local police activity. Some types of police activity DOJ supports have no impact evaluations, while others can be evaluated directly or indirectly with the evidence reviewed in this chapter. Much of the funding simply supports additional police presence regardless of the activities police undertake. Given the promising evidence on the effectiveness of simply adding police officers to police agencies, the scientific review suggests that these funding programs may be effective. It also suggests, however, that the funding programs could be even more effective if the statutory formula were changed.

In general, the evidence suggests that **federal appropriations to prevent crime through additional policing is most effective when allocated on the basis of serious crime rather than on the basis of population size.** This implication is drawn from several scientific conclusions. One is the "promising" finding that across all large cities, more police produced less serious crime. A second is the finding that **each additional police officer assigned to a big city prevents six times as many serious crimes each year as an officer assigned nationally by population** (Marvell and Moody, 1996). A third conclusion is the finding that directed patrol in crime hot spots "works" to prevent crime in those hot spots, the greatest micro-level concentrations of crime. A fourth conclusion is the "promising" finding that police can reduce gun crime by intensified enforcement of the laws against carrying concealed weapons. This finding suggests that federally funded police work in hot spots of gun crime could have a substantial impact on the national homicide rate, just as police may have done in New York City (Repetto, 1996). Taken together, these findings suggest that the Congress could consider revising the statutory allocation formula based not only on city-level violent crime, but beat-level and block level crime as well. Such a revision would be more effective in directing federal funds as precisely as possible for maximum crime prevention.

Refining a Crime-Based Grant Formula. If the Congress did decide to move towards more crime-based grant formulas for allocating police funding, it would be worth considering more precise criteria. The LLEBG formula based on total Part I violent crimes is problematic for several reasons. One is that police agencies vary in how they report the largest single category of Part I violence, aggravated assault. The boundary between aggravated and simple assaults is marked very differently in different cities. In Milwaukee in the early 1990s, for example, when someone pointed a gun at another person and threatens to shoot, the offense is classified as an aggravated assault. In many other police agencies, that conduct might not even result in an offense report being taken, or at most a simple assault report would be filed; this merely reflects different local traditions in defining "attacks" and "attempts" (the latter of which the FBI asks police to count as completed crimes) for Uniform Crime Reporting Purposes. Differences in aggravated assault rates thus do not reflect the level of serious violence as reliably as differences in homicide rates. But aggravated assault counts clearly determine the allocation of LLEBG money; they constituted sixty-one percent of all Part I violence in 1995, while homicides constituted only one percent.

Taking aggravated assaults out of a crime-based formula raises other issues. Homicide alone is a more consistently reported but more unstable indicator, vary widely in many cities from year to year, which would create instability in funding levels if used to

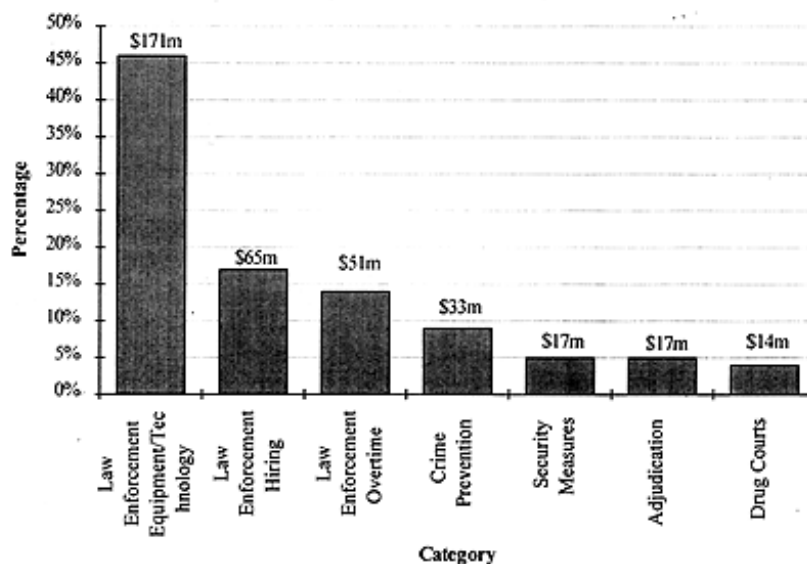
allocate funding. Robberies are much more numerous, and more consistently reported than aggravated assault and rape. On balance, the Congress may find a combination of robbery and homicide counts to be the most reliable indicator of the greatest need for supplementary police presence. The same is true for possible statutory requirements on how federal funds should be spent on policing within cities, with hot spots of robbery and homicide receiving top priority. The concentrations of those crimes in the "hot times" of 7 pm to 3 am is a further element a refined crime-based formula for allocating police funding could consider.

COPS Program. The procedure for distributing COPS funds by jurisdiction is the major implication of the scientific review for the COPS Program. Another important issue, however, is the purposes for which COPS officers are funded. While there is promising evidence that any increase in police officers is helpful, there is even stronger evidence of crime prevention effects of specific activities. While COPS Program language has stressed a community policing approach, there is no evidence that community policing *per se* reduces crime without a clear focus on a crime risk factor objective. There is strong evidence, however, that directed patrols and programs targeted on criminogenic substances like guns and alcohol can be effective in attacking crime hot spots. The evidence on crime prevention in places reviewed in Chapter Seven also finds promising support for problem-oriented policing, which could be another more tightly defined purpose area for supplementary police. Thus while the scientific evidence indicates the COPS program is effective, it also suggests it could be more effective if its funding was more focused upon police programs of proven effectiveness.

Local Law Enforcement Block Grants (LLEBG). The scientific evidence also suggests that most of the wide range of police activities supported by the LLEBG program are effective in preventing crime. The major exception is for law enforcement equipment and technology, which received 60 percent of 1996 appropriations directed to specifically to police (see bar graphs). As noted above, there are no published impact evaluations of the effects of equipment and technology on crime. Thus the effectiveness of this funding is unknown. Impact evaluations of this activity are certainly feasible, and could result in substantial improvements in the uses of such technologies as firearms identification, automated fingerprint identification systems, and in-car computer search capacity for stolen cars and arrest warrants. While the common sense value of such systems may appear substantial, the prior history of other equipment items suggests that there is much to be learned from careful analysis of its ultimate effects upon crime, and not just intermediate indicators like arrests.

The Congress could also consider refining the crime-based formula for LLEBG as described above, especially for the usage of police overtime. Many police agencies are now using such overtime to mount directed patrols of the kind found effective in this Chapter. The statutory plan could better insure that overtime is used in the most effective ways possible by incorporating the "hot times, hot spots" criteria, or other programs of proven effectiveness, for overtime work. It could offer additional special purpose areas, such as repeat offender units, which have also been found effective in apprehending and incarcerating serious violent felons.

Local Law Enforcement Block Grant Program
Funding, 1996 through 1997



Byrne Grants. The many uses of Byrne grants almost certainly include the programs of proven effectiveness identified in this Chapter. The most heavily funded Purpose Area, however, is of unknown effectiveness. Multijurisdictional Task Forces against drugs received 40 percent of Byrne Formula funding in the years 1989-94 (Dunworth, et al, 1997), but they have never been subjected to a published impact evaluation. To the extent that the Byrne Program was intended to apprehend drug dealers, it may be inappropriate to consider these task forces a prevention program. It does not seem inappropriate, however, to specify measurable goals for the program, and to design an impact evaluation to test the effectiveness of the Task Forces in accomplishing those goals.

A Purpose area for Byrne Grants in which evaluation research indicates ineffective use of funding is "urban enforcement" against drugs, estimated at \$26 million in FY 1996. To the extent that these grants support street-level drug enforcement with an emphasis on arrests or drug raids, the money is unlikely to prevent crime. The conclusions of multiple evaluations show that such practices do not reduce violent crime or disorder in the absence of constant police presence, and sometimes not even then.

New purpose areas under the Byrne Grants include both drunk driving and gang enforcement and prevention. The scientific evidence strongly supports the use of Byrne grants for drunk driving enforcement as likely to prevent many deaths and serious injuries. It may also have the prevention effect of reducing gun crime, since so many illegally carried guns and gun criminals wanted on warrants can be removed from the streets through traffic enforcement. There is also a preponderance of available evidence that traffic enforcement that can help reduce robbery. There are no impact evaluations available on the effectiveness of police strategies against gangs.

STOP Violence Against Women Block Grants. A review of the detailed listing of FY 1995 STOP grants for law enforcement shows that they generally supported activities of unknown effectiveness. Programs such as training police about domestic violence, hiring domestic violence specialists in police agencies, and computer software for domestic violence records all appear to be useful at face value, but have not been subject to published evaluations. While the individual grant awards are small, there are many in the same program categories. An evaluation program addressing the effectiveness of the major funding categories could enhance the currently unknown effectiveness of most of these grants.

Grants to Encourage Arrest Policies. These grants apparently support similar activities as the STOP grants, although with a more narrow focus on domestic violence against women. To the extent that these grants result in more arrests in areas of high employment, the scientific evidence suggests they will be effective in reducing domestic violence against women. There is also strong scientific evidence, however, that under certain conditions arrests substantially increase future domestic violence against women. This research raises a critical need for further rigorous research, development and program evaluation, which would attempt to discover means to overcome the apparent criminogenic effects of arrest on certain batterers. This research program,

much of which has already been suggested by a National Academy of Sciences panel report (Crowell and Burgess, 1996), could test combinations of arrest with greater use of supplementary measures such as battered women's shelters, detoxification centers for batterers, prosecution, counseling, and other strategies.

Juvenile Crime. Substantial federal funds are spent on policing juvenile crime, for which scientific evidence also shows that policing can increase crime under certain conditions. The effectiveness or harm resulting from federal support of juvenile policing cannot be determined from the present review, since the kinds of activities and kinds of offenders are too diverse. The available evidence, however, suggests that there is a substantial need for randomized controlled tests of federally funded juvenile policing strategies, in order to provide the greatest possible certainty that these programs at least do no harm. Federal support of juvenile curfew enforcement is of unknown effectiveness (and quantity), but the apparent growth of the idea suggests a need for rigorous program evaluation beyond the current NIJ-funded survey.

Other Programs. Federal support of policing in high-crime Weed and Seed target areas is strongly supported by the scientific evidence, as described above. Federal support of policing in the Comprehensive Communities Program is also supported by the evidence that extra police prevent crime more effectively in big cities.

Improving Effectiveness Through Stronger Evaluations

This analysis of how DOJ funding effectiveness shows many critical knowledge gaps. While the scientific evidence does suggest that the majority of DOJ funding for police is indeed effective at preventing crime, there is no evidence available on a large percentage of the other funding. A conservative estimate is that we lack even indirect scientific evidence on the effectiveness of some \$500 million in Congressionally directed federal funding for local police in 1996. The record also suggests that evaluation results could help to revise and channel these funds in ways that would prevent crime more effectively. Moreover, the past two decades have seen police become much more sensitive to the significance of crime prevention evaluation results, and actively put them to good use (Blumstein and Petersilia, 1995).

Evaluation needs for each specific funding program have been noted above as appropriate. A basic statutory plan for accomplishing these evaluations more effectively is offered in Chapter Ten. The remainder of this chapter summarizes the evaluation needs of the current DOJ funding, and then addresses the highest priority areas for police effectiveness research implied by this review of the available evidence.

LLEBG Police Equipment and Technology. Historically, DOJ support of police technologies has focused on the engineering issues in accomplishing technological goals, rather than the human factors in using technology effectively. A major Congressional investment in human factors evaluations could provide the Congress with far better guidance on the effectiveness of its substantial appropriations in this area.

A prime example is NIJ's support of lighter-weight bullet-proof vests, which has apparently saved hundreds of police officers' lives. Even more lives might be saved, however, if evaluation research examined police officer compliance in wearing the vests, factors affecting that compliance, and strategies for increasing the compliance. Similar questions can be answered for the role of automated fingerprint identification systems (AFIS). The percentages of cases in which fingerprints are respectively sought, detected, submitted to an AFIS, resulting in a suspect's identification, leading to an arrest, conviction and incarceration can all be evaluated in a variety of police agencies. The results could encourage greater use of AFIS, if warranted, or if not, a redirection of federal funding into police expenditures that may be more cost-effective in preventing crime.

Another major example is police use of in-car computer terminals. In theory, this equipment can help patrol officers make far more productive use of the time they spend patrolling hot spots, or otherwise awaiting the next dispatch to a call for service. Whether the officers will actually use the terminals to look for stolen cars or check suspicious persons, however, is a key question for an equipment program evaluation. The National Institute of Justice can help design controlled tests (Scientific Methods Score = 5) randomly assigning new in-car computer systems to some officers but not others, with observations of how the officers spend their patrol time both before and after the new equipment is installed. This in turn could inform analyses of the number of arrests made per patrol hour, the number of guns seized, stolen cars recovered, and so on. Similar experiments could be done at the patrol beat level over longer periods of time, testing the hypothesis that beats patrolled by computer-equipped cars will have less crime than beats patrolled without them. If these hypotheses cannot be supported by rigorous scientific testing, additional research could identify the reasons the technology does not prevent crime as expected and possible ways to solve those problems.

Other possible examples of technology evaluations are limited only by the diverse array of police equipment already on the market and currently in development, from hand-held gun detectors revealing weapons concealed under clothing to electrical

devices for police to shut off the ignition of pursued vehicles. A Congressional plan setting aside ten percent of program funding for controlled testing, and another ten percent for research costs, would allow evaluations to identify police technology and equipment of proven effectiveness.

Byrne Grant Multijurisdictional Task Forces Against Drugs. This program may be defined as serving purposes other than crime prevention. Other goals might be measured in amounts of drugs seized or the number of mid-level drug dealers arrested and incarcerated. Testing the effectiveness of these programs in accomplishing the goals might be done through random assignment of a large sample of cases to single jurisdiction versus task force investigation. Alternatively, before-and-after comparisons of drug abuse problems could be made in metropolitan statistical areas where the task forces operate, with further comparisons to areas not creating these task forces. Comparisons might also be made across task forces of different sizes. Basic productivity indicators could also be computed and compared across all Byrne-funded task forces, with an analysis of the reasons for variation in productivity. Further funding might then be conditional upon achieving specific productivity levels. Task force leadership might collaborate with NIJ researchers in framing a set of questions to be answered by such an evaluation, and agree upon scientifically and operationally appropriate means of designing an evaluation of this \$190 million annual program.

Violence Against Women Grants. Both the STOP and Encourage Arrest grants have two critical areas in which program evaluation can help. One is discovering programs of proven effectiveness in preventing almost every kind of crime against women. The other is identifying the most effective means of delivering a wide array of support services, from police training to data banks. Both tasks are hindered by the fact that many of the grants awarded under these funding programs are under \$20,000, and are too small in scope to warrant separate evaluations. This issue, which also applies to the Byrne Grants and is addressed in Chapter Ten, is one that a Congressional plan for evaluation can resolve. It is arguably inefficient for each grantee to confront similar issues separately, such as classroom instructional materials for police training. A national evaluation program to identify Violence Against Women programs of proven effectiveness would provide much better guidance for how to focus the thousands of small grants scheduled to be awarded by these programs in future years.

The methods of testing program effectiveness in crime prevention are discussed generally in Chapter Four. The most important police research issues concern the prediction and prevention of serious domestic violence, for which no scientifically validated risk assessment tools are currently available (Sherman and Strang, 1996). The effectiveness of police-monitored personal radio alarm necklaces for women given court orders of protection is a high priority for a randomized controlled trial. So is a comparison of the crime prevention effectiveness of misdemeanor domestic assault arrests with and without prosecution, which could indicate a need for Congressional earmarking of funding for the specific purpose of prosecution of such cases. Issuance of arrest warrants for absent misdemeanor assault offenders is a promising practice (Dunford, 1990) that needs replication. Various police responses to non-violent domestic disputes (which are more numerous than violent ones) can be compared and tested for their effectiveness in preventing subsequent violence.

Program effectiveness at accomplishing goals other than crime prevention can also benefit from evaluations. Improved gender equality and victim services in police actions can also be measured scientifically as program outcomes. Regardless of the effectiveness of mandatory arrest, for example, the literature reveals substantial difficulty in obtaining patrol officer compliance with arrest policies for misdemeanor assaults--of which the majority require no medical treatment and one-third have no visible signs of injury. The tendency of officers to trivialize these crimes, to respond slowly to domestic calls, and to refuse to make arrests are all behaviors that DOJ-funded training and technical assistance programs may seek to change. Whatever methods are used to pursue those goals, randomized controlled tests can reveal which methods are most effective. Followup observations of police treatment of women victims in the field would be a critically important--although expensive--component of evaluating training programs. Absent such careful scrutiny by a "big science" national evaluation effort, however, the effectiveness of programs for changing police behavior will remain unknown. Here again, a Congressional plan for developing programs of proven effectiveness could make a major difference.

Getting Guns Off the Streets--With Legitimacy. One major hypothesis about the declining homicide rate in the US is that police have become more effective at deterring illegal gun carrying in public places (Moore, 1980; Wilson, 1994). Further testing of the gun carrying hypothesis seems to warrant the highest priority for federal research, given the clear connection of guns to serious juvenile and gang violence. At the same time, the issue of police legitimacy and perceived harassment of young black males is a crucial aspect of gun enforcement. A research agenda developing both police effectiveness at detecting illegal guns, while enhancing police legitimacy in the eyes of all citizens including offenders, could address both issues simultaneously. On these issues, research could help reduce both homicides and riots, and increase general compliance with the law through greater respect for the moral authority of police.

Patrol Location and Timing Strategies. Since gun violence is heavily concentrated in less than 100 of the 10,000 police agencies reporting to the FBI, research is also needed on more general approaches to directed patrols in hot spots and hot times.

One example is the apparently mundane is of police schedules, which may be vital to crime prevention. Police chiefs face enormous resistance from police unions in changing work assignments and schedules to concentrate police in high crime areas between 7 pm and 3 am, with the most officers assigned on weekends. Many must use overtime pay to even move in that direction. If experiments comparing crime-focused staffing patterns with conventional procedures found a reduction in crime, that could support police chiefs trying to make better use of taxpayer dollars.

Juvenile Shaming and Restorative Justice. Every police agency must deal with juvenile offenders. The Australian community accountability conferences can be tested in police agencies large and small. Given the negative findings about the effects of arrest on juvenile offending, there is much to be gained and perhaps little to lose by developing alternatives to arrest. The growing concern over serious juvenile violence, especially gun offenses in big cities, should not distort the truth that most juveniles are still arrested for shoplifting and other minor offenses. A program for first-offenders that works better to nip criminal careers in the bud may well prevent more serious property crime, such as auto theft, and violent crime. It may also increase police legitimacy in the eyes of the participating adults, far more effectively than conventional approaches to community policing.

Multi-Agency Experiments. The proposed Congressional restructuring of evaluations in Chapter Ten would make possible a major breakthrough in police research: comparing strategies across large sample of police departments. Random assignment of enhanced federal funding for specific strategies to half of the hundred largest cities could go a long way towards learning what works of agency-wide policies. A prime example is traffic enforcement. Proactive police arrests for drunk driving are generally sporadic (Ross, 1994), in part because there is no direct evidence that traffic deaths will rise if drunk driving arrests decline. Moreover, the evidence that traffic enforcement reduces robbery is suggestive but not conclusive. Taken together, the twin objectives of reducing traffic deaths and robberies would justify investment in a 100-agency randomized experiment in traffic enforcement. An experiment in which 50 police agencies selected at random from 100 volunteering agencies received substantial federal funding for greatly increased traffic enforcement--by 300 or 400%-- would be an ideal test of the hypothesis now weakly supported by merely correlational studies.

Another approach would go right to the core of the 1994 Crime Act--the 100,000 police. An experiment in which 20% more officers (over current levels including COPS grants) were randomly funded in half of a sample of police agencies would provide a far more definitive test of the crime prevention effectiveness of the \$1.4 billion annual expenditure. The popular support for this program may render the question moot for the moment, but the question remains of just how effective the program is. Experiments using this design could also test other theories, such as problem-solving or community policing uses of extra officers.

Evaluation Funding Priorities. Over half of all DOJ funding for local crime prevention is directed to the police. The same cannot be said, however, for the allocation of program evaluation funding. The Congress has not addressed the question of evaluation funding priorities with the same clarity as it has identified program funding priorities. This is one more reason for the Congress to consider the restructuring of DOJ crime prevention evaluations as discussed in Chapter Ten.

NOTES

¹And in one case, the arrest of the entire Copenhagen police force by the Nazis in 1944, which was equivalent to a strike because the occupying German army did nothing to enforce civilian criminal laws before or after arresting the police (Andenaes, 1974).

²There was no difference in the self-reported offending data, but only 60% of the offenders gave followup interviews.

³Given the potential for vehicular homicide attached to drunk driving, that offense is included here in the definition of violent crime. It would not, however, be classified that way for most other purposes.

⁴These amounts are extrapolated from the Dunworth, et al (1997) analysis of the award of grants in 1989-94, proportionately applied to the FY 1996 allocation of \$475 million.

REFERENCES

Abrahamse, Allan F., Patricia A. Ebener, Peter W. Greenwood, Nora Fitzgerald, and Thomas E. Kosin

1991 An Experimental Evaluation of the Phoenix Repeat Offender Program. *Justice Quarterly* 8:141-168.

Adams, Kenneth

1996 Paper Presented to the National Evaluation Conference, National Institute of Justice, Washington, D.C.

Annan, Sampson and Wesley Skogan

1993 Drug Enforcement in Public Housing: Signs of Success in Denver. Washington, DC: Police Foundation.

Andenaes, Johannes

1974 Punishment and Deterrence. Ann Arbor, MI: University of Michigan Press.

Barker, M., Geraghty, J., Webb, B. & Key, T.

1993 The Prevention of Street Robbery. Police Research Group Crime Prevention Series Paper No. 44. London: Police Department, Home Office.

Barnes, Geoffrey C.

1996 Paper presented to the American Society of Criminology, Chicago.

Bennett, Trevor

1990 Evaluating Neighborhood Watch. Basingstoke: Gower.

Berk, Richard A., Alec Campbell, Ruth Klap, and Bruce Western

1992a A Bayesian Analysis of the Colorado Spouse Abuse Experiment. *Journal of Criminal Law and Criminology* 83: 170-200.

1992b The Deterrent Effect of Arrest in Incidents of Domestic Violence: A Bayesian Analysis of Four Field Experiments. *American Sociological Review* 57: 698-708.

Black Donald

1980 The Manners and Customs of the Police. NY: Academic Press.

Boydston, John

1975 The San Diego Field Interrogation Experiment. Washington, DC: Police Foundation.

Brown, W.

1974 Evaluation of Police Patrol Operations. Unpublished M.A. Thesis, University of Ottawa.

Brown, Don W.

1978 Arrests and Crime Rates: When Does a Tipping Effect Occur?. *Social Forces* 57: 671-82.

Buerger, Michael E. (ed)

1994 The Crime Prevention Casebook: Securing High Crime Locations. Washington, DC: Crime Control Institute.

Buerger, Michael E., Anthony Petrosino and Ellen G. Cohn

1995 In John Eck and David Weisburd, eds. *Crime and Place*. Monsey, N.Y.: Criminal Justice Press and Police Executive Research Forum.

Burney, E.

1990 *Putting Street Crime in Its Place: A Report to the Community/Police Consultative Group for Lambeth*. London: Goldsmith's College.

Bushway, Shawn

1996 *The Impact of a Criminal History Record on Access to Legitimate Employment*. PhD Dissertation, H. John Heinz School of Public Policy and Management, Carnegie Mellon University.

Chaiken, Jan M.

1978 *What Is Known About Deterrent Effects of Police Activities*. In James A. Cramer, ed., *Preventing Crime*. Beverly Hills, CA: Sage Publications.

Chaiken, Jan M., M. Lawless and K. Stevenson

1975 *The Impact of Police Activity on Crime: Robberies on the New York City Subway System*. *Urban Analysis* 3: 173-205.

Chamlin, Mitchell

1988 *Crimes and Arrest: An Autoregressive Integrated Moving Average (ARIMA) Approach*. *Journal of Quantitative Criminology*.

1991 *A Longitudinal Analysis of the Arrest-Crime Relationship: A Further Examination of the Tipping Effect*. *Justice Quarterly* 8: 187-199.

Clark, Gerald

1969 *What Happens When the Police Go On Strike*. *New York Times Magazine*, Nov. 16, sec. 6, pp.45, 176-85, 187, 194-95.

Clawson, C. and S.K. Chang

1977 *The Relationship of Response Delays and Arrest Rates*. *Journal of Police Science and Administration*. 5: 53-68.

Cohen, Lawrence and Marcus Felson

1979 *Social Change and Crime Rate Trends: A Routine Activities Approach*. *American Sociological Review* 44: 588-607.

Crowell, Nancy A. and Ann W. Burgess

1996 *Understanding Violence Against Women*. Washington, DC: National Academy of Sciences.

Dahmann, J.S.

1975 *Examination of Police Patrol Effectiveness*. McLean Va.: Mitre Corporation.

Dunford, Franklyn W.

1990 *System-Initiated Warrants for Suspects of Misdemeanor Domestic Assault: A Pilot Study*. *Justice Quarterly* 7: 631-653.

1992 The Measurement of Recidivism in Cases of Spouse Assault. *Journal of Criminal Law and Criminology* 83: 120-136.

Dunford, Franklyn W., David Huizinga, and Delbert S. Elliott

1990 The Role of Arrest in Domestic Assault: The Omaha Police Experiment. *Criminology* 28: 183-206.

Dunworth, Terence, Peter Haynes, and Aaron J. Saiger

1997 National Assessment of the Byrne Formula Grant Program. *National Institute of Justice Research in Brief*. Washington, DC: US Department of Justice.

Eck, John E. and William Spelman

1987 Problem Solving: Problem-Oriented Policing in Newport News. Washington, DC: Police Executive Research Forum.

Eck, John E. and Dennis Rosenbaum

1994 The New Police Order: Effectiveness, Equity and Efficiency in Community Policing. In Dennis Rosenbaum, Ed., *The Challenge of Community Policing: Testing the Promises*. Thousand Oaks: Sage.

Epperlein, T.

1985 The Use of Sobriety Checkpoints as a Deterrent: An Impact Assessment. Phoenix: Arizona Department of Public Safety.

Fagan, Jeffrey

1996 The Criminalization of Domestic Violence: Promises and Limits. Research Report. Washington, DC: National Institute of Justice.

Farrington, David P.

1977 The Effects of Public Labeling. *British Journal of Criminology* 17: 112-25.

1982 Randomized Experiments on Crime and Justice. In Michael Tonry and Norval Morris, Eds., *Crime and Justice: An Annual Review of Research*. Chicago: University of Chicago Press.

Felson, Marcus

1994 *Crime and Everyday Life*. Thousand Oaks, CA: Pine Forge Press.

Fienberg, Stephen E., Kinley Larntz, and Albert J. Reiss, Jr.

1976 Redesigning the Kansas City Preventive Patrol Experiment. *Evaluation* 3: 124-131.

Garner, Joel, Jeffrey Fagan and Christopher D. Maxwell

1995 Published Findings From the NIJ Spouse Assault Replication Program: A Critical Review. *Journal of Quantitative Criminology* 8: 1-29.

Gibbs, Jack

1975 *Crime, Punishment and Deterrence*. New York: Elsevier.

Gold, Martin and Jay Williams

1970 National Study of the Aftermath of Apprehension. *Prospectus* 3: 3-12.

Goldstein, Herman

1979 Improving Policing: A Problem-Oriented Approach. *Crime and Delinquency* 25: 236-258.

Gorer, Geoffrey

1955 Exploring English Character. London: Cresset. Gorer, Geoffrey

Greenberg, David F., Ronald C. Kessler, and Charles H. Logan

1979 A Panel Model of Crime Rates and Arrest Rates. *American Sociological Review* 44: 843-50.

Greenberg, David and Ronald C. Kessler

1982 The Effects of Arrests on Crime: A Multivariate Panel Analysis. *Social Forces* 60: 771-90.

Gurr, Ted Robert, Peter N. Grabosky, and Richard C. Hula

1977 The Politics of Crime and Conflict: A Comparative History of Four Cities. Beverly Hills, CA: Sage.

Hayes, Gary

1979 Personal Communication

Hirschi, Travis

1986 On The Compatibility of Rational Choice and Social Control Theories of Crime. In Derek B. Cornish and Ronald V. Clarke, Eds., *The Reasoning Criminal*. NY: Springer-Verlag.

Hirschel, David, Ira W. Hutchison III, Charles W. Dean, Joseph J. Kelley, and Carolyn E. Pesackis

1990 Charlotte Spouse Assault Replication Project: Final Report. Charlotte, NC: University of North Carolina at Charlotte.

Holliday, L.P.

1974 A Methodology For Radio Car Planning. Unpublished Ms., New York City RAND Institute.

Homel, Ross

1990 Random Breath Testing and Random Stopping Programs in Australia. In R.J. Wilson and R. Mann, Eds., *Drinking and Driving: Advances in Research and Prevention*. NY: Guilford Press.

Homel, Ross

1993 Reference supplied upon request

Hope, Tim

1995 Community Crime Prevention. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

Huizinga, David and Finn Esbensen

1992 School Safety 15: 15-17.

Hurst, P. and P. Wright

1980 Deterrence at Last: The Ministry of Transport's Alcohol Blitzes. Paper Presented to the Eighth International Conference on Alcohol, Drugs and Traffic Safety, Stockholm.

Isaacs, H.

1967 A Study of Communications, Crimes and Arrests in A Metropolitan Police Department. Task Force Report: Science and Technology, A Report to the President's Commission on Law Enforcement and Administration of Justice. Washington, DC: USGPO.

Kansas City, MO, Missouri Police Department

1977 Response Time Analysis. Kansas City, MO: Author.

Kelling, George L.

1988 Community Policing. Presentation to the Executive Sessions on the Police, Kennedy School of Government, Harvard University.

Kelling, George L., Antony M. Pate, Duane Dieckman and Charles Brown

1974 The Kansas City Preventive Patrol Experiment: Technical Report. Washington, DC: Police Foundation.

Kelling, George L. and Catherine M. Coles

1996 Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities. NY: Free Press.

Kennedy, David M., Anne M. Piehl, and Anthony A. Braga

1996 Youth Gun Violence in Boston: Gun Markets, Serious Youth Offenders, and a Use Reduction Strategy.

Kleiman, Mark

1988 Crackdowns: The Effects of Intensive Enforcement on Retail Heroin Dealing. In Marcia Chaiken, Ed., Street-Level Drug Enforcement: Examining the Issues. Washington, DC: National Institute of Justice.

Klein, Malcolm

1986 Labeling Theory and Delinquency Policy: An Empirical Test. Criminal Justice and Behavior 13: 47-79.

Koper, Christopher

1995 Just Enough Police Presence: Reducing Crime and Disorderly Behavior By Optimizing Patrol Time in Crime Hot Spots.

Larson, Richard

1975 What Happened to Patrol Operations in Kansas City. Journal of Criminal Justice. 3: 299-330.

Laycock, Gloria

1991 Operation Identification, or the Power of Publicity? Security Journal 2: 67-72.

Lee, W.L. Melville

1901

[1971] *A History of Police in England*. Montclair, NJ: Patterson-Smith.

Lindsay, Betsy and Daniel McGillis

1986 *Citywide Community Crime Prevention: An Assessment of the Seattle Program*. In Dennis Rosenbaum, Ed., *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

Logan, Charles H.

1975 *Arrest Rates and Deterrence*. *Social Science Quarterly* 56: 376-89.

Makinen, Tuija, and Hannu Takala

1980 *The 1976 Police Strike in Finland*. *Scandinavian Studies in Criminology* 7: 87-106.

Marciniak, Elizabeth

1994 *Community Policing of Domestic Violence: Neighborhood Differences in the Effect of Arrest*. PhD Dissertation, University of Maryland.

Martin, Susan and Lawrence Sherman

1986 *Selective Apprehension: A Police Strategy for Repeat Offenders*. *Criminology* 24: 55-72.

Marvell, Thomas B. and Carlisle E. Moody

1996 *Specification Problems, Police Levels and Crime Rates*. *Criminology* 34: 609-646.

Moore, Mark

1980 *The Police and Weapons Offenses*. *Annals of the American Academy of Political and Social Sciences* 452: 22-32.

1992 In Michael Tonry and Norval Morris, Eds., *Modern Policing*. *Crime and Justice*, Vol. 15. Chicago: University of Chicago Press.

National Advisory Commission on Civil Disorders

1968 Report. NY: Bantam Books.

Pate, Tony, Amy Ferrara, Robert A. Bowers, and Jon Lorence

1976 *Police Response Time: Its Determinants and Effects*. Washington, DC: Police Foundation.

Pate, Antony M. and Wesley Skogan

1985 *Coordinated Community Policing: The Newark Experience*. Technical Report. Washington, DC: Police Foundation.

Pate, Antony M., Marlys McPherson, and Glenn Silloway

1987 *The Minneapolis Community Crime Prevention Experiment: Draft Evaluation Report*. Washington, DC: Police Foundation.

Pate, Antony, Edwin E. Hamilton and Sampson Annan

1991 *Metro-Dade Spouse Abuse Replication Project: Draft Final Report*. Washington, D.C.: Police Foundation.

Pate, Antony M. and Edwin E. Hamilton

1992 Formal and Informal Deterrents to Domestic Violence: The Dade County Spouse Assault Experiment. *American Sociological Review*. 57: 691-698.

Paternoster, Raymond, Bobby Brame, Ronet Bachman and Lawrence W. Sherman

1996 Do Fair Procedures Matter? The Effect of Procedural Justice on Spouse Assault.

Paper accepted for publication in *Law and Society Review*.

Pfuhl, Erdwin H., Jr.

1983 Police Strikes and Conventional Crime: A Look At the Data. *Criminology* 21: 489- 503.

Pierce, Glenn, Susan A. Spaar, and LeBaron Briggs, IV.

1988 The Character of Police Work: Strategic and Tactical Implications. Unpublished Ms., Northeastern University, Center for Applied Social Research.

Police Foundation

1981 The Newark Foot Patrol Experiment. Washington, D.C.: Police Foundation.

President's Commission on Law Enforcement and Administration of Justice

1967 The Challenge of Crime in a Free Society. Washington, DC: USGPO.

Press, S.J.

1971 Some Effects of an Increase in Police Manpower in the 20th Precinct of New York City. NY: New York City Rand Institute.

Pringle, Patrick

1955 Hue & Cry: The Birth of the British Police. London: Museum Press.

Repetto, Thomas

1996 Reducing Gun Crime in New York City: A Research and Policy Report. NY: Citizens Crime Commission of New York City

Reiss, Albert J. Jr.

1971 The Police and the Public. New Haven: Yale University Press.

1985 Policing a City's Central District: The Oakland Story. Washington, DC: National Institute of Justice.

1992 Police Organization in the Twentieth Century. In Michael Tonry and Norval Morris, eds., *Modern Policing. Crime and Justice*, Vol. 15. Chicago: University of Chicago Press.

1995 The Role of the Police in Crime Prevention. In Per-Olof Wikstrom, Ed., *Integrating Crime Prevention Strategies: Propensity and Opportunity*. Stockholm: National Council for Crime Prevention.

Reiss, Albert J. Jr., and Jeffrey A. Roth, eds.

1993 Understanding and Preventing Violence. Washington, DC: National Academy of Sciences.

Rosenbaum, Dennis, Dan A. Lewis and Jane A. Grant

1986 Neighborhood-Based Crime Prevention: Assessing the Efficacy of Community Organizing in Chicago. In Dennis Rosenbaum, editor, Community Crime Prevention: Does It Work? Beverly Hills, CA: Sage.

Ross, H. Laurence

1973 Law, Science and Accidents: The British Road Safety Act of 1967. Journal of Legal Studies 2: 1-78.

1975 The Scandinavian Myth: The Effectiveness of Drinking-and-Driving Legislation in Sweden and Norway. Journal of Legal Studies 4: 285-310.

1977 Deterrence Regained: The Chesire Constabulary's "Breathalyser Blitz." Journal of Legal Studies 6: 241-249.

1981 Deterring the Drinking Driver: Legal Policy and Social Control. Lexington, Mass: Lexington Books.

1992 Confronting Drunk Driving: Social Policy for Saving Lives. New Haven: Yale University Press.

1994 Personal Communication

Ross, H. Laurence, R. McCleary and T. Epperlein

1982 Deterrence of Drinking and Driving in France: An Evaluation of the Law of July 12, 1978. Law and Society Review.

Russell, Francis

1975 A City In Terror: 1919--The Boston Police Strike. New York: Viking.

Sampson, Robert and Jacqueline Cohen

1988 Deterrent Effects of Police on Crime: A Replication and Theoretical Extension. Law and Society Review 22:163-189.

Schnelle, J.F., R.E. Kirchner, Jr., J.D. Casey, P.H. Uselton Jr., and M.P. McNees

1977 Patrol Evaluation Research: A Multiple-Baseline Analysis of Saturation Police Patrolling During Day and Night Hours. Journal of Applied Behavioral Analysis 10: 33-40.

Schwartz, Richard and Jerome Skolnick

1962 Two Studies of Legal Stigma. Social Problems 10: 133-138.

Sellwood, A.V.

1978 Police Strike--1919. London: W.H. Allen.

Shaw, James W.

1994 Community Policing Against Crime: Violence and Firearms. PhD dissertation, University of Maryland at College Park.

Sherman, Lawrence W.

1974 Becoming Bent. In Lawrence W. Sherman, Ed., Police Corruption: A Sociological Perspective. NY: Anchor-Doubleday.

1990 Police Crackdowns: Initial and Residual Deterrence. In Michael Tonry and Norval Morris, Eds., Crime and Justice: A

Review of Research, Vol. 12. Chicago: University of Chicago Press.

1992 Policing Domestic Violence: Experiments and Dilemmas. NY: Free Press.

1993 Defiance, Deterrence, and Irrelevance: A Theory of the Criminal Sanction. *Journal of Research in Crime and Delinquency* 30: 445-473.

1995 The Police. In James Q. Wilson and Joan Petersilia, eds. *Crime*. San Francisco: ICS Press.

Sherman, Lawrence W., Catherine H. Milton and Thomas Kelly

1973 Team Policing: Seven Case Studies. Washington, DC: Police Foundation.

Sherman, Lawrence W., Patrick R. Gartin and Michael E. Buerger

1989 Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place. *Criminology* 27: 27-55.

Sherman, Lawrence W. and Richard A. Berk

1984 The Specific Deterrent Effects of Arrest for Domestic Assault. *American Sociological Review* 49: 261-272.

Sherman, Lawrence W., Janell D. Schmidt, Dennis P. Rogan, Patrick R. Gartin, Ellen G. Cohn, Dean J. Collins and Anthony R. Bacich

1991 From Initial Deterrence to Long-Term Escalation: Short-Custody Arrest for Poverty Ghetto Domestic Violence. *Criminology* 29: 821-50.

Sherman, Lawrence W., Janell D. Schmidt, Dennis P. Rogan, Patrick R. Gartin, Ellen G. Cohn, Dean J. Collins and Anthony R. Bacich

1992 The Variable Effects of Arrest on Criminal Careers: The Milwaukee Domestic Violence Experiment. *Journal of Criminal Law and Criminology* 83: 137169

Sherman, Lawrence and Dennis P. Rogan

1995 Deterrent Effects of Police Raids on Crack Houses: A Randomized, Controlled, Experiment. *Justice Quarterly* 12: 755-781.

Sherman, Lawrence W., James W. Shaw and Dennis P. Rogan

1995 The Kansas City Gun Experiment: Research in Brief. Washington, D.C.: National Institute of Justice.

Sherman, Lawrence and David A. Weisburd

1995 General Deterrent Effects of Police Patrol in Crime "Hot Spots:" A Randomized, Controlled Trial. *Justice Quarterly* 12: 625-648.

Sherman, Lawrence W. and Heather Strang

1996 Policing Domestic Violence: The Problem-Solving Paradigm. Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Skogan, Wesley

1990 Disorder and Decline. New York: Free Press.

1994 The Impact of Community Policing on Neighborhood Residents: A Cross-Site Analysis. In Dennis Rosenbaum, Ed., The Challenge of Community Policing: Testing the Promises. Thousand Oaks: Sage.

1996 Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Skogan, Wesley and 18 others

1995 Community Policing In Chicago, Year Two. Chicago: Illinois Criminal Justice Information Authority.

1996 Community Policing in Chicago, Year Three. Chicago: Illinois Criminal Justice Information Authority.

Skolnick, Jerome and David Bayley

1985 The New Blue Line. NY: Free Press

Smith, Douglas and Visher, Christy

1981 Street-Level Justice: Situational Determinants of Police Arrest Decisions. Social Problems 29: 167-78.

Smith, Douglas and Patrick R. Gartin

1989 Specifying Specific Deterrence: The Influence of Arrest on Future Criminal Activity.

Spelman, William and Brown, Dale K.

1981 Calling the Police: A Replication of the Citizen Reporting Component of the Kansas City Response Time Analysis. Washington, DC: Police Executive Research Forum.

Stead, Philip John

1977 Patrick Colquhoun. In Philip John Stead, Editor, Pioneers in Policing. Montclair, NJ: Patterson-Smith.

Strang, Heather

1996 Paper Presented to the American Society of Criminology, Chicago, November.

Sviridoff, Michelle, et al.

1992 The Neighborhood Effects of Street-Level Drug Enforcement: Tactical Narcotics Teams in New York. NY: Vera Institute of Justice.

Task Force Report

1967 The Police. Report to the A Report to the President's Commission on Law Enforcement and Administration of Justice. Washington, DC: USGPO.

Tittle, Charles R. and Alan R. Rowe

1974 Certainty of Arrest and Crime Rates: A Further Test of the Deterrence Hypothesis. Social Forces 52: 455-62.

Trojanowicz, Robert

1986 Evaluating a Neighborhood Foot Patrol Program: The Flint, Michigan Project. In Dennis Rosenbaum, editor, Community Crime Prevention: Does It Work? Beverly Hills, CA: Sage.

Tyler, Tom

1990 Why People Obey the Law. New Haven: Yale University Press.

Uchida, Craig D., Brian Forst and Sampson O. Annan

1992 Modern Policing and the Control of Illegal Drugs: Testing New Strategies in Two American Cities. Research Report. Washington, D.C.: National Institute of Justice.

Voas, et al

1985 from Ross 1992

Weisburd, David and Lorraine Green

1995 Policing Drug Hot Spots: The Jersey City Drug Market Analysis Experiment. Justice Quarterly 12: 711-735.

Weiss, Alex and Edmund McGarrell

1996 Paper Presented to the American Society of Criminology, Chicago, November.

Wilson, James Q.

1994 Just Take Away Their Guns: Forget Gun Control. New York Times Magazine March 20, pp. 46-47.

Wilson, James Q. and Barbara Boland

1978 The Effect of the Police On Crime. Law and Society Review 12: 367-390.

Wilson, James Q. and George L. Kelling

1982 Broken Windows: The Police and Neighborhood Safety. Atlantic Monthly 249: 29- 38.

Wilson, O.W.

1963 Police Administration. NY: McGraw-Hill

Wolfgang, Marvin, Robert Figlio and Thorsten Sellin

1972 Delinquency in a Birth Cohort. Chicago: University of Chicago Press.

Wycoff, Mary Ann, Antony M. Pate, Wesley Skogan and Lawrence W. Sherman

1985 Citizen Contact Patrol in Houston: Executive Summary. Washington, DC: Police Foundation.

Wycoff, Mary Ann and Wesley Skogan

1986 Storefront Police Offices: The Houston Field Test. In Dennis Rosenbaum, editor, Community Crime Prevention: Does It Work? Beverly Hills, CA: Sage.

1993 Community Policing in Madison: Quality from the Inside Out. An Evaluation of Implementation and Impact. Research Report. Washington, D.C.: National Institute of Justice.

Zimmer, Lynn

1990 Proactive Policing Against Street-Level Drug Trafficking. American Journal of Police 11: 43-74.

Chapter Eight

POLICING FOR CRIME PREVENTION

by Lawrence W. Sherman

The more police we have, the less crime there will be. While citizens and public officials often espouse that view, social scientists often claim the opposite extreme: that police make only minimal contributions to crime prevention in the context of far more powerful social institutions, like the family and labor markets. The truth appears to lie in between. Whether additional police prevent crime may depend on how well they are focused on specific objectives, tasks, places, times and people. Most of all, it may depend upon putting police where serious crime is concentrated, at the times it is most likely to occur: policing focused on risk factors.

The connection of policing to risk factors is the most powerful conclusion reached from three decades of research. Hiring more police to provide rapid 911 responses, unfocused random patrol, and reactive arrests does not prevent serious crime. Community policing without a clear focus on crime risk factors generally shows no effect on crime. But directed patrols, proactive arrests and problem-solving at high-crime "hot spots" has shown substantial evidence of crime prevention. Police can prevent robbery, disorder, gun violence, drunk driving and domestic violence, but only by using certain methods under certain conditions.

These conclusions are based largely on research supported by the National Institute of Justice, the research arm of the Office of Justice Programs in the U.S. Department of Justice. In recent years, increasing numbers of police executives have incorporated these findings into their crime prevention strategies. University of Wisconsin law professor Herman Goldstein's (1979) paradigm of "problem-oriented policing" directed research attention to the specific things police do, and how they can focus their resources to attack the proximate causes of public safety problems. The Justice Department's adoption of this perspective has yielded an increasingly complex but useful body of knowledge about how policing affects crime.

One of the most striking recent findings is the extent to which the police themselves create a risk factor for crime simply by using bad manners. Modest but consistent scientific evidence supports the hypothesis that the less respectful police are towards suspects and citizens generally, the less people will comply with the law. Changing police "style" may thus be as important as focusing police "substance." Making both the style and substance of police practices more "legitimate" in the eyes of the public, particularly high-risk juveniles, may be one of the most effective long-term police strategies for crime prevention.

This chapter begins with a review of the eight major hypotheses about how the police can prevent crime (Figure 1). It then describes the varying strength of the scientific evidence on those hypotheses, in relation to the "rigor" of the scientific methods used to test them. The available studies are summarized for both their conclusions and their scientific rigor. The chapter then attempts to simplify these results by answering the questions about what works, what doesn't, and what's promising. Major gaps in our knowledge are also examined. The chapter concludes with recommendations derived from these findings for future federal investment in both evaluation research and police methods to be developed for evaluation.

Figure 8-1

Eight Major Hypotheses About Policing and Crime

Other things being equal,

1. **Numbers of Police.** The more police a city employs, the less crime it will have.
2. **Rapid Response to 911.** The shorter the police travel time from assignment to arrival at a crime scene, the less crime there will be.
3. **Random Patrols.** The more random patrol a city receives, the more a perceived "omnipresence" of the police will deter crime in public places.
4. **Directed Patrols.** The more precisely patrol presence is concentrated at the "hot spots" and "hot times" of criminal activity, the less crime there will be in those places and times.

5. **Reactive Arrests.** The more arrests police make in response to reported or observed offenses of any kind, the less crime there will be.
6. **Proactive Arrests.** The higher the police-initiated arrest rate for high-risk offenders and offenses, the lower the rates of serious violent crime.
7. **Community Policing.** The more quantity and better quality of contacts between police and citizens, the less crime.
8. **Problem-Oriented Policing.** The more police can identify and minimize proximate causes of specific patterns of crime, the less crime there will be.

VARIETIES OF POLICE CRIME PREVENTION

1. Numbers of Police. Like the deterrence hypothesis itself (Gibbs, 1975), the claim that police prevent crime is not a "theory" in a truly scientific sense. The idea was developed not as a mathematical equation but as a general "doctrine" of public policy in the heat of democratic debate. The doctrine was based not just on speculation, but also on the apparent results of several "demonstration projects" with some empirical results. These included the court supervised "Bow Street Runners" (Lee, 1901 [1971]; Pringle, 1955) and the privately operated but publicly chartered Thames River "Marine Police" (Stead, 1977). As the level of violence throughout the 19th century declined while the number of police increased (Gurr, et al, 1977: 93-96; 140), many observers concluded that the more police, the less crime.

2. Rapid Response to 911. The general form of this claim is that the shorter the police travel time from assignment to arrival at a crime scene, the more likely it is that police can arrest offenders before they flee. This claim is then extended to rapid response producing three crime prevention effects. One is a reduction in harm from crimes interrupted in progress by police intervention. Another, more general benefit of rapid response time is a greater deterrent effect from the threat of punishment reinforced by response-related arrests. The third hypothesized prevention effect comes from the incapacitation through imprisonment of offenders prosecuted more effectively with evidence from response-related arrests. All of these claims presume, of course, that police are notified during or immediately after the occurrence of a crime. This premise, like the hypotheses themselves, is empirically testable, and its falsification could logically falsify the hypotheses built upon the assumption of its validity.

3. Random Patrols. Early beat officers were directed to check in at specific places at specific times, with rigid supervision of the prescribed patrol patterns (Reiss, 1992). The increasing emphasis on rapid 911 response in automobiles gradually put an end to directed patrols, allowing officers to patrol at random far beyond their assigned beats. This policy was justified by the theory that unpredictability in patrol patterns would create a perceived "omnipresence" of the police that deters crime in public places. Chicago Police Chief and Berkeley Criminology Dean Orlando W. Wilson (1963: 232) was a widely cited proponent of this view. Although he favored the use of police workload analysis to determine how many officers should be assigned to different beats and shifts, modern police practice shows little variation in patrol presence by time and place. Nonetheless, many police chiefs and mayors claim that hiring more officers to patrol in this fashion would reduce crime.

4. Directed Patrols. Since the advent of computerized crime analysis, however, a far greater precision in the identification of crime patterns has become possible. Police have used that precision to focus patrol resources on the times and places with the highest risks of serious crime. The hypothesis is that the more patrol presence is concentrated at the "hot spots" and "hot times" of criminal activity, the less crime there will be in those places and times. The epidemiological underpinning for this claim is NIJ-funded research showing that the risk of crime is extremely localized, even within high crime neighborhoods, varying widely from one address to another (Pierce, Spaar and Briggs, 1988; Sherman, Gartin and Buerger, 1989).

5. Reactive Arrests. Like police patrol, arrest practices can be either unfocused or focused on crime-risk factors. Reactive arrests (in response to specific citizen complaints) are like random patrol in that they cast a wide net, warning all citizens that they can be arrested for all law violations at all times. This net is necessarily quite thin. Observations of thousands of police encounters with criminal suspects shows that police choose **not** to arrest suspects in the majority of the cases in which there was legal basis to do so (Black, 1980: 90; Smith and Visher, 1981: 170). The frequent decision not to arrest has been noticed by crime victims' advocacy groups, who argue that more arrests will produce less crime. This hypothesis, like deterrence generally, is expressed at two levels of analysis: the "general" or community-wide, and the "specific" or individual-level. The individual-level hypothesis has been questioned for decades by social scientists, and even some police, who suggest exactly the opposite: that arrest, especially for minor offenses (which are by far the most common), provokes a response by offenders making them more likely to commit future crime than if they had not been arrested.

6. Proactive Arrests. Like directed patrol, proactive (police-initiated) arrests concentrate police resources on a narrow set of high-risk targets. The hypothesis is that a high certainty of arrest for a narrowly defined set of offenses or offenders will accomplish more than low arrest certainty for a broad range of targets. In recent years the theory has been tested with investigations of four primary high risk targets: chronic serious offenders, potential robbery suspects, drug market places and areas, and high-risk places and times for drunk driving. All but the first can be tested by examining the crime rate. The hypothesis about chronic serious offenders is tested by examining the rate at which such offenders are incapacitated by imprisonment from further offending.

Another version of the proactive arrest hypothesis is called "zero tolerance," based on the "broken windows" theory (Wilson and Kelling, 1982). The theory is that areas appearing disorderly and out-of-control provide an attractive climate for violent crime--just as a window with one broken pane attracts more stones than a completely unbroken window. The crime prevention hypothesis is that the more arrests police make for even petty disorder, the less serious crime there will be (Skogan, 1990).

Community vs. Problem-Oriented Policing

The hypotheses about community- and problem-oriented-policing are less focused than the others, so much so that some observers have even advised against trying to test them (Moore 1992: 128). They both involve far more variations and possible combinations of police activities than the narrow deterrence hypotheses. As in the community- and school-based programs reviewed in chapters 2 and 4, community and problem-oriented policing are put into practice more like a "stew" of different elements than a single type of "food." Yet it is just this flexibility that proponents hypothesize to give them their power. Crime problems vary so widely in nature and cause that effective policing for prevention must vary accordingly, and arguably require many elements to succeed.

While community and problem-oriented policing are often said to be overlapping strategies (Skogan, 1990; Moore, 1992), they actually have very different historical and theoretical roots. Community policing arises from the crisis of legitimacy after the urban race riots of the 1960s, the proximate causes of which several blue-ribbon reports blamed on police (President's Commission on Law Enforcement and Administration of Justice, 1967; National Advisory Commission on Civil Disorders, 1968). The reports claimed police had lost contact with minority group residents, both by changing from foot patrols to radio cars and by taking a more legalistic approach to law enforcement. In various ways, most notably "team policing" (Task Force Report; Sherman, et al 1973), the police were urged to increase their contact with citizens in more positive settings than just responding to emergencies. Thus for almost three decades the **Community Policing** hypothesis has been that increasing the quantity and quality of police-citizen contact (Kelling, 1988) reduces crime.

Problem-oriented policing, in contrast, arose from the crisis of police effectiveness at crime prevention provoked in the 1970s by some of the very studies reviewed in this chapter. As one of its early sponsors, Gary Hayes (1979), put it, the studies told police chiefs that nothing they were doing--putting more police on the street into random patrols, rapid responses--was working to fight crime. The strategy of problem-oriented policing conceived by Professor Goldstein (1979) provided a new paradigm in which to focus innovation, regardless of any contact with the citizenry. Where the core concept of community policing was community involvement for its own sake, the core concept for problem-oriented policing was **results**: the effect of police activity on public safety, including (but not limited to) crime prevention. Nonetheless, community policing has also been justified by its hypothesized effects on crime, not the least of which has been the rationale for the 100,000 federally funded police officers.

7. Community Policing. The crime prevention effects of community policing are hypothesized to occur in four major ways.

7.a. Neighborhood Watch. This hypothesis justifies one of the most widespread community policing programs, "block watch": increasing volunteer surveillance of residential neighborhoods by residents, which should deter crime because offenders know the neighbors are watching.

7.b. Community-Based Intelligence. This hypothesis justifies the many community meetings (Sherman et al, 1973) and informal contacts police sought through storefront offices, foot patrol (Trojanowicz, 1986) and other methods: increasing the flow of intelligence from citizens to police about offenses and offenders, which then increases the probability of arrest for crime and the deterrent incapacitative effects of arrest. The increased flow of citizen intelligence can also increase police effectiveness at crime prevention through problem-solving strategies.

7.c. Public Information About Crime. This hypothesis is just the reverse of the last one: increased flow of police intelligence about crime back to citizens improves citizen ability to protect themselves, especially in light of recent changes in crime patterns and risks. The latest version of this idea is "reverse 911," under which police fax out warnings of criminal activity to a list of residential and business fax numbers requesting the service.

7.d. Police Legitimacy. Given the historical roots of community policing, perhaps the most theoretically compelling version of its crime prevention hypothesis addresses police legitimacy, or public confidence in the police as fair and equitable (Eck and Rosenbaum, 1994). Recent theoretical and basic research work in "procedural justice" (Tyler, 1990) provides a more scientifically elaborate version of this hypothesis than its proponents in the 1960s intended. The claim is not just that police must be viewed as legitimate in order to win public cooperation with law enforcement. The claim is that a legitimate police institution fosters more widespread obedience of the law itself. Gorer (1955: 296) even attributes the low levels of violent crime in England to the example of law-abiding masculinity set by 19th Century police, a role model that became incorporated into the "English character." There is even evidence that the police themselves become less likely to obey the law after they have become disillusioned with its apparent lack of procedural justice (Sherman, 1974).

8. Problem-Oriented Policing offers infinite specific hypotheses about crime prevention, all under this umbrella claim: the more accurately police can identify and minimize proximate causes of specific patterns of crime, the less crime there will be. In recent years this claim has taken two major forms:

8.a. Criminogenic Commodities. The more police can remove criminogenic substances from the micro-environments of criminal events, the fewer crimes there will be. This claim arises from the growing emphasis on the causation of criminal events as partly independent of the causation of individual criminality (Hirschi, 1986). Like the theories about preventing crime in places (Chapter 7), the premise is that many crimes require certain preconditions, such as guns or cash or moveable property (Cohen and Felson, 1979).

8.b. Converging Offenders and Victims. Another precondition of violent criminal events is that victims and offenders must intersect in time and space. A major problem-solving theory of crime prevention is to keep the more basic elements of criminal events from combining: the more police can reduce the intersection of motivated offenders in time and space with suitable targets of crime, the less crime there will be.

TESTING THE HYPOTHESES

All of these hypotheses pose formidable challenges to scientific testing. The measurement of crime is difficult under any circumstances, let alone in relation to experiments or natural variation in police practices. Control over police practices is difficult for police administrators under normal conditions, let alone under experimental protocols. Measuring the many dimensions of police activity, from effort to manners, is expensive and often inaccurate. Only a handful of studies have managed to produce strong scientific evidence about any of these hypotheses. But the accumulated evidence of the more numerous weaker studies can also provide some insights on policing for crime prevention.

As noted in chapter 1, this report employs a scale of 1 to 5 to summarize several different dimensions of scientific "rigor": the strength of scientific evidence. A score of 5 = strongest evidence for inferring cause and effect, while 1 = the weakest. These dimensions vary somewhat by institutional setting, with different issues inherent in the kinds of programs being evaluated. problems. In the police evaluation literature, crime is almost always measured by either official crime reports (with all their flaws) or by victimization surveys of the public (with all their costs). Police practices are measured either not at all, through citizen perceptions of those practices, through police records, or (in one instance) through direct observation of police patrol activity. It is not clear that any of these methods except the last is superior to any others in drawing valid inferences about the actual practices of the police. Thus the greatest difference across police evaluations lies not in their methods of measurement, but in their basic research designs: the logical structure for drawing conclusions about cause and effect.

Evaluations of police crime prevention generally follow five basic research designs, which can be ranked for overall strength of the inferences they can suggest about cause and effect. These designs are 1) correlations at the same point in time (e.g., in 1995 the cities with the most police had the most crime) 2) before-and-after differences in crime without a comparison group (e.g., doubling drunk driving arrests was followed by a 50% reduction in fatal accidents, 3) before-after differences with comparison (e.g., the 50% reduction in fatal crashes compared to a 10% increase in fatal crashes in three cities of comparable size in the same state), 4) before and after large sample comparisons of treated and untreated groups (e.g., 30 neighborhoods organized for neighborhood watch compared to 30 that were not), and 5) randomized controlled experiments (300 offenders selected by a computerized equal probability program to be arrested had higher repeat offending rates than 300 offenders selected to be given warnings only).

SCIENTIFIC EVALUATIONS

This section reviews and interprets the reported tests of each of the hypotheses. The discussion attempts to integrate both the scientific score of the various studies and the number of studies converging on the same conclusion. More detailed discussion is

offered for some of the major findings, in order to connect the evidence more clearly to the hypotheses. The main concern throughout this section is the cumulative success or failure of the studies in ruling out competing theories in the attempt to provide a conclusive test of each hypothesis.

1. Numbers of Police

As Table 1 shows, most of the studies of the effects of police numbers on crime are scientifically weak. They consist of two basic research designs. One is evidence from police strikes¹ about a sudden and drastic reduction in police numbers. The other is evidence from correlational studies of police strength and crime rates.

The police strike evidence, while weak in both measurement and design, is fairly consistent in showing the effect of this natural experiment: crime rates skyrocket instantly. The strongest design is the Makinen and Takala (1980) study of crime in Helsinki before and during a police strike. The Helsinki measures included systematic observation counts of fights in public places, as well as emergency room admissions for assault-related injuries. Both measures rose substantially during the strike despite severe winter weather. The only purportedly negative evidence on this conclusion is the Pfuhl (1983) study of police-recorded crime in 11 American police strikes, in which 89% of the "strike" period in the analysis consisted of non-strike days. Both the measure and the definition of the strike period hopelessly confound cause and effect, rendering the study irrelevant to the conclusion reached from the stronger evidence.

None of the strike findings have comparison groups, so in theory it is possible that crimes would have risen dramatically during the strike period even without the strike. The substantial magnitudes of some of the increases, however, greatly exceed typical daily variations in crime in big cities. In the Montreal police strike of 1969, for example, there were 50 times more bank robberies and 14 times more commercial burglaries than average (Clark, 1969). Thus despite the weak research design, the large effect size suggests that abolishing a police force can cause crime to increase.

Table 8-1: Numbers of Police

The more police a city employs, the less crime it will have.

Studies	Scientific Methods Score	Findings
Andenaes 1974	2	1944 No Danish Police, large robbery & larceny increase
Clark 1969	2	Police Strike, major increase in violent & property crime
Russell 1975	2	Same as preceding (Boston)
Sellwood 1978	2	Same as preceding (Liverpool)
Makinen and Takala 1980 (Helsinki)	2	Same as preceding
Pfuhl 1983	1	No crime increase during quarters with police strike
Marvell & Moody 1996	3	Higher police numbers in cities reduce most types of crime
36 study review	2	Little evidence that more police reduce crime; weak methods

Whether adding more officers to an already large police force causes crime to decrease, however, is somewhat less clear. A recent review of 36 correlational studies, most of them weak in research design, found little evidence that more police reduce crime (Marvell and Moody, 1996). The same authors, however, offer a twenty-year analysis of 56 cities of over 250,000 people each and of 49 states. Using a complex technique called the Granger test, Marvell and Moody (1996) find consistent evidence that increases in the numbers of police cause reductions in crime in the following year. This study rates a level 4 because it employs multiple comparison groups and uses appropriate controls for well-specified differences across units. While it lacks random assignment, it is the best evidence available about the effect of modest increases in police numbers. While it runs against the conclusion of the preponderance of the other studies, the difference in scientific rigor tips the preponderance of the evidence in the direction of the conclusion that police numbers alone do help to reduce crime in a big city or a state. What the causal mechanism for that effect may be or how it may be enhanced, however, is not clear.

The Marvell and Moody (1996: 632) analysis also allows a test of the hypothesis that the prevention benefits of hiring more police officers are greater in higher-crime cities than across the country in general. The analysis estimates that for each additional officer added to a police force in a big city, 24 Part I crimes are prevented annually. For each officer hired anywhere in a state, only 4 Part I crimes are prevented. States, on average, have much lower crime rates than the big cities (over 250,000 population); in 1995 the rate of Part I crimes was 8,563 per 100,000 in the big cities, compared to 5,624 per 100,000 across all police agencies. Yet the ratio of crime prevention benefit is far greater than the ratio of reported crime risks. The Marvell and Moody estimate shows that six times as much crime is prevented for each officer added in cities than added in all places on average. Why the benefit ratio exceeds the risk ratio is unknown, but one likely candidate is the greater population density in cities which lets additional police officers have greater effects on patrol visibility per resident.

2. Rapid Response to 911

One major theory about the crime prevention benefits of hiring more officers is that it reduces police response time. The research on this theory is an excellent example of how different conclusions can result from research results with very different levels of scientific strength. The initial studies of the response time hypothesis produced strong support, suggesting that shaving minutes off response time could lead to the arrest of many more offenders. The extension of this hypothesis into a strategy of policing included the development of 911 systems to speed victim contact with police radio dispatchers, and the hiring of more police nationwide in the early 1970s in order to reduce average response times and deter crime through greater certainty of arrest. Only the 1977 NIJ response time analysis in Kansas City study, and the NIJ replications in four other cities, were able to call that strategy into question, and open the door to more focused alternatives (Goldstein, 1979).

The original test of the hypothesis was based on a scientifically weak research design, a non-random sample of 265 police responses to citizen calls by the Los Angeles Police Department (Isaacs, 1967). Its results were confirmed by a later study in Seattle (Clawson and Chang, 1977): the probability of arrest per police response increased as police time in travel to the scene decreased. Two other studies (Brown, 1974; Holliday, 1974, as cited in Chaiken, 1978) failed to find that pattern, perhaps because, as Chaiken (1978: 130) observes, "the curves are essentially flat for response times larger than three minutes, and therefore a substantial amount of data for responses under three minutes is needed to observe any effect."

The Kansas City (1977) response time analysis took a far more systematic approach to the issue. Its first step was to divide crimes into victim-offender "involvement" (e.g., robbery, assault, rape) and after-the-crime "discovery" categories (e.g., burglary, car theft). It then focused response time analysis on involvement crimes, since the offender would not be present at the discovery crimes. The analysis then divided the involvement crime "response time" into three time periods: crime initiation to calling the police ("reporting time"), police receipt of call to dispatch ("dispatch time"), and "travel time" of police from receipt of dispatch to arrival at the scene. Using systematic observation methods and interviews of victims, the Kansas City study (1977, Vol. 2: 39) found that

Table 8-2: Rapid Response

The shorter the police travel time from assignment to arrival at a crime scene, the less crime there will be.

Studies	Scientific Methods Score	Findings
Isaacs 1967	1	Shorter police travel time, more arrests
Clawson and Chang 1977	1	Same as preceding
Pate et al 1976 unrelated	1	Police travel time to arrest
Kansas City (MO) Police 1977	2	Same as preceding, most crimes
Spelman and Brown 1981	2	Same as preceding

there was no correlation between response-related arrest probability and reporting time once the time exceeded 9 minutes. The average reporting time for involvement crimes is 41 minutes (K.C.P.D. 1977, Vol. 2: 23). Cutting police travel time for such crime from 5 to 2.5 minutes could require a doubling of the police force, but it would have almost no impact on the odds of making an arrest.

Police chiefs in the Police Executive Research Forum (PERF) told NIJ that they did not think citizens in their own communities would take so long to call the police. NIJ responded by commissioning PERF to replicate the citizen reporting component of the response time analysis in four other cities. Over 4,000 interviews about 3,300 "involvement" crimes produced unequivocal support for the findings of the Kansas City response time analysis (Spelman and Brown, 1981). The probability of arrest in those serious crimes was only 29 per 1,000 reports, with 75% of serious crimes being discovered by victims long after the crimes occurred. Of the 25% that directly involved the victims, almost half were reported five minutes or more after the crime was completed. The findings were consistent across cities, including one that had a 911 system and three that did not.

The conclusion that reduced response time will not reduce crime is based on strong but indirect evidence. The evidence is strong because it is based on large samples, careful measurement, and a replicated research design in five diverse cities showing little variation in arrest rates by police travel time, the main factor that tax dollars can affect. It is indirect because an experimental test of the effects of reduced police travel time on city-wide arrest and crime rates has never been conducted. Yet there is neither empirical nor theoretical justification for such an expensive test. Given the strong evidence of citizen delays in reporting involvement crimes, and the small proportion of serious crimes that feature direct victim-offender involvement, further tests of this theory seem to be a waste of tax dollars. Those dollars might be better spent on communicating the findings to the general public, which still puts great priority on police travel time for public safety (Sherman, 1995).

3. Random Patrols

Another major theory about the benefits of more police is that they can conduct more random patrols. Table 3 summarizes the evidence for the police numbers hypothesis tested at the level of uniformed patrols within cities, in non-directed or random patrol patterns. The Table shows weak evidence of no effect of moderate variations in numbers or method of patrols. The most famous test of the **random** preventive patrol hypothesis, the Kansas City Preventive Patrol Experiment (Kelling et al, 1974), reveals some of the difficulty in testing this claim. This experiment claimed to have varied the dosage of patrol presence for one year across three groups of five randomly assigned beats each, preceded and followed by extensive measures of crime from both household surveys and official records. The results of the experiment showed no statistically significant differences in

Table 8-3: Random Patrol

The more random patrol a city receives, the more a perceived "omnipresence" of the police deters crime in public places.

Studies	Scientific Methods Score	Findings
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Kelling et al 1974	3	No difference in crime by N of police cars assigned
Police Foundation 1981	3	No difference in crime by N of foot patrol assigned
Trojanowicz 1986	3	Foot patrol areas had fewer crimes than controls, but no significance tests reported.

crime across the three groups.

Many criminologists conclude from this experiment that there is no crime prevention effect of adding patrol presence in a big city, where low density of crime makes the extra patrol a mere drop in the bucket (Felson, 1994). Yet the experiment has been criticized for its failure to measure the actual differences in patrol dosage and the possible lack of them (Larson, 1975), its inadequate statistical power to detect large percentage differences in crime as not due to chance (Fienberg, et al, 1976), and its failure to assign patrol dosage at random (Farrington, 1982). Similar limitations are found in the Newark Foot Patrol Experiment (Police Foundation, 1981), where despite large victimization surveys no crime prevention effects were detected in association with adding or eliminating daytime and early evening foot patrols from selected patrol beats.

The weakness of the evidence is even greater for the one study claiming to find a crime prevention effect from random patrols not focused on crime risks (Trojanowicz, 1986). The design of this study was limited to recorded crime and calls for service, with no victimization surveys. After daytime foot patrols were added to 14 beats in Flint Michigan for three years, the official crime counts in those beats were down by 9% in the foot patrol beats and up 10% in the other beats city-wide. Large increases in burglary and robbery in the foot patrol areas were matched by reportedly greater increases in the rest of the city. No significance tests were reported, nor were there any controls for the demographic characteristics of the areas selected for foot patrol compared to the rest of the city. Since the foot patrol areas were not selected at random, it is possible that those areas might have experienced different crime trends even without the foot patrols. The fact that the increase in burglary and robbery occurred largely at night when the foot patrols were not working is perhaps the most interesting fact in the study, supporting the conclusion reached from evaluations of directed patrols focused on high crime-risk times and places.

4. Directed Patrols

The evidence from the **directed** preventive patrol hypothesis is more voluminous, scientifically stronger (in two tests), and consistently in the opposite direction from the weight of the (weak) evidence on the random patrol hypothesis. In order to be assigned to this category, the studies had to indicate that they were somehow focused on high-crime places, times or areas. In the New York City study (Press, 1971: 94), for example, the test precinct was known as a high robbery area, and had over three times as many robberies per week as each group of five areas in the Kansas City experiment. All eight of the reported tests of this hypothesis show crime reductions in response to increased patrol presence.

Table 8-4 Directed Patrol

The more precisely patrol presence is concentrated at the "hot spots" and "hot times" of criminal activity, the less crime there will be in those places and times.

Studies	Scientific Methods Score	Findings
Press 1971	3	40% more police, reductions of outdoors crime

Chaiken et al 1975; Chaiken 1978	3	Police on subways at night reduced crime
Dahman 1975	2	More police, reductions of outdoors crime
Schnelle et al 1977	2	400% more patrol, less Part I crime
Sherman and Weisburd 1995	5	100% more patrol, less observed hot spot crime
Koper 1995 longer	4	Longer patrol visits, post-visit crime-free time
Reiss 1995 Review:		
Barker et al 1993	2	Squad focused on hot spots, where street crime dropped
Burney 1990	2	Saturation patrols, reduced street crime

The crime prevention effects of extra uniformed patrol in marked police cars at high crime "peaks" are especially evident in two very different research designs imposed on one large NIJ study designed to improve upon the Kansas City Preventive Patrol Experiment. Based on the NIJ-funded research showing extreme concentrations in spatial and temporal distributions of crime, the Minneapolis Police Department (MPD) reorganized its entire patrol force in 1988-89 to test a pattern of directed patrols at hot spots during hot times. With the unanimous consent of the City Council, the MPD substantially reduced patrols from low-crime areas in order to provide 2 to 3 hours of extra patrol each day during high crime hours at 55 street corner hot spots. The corners were randomly selected for extra patrols from a carefully compiled list of 110 high crime locations that were visually separate from each other (Buerger, Petrosino and Cohn, 1995). Under a million dollar NIJ grant, both the patrolled and unpatrolled hot spots were subjected to over 7,000 randomly selected hours of observations by independent researchers over the course of a year. The observers recorded every minute of 24,813 instances of police presence in the hot spots, and 4,014 observed acts of crime and disorder (Koper, 1995: 656).

Koper's (1995) analysis of the Minneapolis Hot Spots Patrol data found a very strong relationship between the length of each police patrol presence (which averaged 14 minutes) and the amount of time the hot spot was free of crime after the police left the scene. The longer the police stayed before they left, the longer the time until the first crime (or disorderly act) after they left. This relationship held for each additional minute of police presence from one to fifteen minutes, after which the relationship began to reverse. Thus the "Koper curve" in the Minneapolis data suggests the optimum length of a police patrol visit to a hot spot for the purpose of deterring crime is about 15 minutes.

Koper's correlational analysis of all police presences observed in both the extra-patrol and no-extra-patrol hot spots combined is consistent with the results of Sherman and Weisburd's (1995) comparisons of the two groups. The experimental analysis found that there was an average of twice as much patrol presence and up to half as much crime in the extra-patrol hot spots as in the no-extra-patrol group. The observational data showed crime or disorder in 4 percent of all observed minutes in the control group compared to 2 percent in the experimental group (Sherman and Weisburd, 1995: 64). Most of the difference in the observed crime was found when police were not present in the hot spots. Crime-related calls for service increased for both groups of hot spots over the one-year experiment as well as city-wide, but the average growth per hot spot was up to three times as great in the no-extra-patrol group (17%) as in the extra patrol group (5%) (Sherman and Weisburd, 1995: 644).

These findings can be questioned, like most place-linked crime prevention effects, with the possible side effect that the crime simply moved elsewhere (but see the discussion of displacement in Chapter Seven). So, too, can a reduction of crime in one city be questioned on the grounds that offenders may have focused on other jurisdictions. The theoretical perspective of "routine activities" (Cohen and Felson, 1979; Felson, 1994), under which crimes are only likely to happen in certain places and times,

makes the displacement hypothesis less plausible. It suggests that if crime is displaced, it would have to be displaced to other hot spots. That argument is still consistent with the experimental-comparison group analysis, given the rising numbers of calls in the experimental year relative to the baseline year. But it does not explain away Koper's cross-sectional analysis of the effects of longer patrol presence on post-patrol crime rates.

5. Reactive Arrests

The evidence in support of the reactive arrest hypothesis is remarkably unencouraging at both the community and individual levels of analysis. As a matter of general deterrence, the tests are all fairly weak and generally negative. As a matter of individual deterrence, the results are consistently negative for juveniles, and contradictory for two different groups of domestic assailants, employed and unemployed. The scientific evidence for the latter is among the strongest available in the police literature, while the evidence about juveniles is much weaker. Taken as a whole, these results make a vivid demonstration of the complexity of police effects on crime.

The evidence on the **general deterrent** effects of reactive (Reiss, 1971) arrests is based on correlational analyses, with and without temporal order. There is some weak evidence that there is a threshold beyond which the effect of increased arrest rates becomes evident, while no such effect is apparent below the "tipping point" of minimum dosage level (Tittle and Rowe, 1974). This evidence is complicated by the suggestion that the arrest effects are only evident among cities of less than 10,000 people, even with the "tipping point." The finding by Greenberg and his colleagues (1979, 1982) of no arrest rate deterrent effects in a temporal sequence design in big cities throws great doubt on a simple claim of general deterrence. Here again, without focusing arrests on high risk persons or places, the effects of higher arrest levels may get lost in the many factors causing crime.

Table 8-5 Reactive Arrests

The more arrests police make in response to reported or observed offenses of any kind, the less crime there will be.

5.a. General Deterrence. The higher the arrest rate per crime for each type of crime in a city, the lower the city's rate of that type of crime.

Studies	Scientific Methods Score	Findings
Tittle and Rowe 1974	2	Cities with higher arrest rates beyond a "tipping point" have less crime, but under tip point no arrest effects
Logan 1975	2	No correlation of arrest rates and crime across cities
Brown 1978	2	Tipping effect limited to cities under 10,000 people
Greenberg et al 1979 on	2	No effect of arrest rates crime across cities
Greenberg and Kessler 1982	3	No arrest rate effect even when other factors controlled
Chamlin 1988	3	More arrests reduce robberies, not 4 property crimes
Chamlin 1991	3	No arrest rate effect for cities over 10,000

5.b. **Specific Deterrence.** Individual offenders arrested for an offense are less likely to repeat that offense in the future than offenders who are not arrested.

Table 8-5b: **Specific Deterrence**

Studies	Scientific Methods Score	Findings
Juvenile Offenses:		
Gold and Williams 1970	2	Arrested juveniles offend more post-arrest than those not arrested
Klein 1986	4	More formal arrest processing increased recidivism
Huizinga and Esbensen 1992	2	Same as preceding
Smith and Gartin 1989	2	Arrested juveniles offend less post-crime than those not arrested, if they are first offenders; others
more		
Farrington 1977	2	Arrested juveniles offend more post-arrest than those not arrested
Domestic Violence		
Sherman and Berk 1984	4	Arrest reduced recidivism 50%
Dunford et al 1990	5	Arrest had no effect on recidivism at 6 mos
Dunford 1992	5	Arrest increased offense frequency at 12 mos
Dunford 1990	5	Arrest warrant reduced absent offender recidivism 50%
Sherman et al 1991	5	Arrest had no effect on recidivism at 6 mos; short arrest increased recidivism after 12 mos
Sherman et al 1992		
(Milwaukee)	4	Arrest deters employed, criminogenic for unemployed
(Omaha)	4	Same as preceding

Berk et al 1992a	5	Arrest reduced recidivism
Berk et al 1992b	4	Arrest deters employed, not unemployed
Pate et al 1991	5	Arrest reduced recidivism
Pate and Hamilton 1992	5	Arrest deters employed, criminogenic for unemployed
Hirschel et al 1992	5	Arrest increases official recidivism
Marciniak 1994	4	Arrest deters in areas of high employment & marriage; increases recidivism in areas of low employment & marriage

The consistent **individual level** evidence of the criminogenic effects of arrests for juveniles is all longitudinal, but only one of the studies is a randomized experiment (Klein, 1986). The other studies are natural observations of the difference in self-reported offending before and after juvenile offenders were arrested. These studies cannot adequately control for the rival hypothesis that the same factors that led to the youth being arrested also caused a higher level of repeat offending. A pattern of "defiance" (Sherman, 1993), for example, would account for both variables and their correlation. The Klein (1986) experiment reported some difficulties in maintaining random assignment, but still managed to make the formal charging of juveniles in police custody a matter of equal likelihood across cases. Holding juvenile characteristics relatively constant, then, Klein found that the more legalistic the processing of a juvenile suspect, the higher the official recidivism rate.² In interpreting these results, it is necessary to recall that most juvenile offenses are for fairly minor offenses, and that most juveniles with one police contact never have another (Wolfgang, Figlio and Sellin, 1972). Thus to a certain degree, arresting some juveniles and not others for such offenses may be perceived as arbitrary or procedurally unfair.

The evidence on the effects of arrest for misdemeanor domestic violence is contradictory across cities but consistent within arrestee characteristics. While three experiments have found some evidence of deterrent effects of arrest (Sherman and Berk, 1984; Pate, Annan and Hamilton, 1991; Berk et al, 1992), three other experiments have found some evidence that arrest increases the frequency of officially detected offending (Sherman, et al, 1991; Hirschel et al, 1992; Dunford, 1992). All four of these six experiments for which the data have been analyzed separately by employment status of the offender show consistent results. Arrest increases repeat offending among unemployed suspects while reducing it among employed suspects. Marciniak (1994) has shown that this difference operates even more powerfully at the census tract level than at the individual level, with arrest backfiring irrespective of individual employment status in neighborhoods of concentrated unemployment and single parent households. There is a literature raising concerns about measurement issues in these data (Garner and Fagan, 1995; Fagan, 1996) that are not generally raised about other studies in the police literature. Yet there is no other example in the police literature of six similar randomized experiments all testing similar hypotheses with similar (though not identical) designs, and these studies feature a scientific rigor score that is twice the mean of all studies classified for this chapter. The consistency of the effects of arrest on crime for employed and unemployed offenders even extends to similarity in effect sizes.

6. Proactive Arrests

Like the evidence on focused patrol, the evidence on the focused proactive arrest hypothesis is generally supportive across a wide range of studies and research designs. While most of the studies are relatively modest in scientific strength, there are some randomized controlled experiments. With the exception of arrests targeted on drug problems, there appear to be substantial results from focusing scarce arrest resources on high risk people, places, offenses and times.

The evidence on high-risk people comes from two strong (level 4) evaluations of police units aimed at repeat offenders. The Washington, D.C. unit employed pre-arrest investigations, designed to catch offenders in the act of crime to enhance the strength of evidence. The Phoenix police unit employed post-arrest investigations, designed to enhance the evidence in the

offenders latest case based upon the length and nature of the offender's prior record. Both projects aimed at increasing the incarceration rate of the targeted offenders, and both succeeded. Just how serious or active the offenders were is an important issue in these studies, one which could illuminate future analyses of dollars invested per crime prevented.

Two weaker studies use national samples of cities to test the effects of police arrest rates for minor offenses on robbery. Both employ multivariate models to control for the effects of some of the other factors that could influence the city's robbery rate. Both find that the higher the per capita rates of traffic arrest, the lower the rates of robbery. One uncontrolled factor in these analyses is the number of pedestrian robbery opportunities. This may be much higher in cities where there is less use of automobiles, such as New York City, in which under 3% of the US population suffers 12% of the reported robberies. Since that is the only crime type for which New York is so disproportionate, and since other dense, pedestrian cities like Baltimore and Boston also have high robbery rates, there may be a spurious relationship between traffic enforcement and robbery. That is, the more cars per capita, the fewer robbery opportunities and the more traffic enforcement opportunities.

Table 8-6: Proactive Arrests.

The higher the arrest rate for high-risk offenders and offenses, the lower the rates of serious violent crime.³

8-6.a. Repeat Offenders.

Studies	Scientific Methods Score	Findings
Martin and Sherman 1986	4	Targeted offenders more likely to be arrested and incarcerated (Washington)
Abrahamse et al 1991 enhancement (Phoenix)	4	Post-arrest case increases odds of arrestees being incarcerated

Table 8-6.b. Traffic and disorderly conduct arrests

Studies	Scientific Methods Score	Findings
Wilson and Boland 1978	2	Cities with higher arrest rates have less crime
Sampson and Cohen 1988	2	Same as preceding
Weiss and McGarrell 1996	3	Increased traffic tickets, reduced robbery

Table 8-6.c. Drug market areas

Studies	Scientific Methods Score	Findings
Kleiman 1988 (Lynn)	2	Crackdown on heroin market, violence down
Kleiman 1988 (Lawrence)	2	Crackdown on heroin market, violence up
Zimmer 1990 and Kleiman 1988 (NYC)	2	Crackdown on heroin market, violence down
Sviridoff et al 1992	3	Crackdown on crack market, violence flat
Uchida et al 1992 (Birmingham)	3	Inconsistent changes in violence after arrests up
Uchida et al 1992 (Oakland)	3	Buy & bust plus door-to-door, robbery down Each strategy alone, no effect
Sherman and Rogan 1995	5	Raids of crack houses reduced crime for 12 days
Weisburd and Green 1995	4	Crackdowns on hot spots reduced disorder; no effects
		on violence or property crime
Annan and Skogan 1993	3	Drug crackdown in public housing, no effect on crime

Table 8-6.d. Drunk driving

Studies	Scientific Methods Score	Findings
Ross 1981 review: Ross 1973 (U.K.)	2	Arrests up sharply, drop in crashes decays over time
Ross 1975 (Scandinavia)	2	Same as preceding
Ross 1977 (Cheshire 1)	2	Same as preceding
Ross 1977 (Cheshire 2)	2	Same as preceding
Hurst-Wright 1980 (NZ1)	2	Same as preceding
Hurst-Wright 1980 (NZ2)	2	Same as preceding
Ross et al 1982 (France)	2	Same as preceding

Homel 1993	3	Increased state arrest rate reduced deaths over 10 years, but not in states
comparable		

Table 8-6.e. Zero Tolerance Arrests

Studies	Scientific Methods Score	Findings
Boydston 1975; Sherman 1990	3	More field interrogations, fewer outdoors crimes
Reiss 1985	3	More police regulation of conduct, fewer "soft" crimes
Pate et al 1985; Skogan 1990	3	Same as preceding
Sherman 1990	2	Disorder crackdown, no robbery reduction
Kelling and Coles 1996	2	Fare-beating, crackdown, robbery reduction in subways

That is just the kind of limitation in causal inference that experiments can address. Quasi-experimental evidence on this hypothesis was recently reported by the Hudson Institute study of the Indianapolis Police Department, in which substantial increases in traffic enforcement in a high robbery area were followed by a sharp reduction in robbery (Weiss and McGarrell, 1996).

The evidence on drug crackdowns shows no consistent reductions in violent crime during or after the crackdown is in effect. The strongest evidence is the randomized experiment in raids of crack houses (Sherman and Rogan, 1995), in which crime on the block dropped sharply after a raid. The rapid decay of the deterrent effect in only seven days, however, greatly reduces the cost-effectiveness of the labor-intensive raid strategy. Only the high yield of guns seized per officer-hour invested (Shaw, 1994) and its possible connection to community gun violence over a longer time period (Sherman, Shaw and Rogan, 1995) showed great cost-effectiveness. Other drug enforcement strategies in open-air markets have even less encouraging results, with the exception of the Jersey City experiment in which the principal outcome measure was disorder, not violence.

The evidence on drunk driving, in contrast, is one of the great success stories of world policing. Despite relatively low rigor scores, the sheer numbers of consistent results from quasi-experimental evaluations of proactive drunk driving arrest crackdowns suggest a clear cause and effect. The ability of the police to control drunk driving appears to be a direct and linear function of the amount of effort they put into it (Homel, 1990). Since more deaths are caused annually by drunk driving than by homicide, the cost effectiveness of saving lives through DUI enforcement may well be far greater than for homicide prevention. The evidence on drunk driving prevention sees far clearer than anything we know how to do to have police prevent murders.

The evidence for the **broken windows-zero tolerance arrests** hypothesis (Wilson and Kelling, 1982) is also consistently supportive. The research designs are only moderately strong, but they all suggest that a police focus on street activity can help

reduce serious crime. The specific tactics by which this is accomplished can be controversial, and some methods used in the 1982 Newark test have been described in the literature as "unconstitutional" (Skolnick and Bayley, 1985:199), including the ordering of loitering teenage males off of street corners on the grounds of obstructing traffic. Field interrogations have often been a flash point of poor police-community relations, yet they have also been a favorite crime prevention tactic for police in both the US and Europe. The evidence from both the San Diego field interrogation experiment (Boydston, 1975) and the NIJ Oakland city center study (Reiss, 1985) suggest that it is possible to regulate public behavior in a polite manner that fosters rather than hinders police legitimacy. That possibility, however, is by no means guaranteed, and generally takes substantial managerial investment in order to bring about.

The larger concern about zero tolerance is its long-term effect on people arrested for minor offenses. Even while massive arrest increases, such as those in New York City, may reduce violence in the short run--especially gun violence--they may also increase serious crime in the long run. The negative effects of an arrest record on labor market participation are substantial (Schwartz and Skolnick, 1963; Bushway, 1996). The effects of an arrest experience over a minor offense may permanently lower police legitimacy, both for the arrested person and their social network of family and friends. The criminogenic effect of arrest may make arrestees more defiant (Sherman, 1993) and more prone to anger in domestic violence and child abuse. The data suggest that zero tolerance programs should be evaluated in relation to long-term effects on those arrested, as well as short-term effects on community crime rates. Program development to foster greater legitimacy in the course of making the arrests is also advisable, based on findings from procedural justice research (see hypothesis 7.d below). This could include, for example, a program to give arrested minor offenders an opportunity to meet with a police supervisor who would explain the program to them, answer questions about why they are being arrested, and give them a chance to express their views about the program while listening respectfully to them. Such innovations would not be expensive, but would also pose many testable hypotheses.

7. Community Policing

The results of available tests of the community policing hypotheses are mixed. The evidence against the effectiveness of police organizing communities into neighborhood watches is consistent and relatively strong. The evidence about the crime prevention benefits of more information flowing from citizens to police is at best only promising. The two tests of police sending more information to citizens are both very strong, but clearly falsify the hypothesis. The tests of increasing police legitimacy are the most promising, especially since they draw on a powerful theoretical perspective that is gaining growing empirical support.

One of the most consistent findings in the literature is also the least well-known to policymakers and the public. The oldest and best-known community policing program, **Neighborhood Watch**, is ineffective at preventing crime. That conclusion is supported by moderately strong evidence, including a randomized experiment in Minneapolis that tried to organize block watch programs with and without police participation in areas that had not requested assistance (Pate et al, 1987). The primary problem found by the evaluations is that the areas with highest crime rates are the most reluctant to organize (Hope, 1995). Many people refuse to host or attend community meetings, in part because they distrust their neighbors. Middle class areas, in which trust is higher, generally have little crime to begin with, making measurable effects on crime almost impossible to achieve. The program cannot even be justified on the basis of reducing middle class fear of crime and flight from the city, since no such effects have been found. Rather, Skogan (1990) finds evidence that Neighborhood Watch increases fear of crime.

Another popular program for increasing contact between police and public is **community meetings**. The careful NIJ evaluation of the Madison, Wisconsin community policing project in which meetings played a central role found no reduction in crime (Wyckoff and Skogan, 1993). A different approach to the meetings in Chicago shows more promise, with the meetings focused much more precisely on specific crime patterns in the area and ideas for what the police should do to attack those problems. While the crime reduction evidence for "community policing, Chicago style" is mixed, it is striking that Chicago has mobilized high crime communities to participate in these meetings (Skogan, 1996). Unlike neighborhood watch meetings, the Chicago meetings are held in public places rather than local residences. The best attendance at these meetings for almost two years has been found in the police districts with the highest crime rates.

A less popular but often effective community policing practice is **door to door visits** by police to residences during the daytime. These visits may be used to seek information, such as who is carrying guns on the street (Sherman, Shaw and Rogan, 1995). The visits may be used to give out information, such as burglary reduction tips (Laycock, 1991). The visits may be used simply to introduce local police officers to local residents, to make policing more personal (Wyckoff et al, 1985). Four out of six available tests of the door to door visits show modestly strong (rigor = 3) evidence of substantial crime prevention. In the NIJ-funded Houston test, for example, the overall prevalence of household victimization dropped in the target area substantially, with no reduction in the comparison area. The prevention effects were primarily for car-breakins and other minor property crime. Here again, however, there was a substantial "Matthew effect" (see Chapter 1): the benefits of the program were highly concentrated among white middle class homeowners, with virtually no benefit for the Asian, Hispanic and African-American minorities living in rental housing in the target area (Skogan, 1990).

A far more popular program is far less effective. **Police storefronts** are often requested by communities, often staffed during business hours by a mix of sworn police, paid civilians and unpaid volunteers. The evidence from tests of substations in Houston, Newark and Birmingham

(continued after Tables)

Table 8-7: Community Policing

Increasing the quantity and quality of police-citizen contact reduces crime. Tests of this basic hypothesis omitting measurement of an intervening causal mechanism have been done:

Table 8-7.a. Neighborhood Watch

Studies	Scientific Methods Score	Findings
Lindsay and McGillis 1986	3	Burglary reduced for 18 mos
Pate et al 1987; Skogan 1990	4	No effect of block watch on crime Poorer areas had less surveillance
Rosenbaum 1986	3	Same as preceding
Bennett 1990	3	Same as preceding

Table 8-7.b. Intelligence from citizens to police.

Studies	Scientific Methods Score	Findings
Community Meetings		
Wycoff and Skogan 1993 in	3	No drop in victimization after increase in police-community meetings target district
Skogan et al 1995 in	3	After 18 monthly police-community meetings each beat in 5 districts, reductions in some crimes and victimization measures but not others
Door-to-Door Contacts		
Wycoff et al 1985; Skogan 1990	3	Door-to-door police visits; victimization dropped

Pate et al 1985; Skogan 1990	3	Door-to-door visits & storefront, crime dropped
Laycock 1991	3	Door-to-door visits, burglary down by ___%
Sherman et al 1995 drop	3	Door-to-door visits, no in crime
Uchida et al 1992	3	Visits plus Buy and Bust, crime down
Uchida et al 1992	3	Visits alone, no crime reduction
Storefronts		
Wycoff and Skogan 1986	3	Storefront open, no drop in victimization
Uchida et al 1992	3	Storefront open, no difference in crime
Pate et al 1985; Skogan 1990	3	(See above under "door-to-door")

Table 8-7.c. Increasing the flow of information from police to citizens.

Studies	Scientific Methods Score	Findings
Pate et al (Newark) recipients	5	Monthly newsletter with crime data failed to reduce victimizations of
Pate et al (Houston)	5	Same as preceding

Table 8-7.d. Legitimacy

Studies	Scientific Methods Score	Findings
Skogan 1990 (Houston)	3	Doorknock visits reduced fear of police, reduced crime
Tyler 1990	1	Definition of past police treatment as fair increases expected obedience to law

in		the future
Paternoster et al 1996	2	Definition of treatment at arrest as fair, lower recidivism in domestic violence
Skogan et al 1995	3	Perceived increased responsiveness of police to community in 4 districts, perceived reduction in serious crime in 3 of those 4

(AL) consistently shows no impact on crime. While there are some positive citizen evaluations associated with storefronts, the problems of staffing the offices once they are open may counterbalance any non-crime benefits.

Increasing the flow of information from police to public has been tested in the form of **police newsletters**. In two randomized NIJ-funded experiments, the Newark and Houston police departments found no effect of newsletters on the victimization rates of the households receiving them. The finding was true for both newsletters with and without specific data on recent crimes in the community.

The most promising approach to community policing is also the most theoretically coherent. Based on two decades of laboratory and field studies on the social psychology of "procedural justice," a growing body of research suggests that **police legitimacy** prevents crime. Tyler (1990) finds a strong correlation across a large sample of Chicago citizens between perceived legitimacy of police and willingness to obey the law. The legitimacy was measured by citizen evaluations of how police treated them in previous encounters. This finding is consistent with the Houston door-to-door experiment, in which citizen fear of police after a major scandal over police beating to death a Mexican immigrant was reduced by the door-to-door visits. Community policing Chicago style (Skogan, et al 1996) also find the greatest perceived reduction in serious crime in the districts where surveys showed police were "most responsive" to citizen concerns. The most powerful test of this hypothesis is the Paternoster et al (1996) reanalysis of the Milwaukee Domestic Violence Experiment, which found that repeat domestic violence was lowest among arrestees who thought police had treated them respectfully; a powerful effect on recidivism was associated with police simply taking the time to listen to the offender's side of the story. The capacity of police legitimacy to prevent crime is something community policing may well be effective at creating; Skogan's (1994: 176) review of six community policing evaluations (SM scores = 2 or 3) found every one showed positive or improved perceptions of police in the treated areas.

Still in progress, but with encouraging preliminary results, is the Australian test of **community accountability conferences**. The Australian Federal Police in the Australian capital, Canberra, use this procedure as an alternative to prosecuting juveniles. Only cases in which the offender(s) admit(s) guilt and the victim(s) are willing to attend the conference are eligible. The conference of offenders and victims with their respective families and friends is led by a trained police officer, who focuses the discussion on what happened, what harm it caused, and how the harm can be repaired. The officer tries to insure that everyone, especially victims, is allowed to have their say. Sometimes offenders apologize, but always an agreement for repaying the cost of the crime to the victim is reached; failure to do so results in the case being prosecuted. Preliminary findings from subsequent interviews with victims and offenders in a randomized experiment show that the procedure greatly increases respect for police and a perception of justice, regardless of the outcomes (Strang, 1996; Barnes, 1996). The National Institute of Justice has funded a similar ongoing project in Bethlehem, Pennsylvania. This method may turn out to have long-term effects on police legitimacy in the eyes of both juvenile offenders and their families, which could in turn reduce crime.

The interesting point about the Australian model of community policing, as noted in Chapter 2, is that it builds on actual community ties rather than anonymous geographic areas. Moreover, the attendees form a community of concern about the criminal act bringing them together, holding the offender accountable for over an hour to a "village-like" community rather than for a few minutes to a distant and anonymous judge. Of all the approaches to community policing yet tried, this one may have the most focused empowerment of "community" to prevent future crimes.

8. Problem-Oriented Policing

The tests of this hypothesis are generally more positive than the tests of community policing. As Moore (1992) suggests, however, this may be due to a process of selective reporting, in which failures are not included. The most basic problem with testing this very rich and complex hypothesis is that it is essentially about insight, imagination and creativity. The essence of problem-oriented policing as Goldstein (1979) defined it is science itself (Sherman and Strang, 1996): classification, prediction, and causation. Evaluations of the scientific method, paradoxically, are not readily susceptible to the scientific method--except in gross comparison to **un**scientific methods. From this perspective, problem-oriented policing embraces all of the other strategies described in this chapter, with the problem to be solved that of crime prevention.

This section reviews some evidence on police efforts to prevent crime that do not fall into the preceding seven hypotheses, and that self-consciously adopted a scientific process that involved police officers in analyzing crime patterns, imagining and creating an intervention, and testing it in the field. The two basic categories of interventions reported in the literature to date are "removing criminogenic substances" and "separating potential victims and offenders." These two categories simply reflect a convergence of police and criminological thinking about the proximate causes of criminal events. There is nothing in the basic problem-oriented policing (POP) strategy (Goldstein, 1979) that requires the use of these two approaches. Many others are possible, and may even be more effective. If POP succeeds at making scientific research and development the core technology of police work (Reiss, 1992), we may expect that its approaches to crime prevention will evolve with the evolution of knowledge about crime causation.

8.a. Criminogenic Substances. The evidence on **cash control** is weak but suggestive. As part of a multiple intervention strategy to reduce crime in an English public housing project, the coin-operated gas heaters were removed from residences. Rather than having the cash in the house as an attraction to burglars, the gas charges were switched to monthly billing. Burglary went down substantially. It is uncertain, however, whether other efforts, such as the "cocoon" neighborhood watch around recently burglarized residences, might account for the crime reduction.

The evidence on **gun carrying** is stronger. In the NIJ Kansas City Gun Experiment, police focused traffic enforcement and field interrogations on gun crime hot spots during hot times (Sherman, Shaw and Rogan, 1995). With special training in the detection of carrying concealed weapons, police focused on seizing illegally carried weapons. Gun seizures in the target area rose by 60%, and gun crimes dropped by 49%. A similar area in a different part of town showed no change in either guns seized or gun crimes. In Boston, police have used a mix of strategies to discourage gun carrying in public places among juveniles, especially gang members and probationers. Qualitative evidence from an NIJ project suggests gun carrying by the high-risk groups has been substantially reduced, while early quantitative evidence shows an elimination of juvenile gun homicide (Kennedy et al 1996).

The evidence on **alcohol** and **prostitution** is also encouraging, and was presented in Chapter Seven in the discussions of taverns, bars, traffic barriers and street closures.

In the Minneapolis RECAP (REpeat Call Address Policing) experiment, however, four police officers were unable to implement a **broad mix** of efforts to separate potential victims and offenders across a sample of 250 target addresses. The YMCA refused to limit access to its lobby during evening hours, the Public Library refused to bar intoxicated persons, public housing officials were unable to segregate young "disabled" but predatory alcoholics from elderly co-residents, and private landlords resisted efforts to evict drug dealers (Sherman, 1990; Buerger, 1994). While a randomized experimental design gave the test strong science, police inexperience at persuading property managers gave the strategy a weak technology. Given the theoretical power of the idea, further development of the methods of persuasion might be justified, and only then followed by further research.

One of the most popular practices for separating victims and offenders is evening curfews for juveniles. While such curfews give police additional powers to search for guns, they have not been used consistently in that fashion. The primary objective is to get kids, not guns, off the streets. Some cities, such as San Antonio, have reported reductions in reported crimes against juveniles. But in preliminary results of an NIJ evaluation, Adams (1996) finds no consistent crime reduction effects across cities adopting curfews. The scientific rigor of these studies is quite low given their complete absence of control groups, and there may also be difficulties in police willingness to follow curfew policies. Thus the question of the effectiveness of curfews at preventing youth violence is still quite open to further research and development.

Table 8-8: Problem-Oriented Policing

The more accurately police can identify and minimize proximate causes of specific patterns of crime, the less crime there will be.

Table 8-8.a. Reducing Gun Carrying in Public. The more police can remove guns from public places or deter people from carrying them in the micro-environments of criminal events, the fewer crimes there will be.

Studies	Scientific Methods Score	Findings
Sherman et al 1995	3	Increased gun seizures, reduced gun crimes
Kennedy et al 1996	2	Reduced gun carrying, fewer gun crimes

Table 8-8.b. Separating Potential Victims and Offenders. The more police can reduce the intersection of motivated offenders in time and space with suitable targets of crime, the less crime there will be.

Studies	Scientific Methods Score	Findings
Sherman 1990; Buerger 1994	5	Unable to get landlords to restrict offender access
Adams 1996 consistent	2	Youth curfews, no reduction in crime.

CONCLUSIONS

For all of its scientific limitations, the evidence shows substantial consistency on a number of the hypotheses, and some tentative conclusions on others. All science, of course, is provisional, with better research designs or theories revealing previously undiscovered patterns. It is no small achievement that police crime prevention research has developed to the point of having reached some conclusions to discard.

The available evidence supports two major conclusions about policing for crime prevention. One is that the effects of police on crime are complex, and often surprising. The other is that the more focused the police strategy, the more likely it is to prevent crime. The first conclusion follows from the findings that arrests can sometimes increase crime, that traffic enforcement may reduce robbery and gun crime, that the optimal deterrent effect of a police patrol may be produced by 15 minutes of presence in a hot spot, and that prevention effects generally fade over time without modification and renewal of police practices. The second conclusion follows from the likely failure to achieve crime prevention merely by adding more police or shortening response time across the board.

The substantial array of police strategies and tactics for crime prevention (Reiss, 1995) has a small but growing evaluation literature. Using the standard of at least two consistent findings from level 3 scientific methods score (well-measured, before-after studies with a comparison group) **and** a preponderance of the other evidence in support of the same conclusion, the research shows several practices to be supported by strong evidence of effectiveness, and several with strong evidence of ineffectiveness.

What works:

- o increased directed patrols in street-corner hot spots of crime

- o proactive arrests of serious repeat offenders
- o proactive drunk driving arrests
- o arrests of employed suspects for domestic assault

What doesn't:

- o neighborhood block watch
- o arrests of some juveniles for minor offenses
- o arrests of unemployed suspects for domestic assault
- o drug market arrests
- o community policing with no clear crime-risk factor focus

Several other strategies fail to meet the test of strong evidence for generalizable effectiveness, but merit much more research and development because of encouraging findings in the initial research.

What's Promising:

- o police traffic enforcement patrols against illegally carried handguns
- o community policing with community participation in priority setting
- o community policing focused on improving police legitimacy
- o zero tolerance of disorder, if legitimacy issues can be addressed
- o problem-oriented policing generally
- o adding extra police to cities, regardless of assignments
- o warrants for arrest of suspect absent when police respond to domestic violence

What is notably absent from these findings, however, are many topics of great concern to police. Gang prevention, for example, is a matter about which we could not find a single impact evaluation of police practices. Police curfews and truancy programs lack rigorous tests. Police recreation activities with juveniles, such as Police Athletic Leagues, also remain unevaluated. Automated identification systems, in-car computer terminals, and a host of other new technologies costing billions of dollars remain unevaluated for their impact on crime prevention. There is clearly a great deal of room for further testing of hypotheses not listed here due to the absence of available scientific evidence.

These conclusions suggest important implications for both DOJ crime prevention funding of police agencies, and improving that effectiveness through stronger evaluations.

The Effectiveness of DOJ Programs

Local police agencies receive crime prevention funding from a wide range of DOJ programs (see Chapter One). The evidence cited in this chapter indicates that most of the funding supports programs shown to be effective. There is also evidence that Congress could increase the effectiveness of the funding with modifications to several formula grant allocation criteria. The two largest components (multijurisdictional task forces and police equipment) of the two largest OJP programs (estimated \$361 million total in FY 1996 funding) are of unknown effectiveness, suggesting a high priority for evaluation research. Also of unknown effectiveness are the Violence Against Women grants for police. Byrne grants in the drug enforcement purpose area supporting unfocused proactive arrest programs in drug market areas appear from the available evidence to be ineffective at

preventing crime.

How Police Funds Are Allocated. The largest single funding source is the Office of Community-Oriented Policing Services (COPS), which distributes funding for the 100,000 planned extra police officers irrespective of crime rate and partially on the basis of population served by each police agency; the major constraint is that half of all funds must go evenly to police agencies serving over 150,000 people. Other DOJ funds for police are distributed through the Office of Justice Programs (OJP) and its constituent offices.

Figure 8-2

Federal Funding Programs for Local Police

DOJ Office and Program	Purpose Areas	Total Funding (in bold)
COPS Office	Cops on the beat	\$1.4 Billion
Office of Justice Programs		
Bureau of Justice Assistance	Law Enforcement Equipment	\$171 million
	Law Enforcement Hiring	65 million
Local Law Enforcement Block Grants	Law Enforcement Overtime	51 million
	Total	\$287 million
Bureau of Justice Assistance	Multijurisdictional Task Forces	\$190 million
Byrne Memorial Grants ⁴	against drugs	26 million
	Urban Enforcement vs. drugs	
	Law Enforcement Effectiveness	15 million
	Organized Crime	3 million
	Total	\$234 million
Violence Against Women Grant Office		
Encourage Arrests Program	Total	\$46 Million
Violence Against Women Grant Office	Law Enforcement	
STOP Block Grants	Total	\$30 Million
OJJDP Community Policing for Juveniles	Total	\$16 million
Other Programs, amounts n.a.: Weed and Seed, OJJDP Serious Chronic Violent and Anti-Gang, BJA Comprehensive Communities Program, others		
Total of Major Funding Programs		\$2.013 Billion

Because each OJP grant award may be allocated among a variety of local agencies including police, there is no exact count of how much federal funding goes to police agencies. Purpose areas within the major funding programs, however, provide a good approximation (See Figure 8-1). While simply summing the purpose area allocations may overestimate police agency funding as distinct from other "enforcement" agencies, such as prosecutors, the difference is probably more than made up by other programs for which we have no precise estimates.

The largest OJP source of local police funding is apparently the Local Law Enforcement Block Grants Program, which distributes formula grants to units of local government on the basis of both state and local Part I violent crimes for the preceding three years; 71 percent of the \$405 million (\$287 million) in 1996 formula funds were allocated to Purpose Areas specifically directed to law enforcement, and more may have been awarded through other purpose areas. At similar levels of funding are the \$475 million in 1996 formula funds provided as Byrne Grants on the basis of population, of which 50% (\$237 million at 1996 funding levels) were allocated to Purpose areas specifically directed to law enforcement in 1989-94 (Dunworth, et al, 1997). The Violence Against Women Act includes two major funding mechanisms for local policing, the \$120 STOP Violence Against Women Formula Grants (of which 25%, or \$30 million in FY 1996, must be allocated to improving law enforcement) and the competitive Grants To Encourage Arrest Policies (\$46 million in 1996). There are also funds for community policing components appropriated through Weed and Seed, BJA's Comprehensive Communities Program (CCP), and these OJJDP Programs: Kids and Guns, the Comprehensive Community-Wide Gang Prevention, Intervention and Suppression Program, the Comprehensive Strategy for Serious, Violent and Chronic Offenders, and Juvenile and Child-Centered Community-Oriented Policing. Many other smaller funding programs support local police crime prevention programs. The current estimated total is in excess of \$2 billion per year.

Implications of Available Science. The DOJ funding programs support a wide range of local police activity. Some types of police activity DOJ supports have no impact evaluations, while others can be evaluated directly or indirectly with the evidence reviewed in this chapter. Much of the funding simply supports additional police presence regardless of the activities police undertake. Given the promising evidence on the effectiveness of simply adding police officers to police agencies, the scientific review suggests that these funding programs may be effective. It also suggests, however, that the funding programs could be even more effective if the statutory formula were changed.

In general, the evidence suggests that **federal appropriations to prevent crime through additional policing is most effective when allocated on the basis of serious crime rather than on the basis of population size.** This implication is drawn from several scientific conclusions. One is the "promising" finding that across all large cities, more police produced less serious crime. A second is the finding that **each additional police officer assigned to a big city prevents six times as many serious crimes each year as an officer assigned nationally by population** (Marvell and Moody, 1996). A third conclusion is the finding that directed patrol in crime hot spots "works" to prevent crime in those hot spots, the greatest micro-level concentrations of crime. A fourth conclusion is the "promising" finding that police can reduce gun crime by intensified enforcement of the laws against carrying concealed weapons. This finding suggests that federally funded police work in hot spots of gun crime could have a substantial impact on the national homicide rate, just as police may have done in New York City (Repetto, 1996). Taken together, these findings suggest that the Congress could consider revising the statutory allocation formula based not only on city-level violent crime, but beat-level and block level crime as well. Such a revision would be more effective in directing federal funds as precisely as possible for maximum crime prevention.

Refining a Crime-Based Grant Formula. If the Congress did decide to move towards more crime-based grant formulas for allocating police funding, it would be worth considering more precise criteria. The LLEBG formula based on total Part I violent crimes is problematic for several reasons. One is that police agencies vary in how they report the largest single category of Part I violence, aggravated assault. The boundary between aggravated and simple assaults is marked very differently in different cities. In Milwaukee in the early 1990s, for example, when someone pointed a gun at another person and threatens to shoot, the offense is classified as an aggravated assault. In many other police agencies, that conduct might not even result in an offense report being taken, or at most a simple assault report would be filed; this merely reflects different local traditions in defining "attacks" and "attempts" (the latter of which the FBI asks police to count as completed crimes) for Uniform Crime Reporting Purposes. Differences in aggravated assault rates thus do not reflect the level of serious violence as reliably as differences in homicide rates. But aggravated assault counts clearly determine the allocation of LLEBG money; they constituted sixty-one percent of all Part I violence in 1995, while homicides constituted only one percent.

Taking aggravated assaults out of a crime-based formula raises other issues. Homicide alone is a more consistently reported but more unstable indicator, vary widely in many cities from year to year, which would create instability in funding levels if used to allocate funding. Robberies are much more numerous, and more consistently reported than aggravated assault and rape. On balance, the Congress may find a combination of robbery and homicide counts to be the most reliable indicator of the greatest need for supplementary police presence. The same is true for possible statutory requirements on how federal funds should be spent on policing within cities, with hot spots of robbery and homicide receiving top priority. The concentrations of those crimes

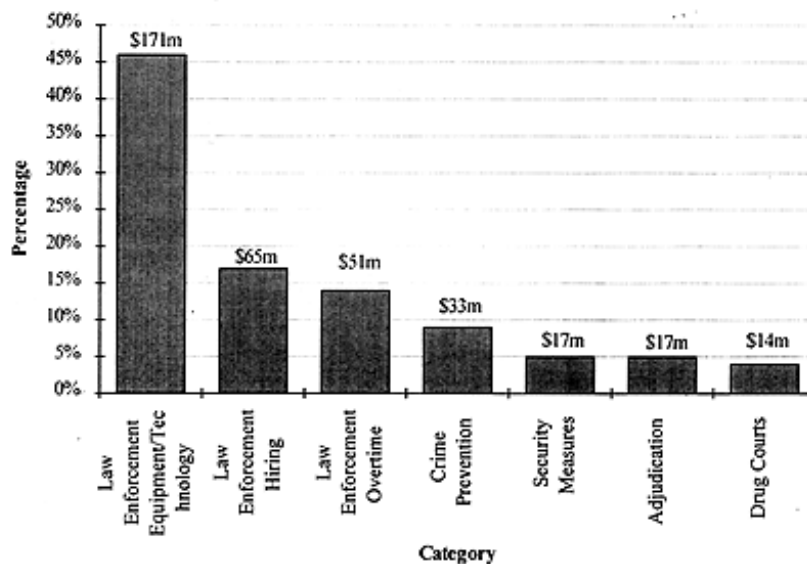
in the "hot times" of 7 pm to 3 am is a further element a refined crime-based formula for allocating police funding could consider.

COPS Program. The procedure for distributing COPS funds by jurisdiction is the major implication of the scientific review for the COPS Program. Another important issue, however, is the purposes for which COPS officers are funded. While there is promising evidence that any increase in police officers is helpful, there is even stronger evidence of crime prevention effects of specific activities. While COPS Program language has stressed a community policing approach, there is no evidence that community policing *per se* reduces crime without a clear focus on a crime risk factor objective. There is strong evidence, however, that directed patrols and programs targeted on criminogenic substances like guns and alcohol can be effective in attacking crime hot spots. The evidence on crime prevention in places reviewed in Chapter Seven also finds promising support for problem-oriented policing, which could be another more tightly defined purpose area for supplementary police. Thus while the scientific evidence indicates the COPS program is effective, it also suggests it could be more effective if its funding was more focused upon police programs of proven effectiveness.

Local Law Enforcement Block Grants (LLEBG). The scientific evidence also suggests that most of the wide range of police activities supported by the LLEBG program are effective in preventing crime. The major exception is for law enforcement equipment and technology, which received 60 percent of 1996 appropriations directed to specifically to police (see bar graphs). As noted above, there are no published impact evaluations of the effects of equipment and technology on crime. Thus the effectiveness of this funding is unknown. Impact evaluations of this activity are certainly feasible, and could result in substantial improvements in the uses of such technologies as firearms identification, automated fingerprint identification systems, and in-car computer search capacity for stolen cars and arrest warrants. While the common sense value of such systems may appear substantial, the prior history of other equipment items suggests that there is much to be learned from careful analysis of its ultimate effects upon crime, and not just intermediate indicators like arrests.

The Congress could also consider refining the crime-based formula for LLEBG as described above, especially for the usage of police overtime. Many police agencies are now using such overtime to mount directed patrols of the kind found effective in this Chapter. The statutory plan could better insure that overtime is used in the most effective ways possible by incorporating the "hot times, hot spots" criteria, or other programs of proven effectiveness, for overtime work. It could offer additional special purpose areas, such as repeat offender units, which have also been found effective in apprehending and incarcerating serious violent felons.

Local Law Enforcement Block Grant Program
Funding, 1996 through 1997



Byrne Grants. The many uses of Byrne grants almost certainly include the programs of proven effectiveness identified in this Chapter. The most heavily funded Purpose Area, however, is of unknown effectiveness. Multijurisdictional Task Forces against drugs received 40 percent of Byrne Formula funding in the years 1989-94 (Dunworth, et al, 1997), but they have never been subjected to a published impact evaluation. To the extent that the Byrne Program was intended to apprehend drug dealers, it may be inappropriate to consider these task forces a prevention program. It does not seem inappropriate, however, to specify measurable goals for the program, and to design an impact evaluation to test the effectiveness of the Task Forces in accomplishing those goals.

A Purpose area for Byrne Grants in which evaluation research indicates ineffective use of funding is "urban enforcement" against drugs, estimated at \$26 million in FY 1996. To the extent that these grants support street-level drug enforcement with an emphasis on arrests or drug raids, the money is unlikely to prevent crime. The conclusions of multiple evaluations show that such practices do not reduce violent crime or disorder in the absence of constant police presence, and sometimes not even then.

New purpose areas under the Byrne Grants include both drunk driving and gang enforcement and prevention. The scientific evidence strongly supports the use of Byrne grants for drunk driving enforcement as likely to prevent many deaths and serious injuries. It may also have the prevention effect of reducing gun crime, since so many illegally carried guns and gun criminals wanted on warrants can be removed from the streets through traffic enforcement. There is also a preponderance of available evidence that traffic enforcement that can help reduce robbery. There are no impact evaluations available on the effectiveness of police strategies against gangs.

STOP Violence Against Women Block Grants. A review of the detailed listing of FY 1995 STOP grants for law enforcement shows that they generally supported activities of unknown effectiveness. Programs such as training police about domestic violence, hiring domestic violence specialists in police agencies, and computer software for domestic violence records all appear to be useful at face value, but have not been subject to published evaluations. While the individual grant awards are small, there are many in the same program categories. An evaluation program addressing the effectiveness of the major funding categories could enhance the currently unknown effectiveness of most of these grants.

Grants to Encourage Arrest Policies. These grants apparently support similar activities as the STOP grants, although with a more narrow focus on domestic violence against women. To the extent that these grants result in more arrests in areas of high employment, the scientific evidence suggests they will be effective in reducing domestic violence against women. There is also strong scientific evidence, however, that under certain conditions arrests substantially increase future domestic violence against women. This research raises a critical need for further rigorous research, development and program evaluation, which would attempt to discover means to overcome the apparent criminogenic effects of arrest on certain batterers. This research program, much of which has already been suggested by a National Academy of Sciences panel report (Crowell and Burgess, 1996), could test combinations of arrest with greater use of supplementary measures such as battered women's shelters, detoxification centers for batterers, prosecution, counseling, and other strategies.

Juvenile Crime. Substantial federal funds are spent on policing juvenile crime, for which scientific evidence also shows that policing can increase crime under certain conditions. The effectiveness or harm resulting from federal support of juvenile policing cannot be determined from the present review, since the kinds of activities and kinds of offenders are too diverse. The available evidence, however, suggests that there is a substantial need for randomized controlled tests of federally funded juvenile policing strategies, in order to provide the greatest possible certainty that these programs at least do no harm. Federal support of juvenile curfew enforcement is of unknown effectiveness (and quantity), but the apparent growth of the idea suggests a need for rigorous program evaluation beyond the current NIJ-funded survey.

Other Programs. Federal support of policing in high-crime Weed and Seed target areas is strongly supported by the scientific evidence, as described above. Federal support of policing in the Comprehensive Communities Program is also supported by the evidence that extra police prevent crime more effectively in big cities.

Improving Effectiveness Through Stronger Evaluations

This analysis of how DOJ funding effectiveness shows many critical knowledge gaps. While the scientific evidence does suggest that the majority of DOJ funding for police is indeed effective at preventing crime, there is no evidence available on a large percentage of the other funding. A conservative estimate is that we lack even indirect scientific evidence on the effectiveness of some \$500 million in Congressionally directed federal funding for local police in 1996. The record also suggests that evaluation results could help to revise and channel these funds in ways that would prevent crime more effectively. Moreover, the past two decades have seen police become much more sensitive to the significance of crime prevention evaluation results, and actively put them to good use (Blumstein and Petersilia, 1995).

Evaluation needs for each specific funding program have been noted above as appropriate. A basic statutory plan for accomplishing these evaluations more effectively is offered in Chapter Ten. The remainder of this chapter summarizes the evaluation needs of the current DOJ funding, and then addresses the highest priority areas for police effectiveness research implied by this review of the available evidence.

LLEBG Police Equipment and Technology. Historically, DOJ support of police technologies has focused on the engineering issues in accomplishing technological goals, rather than the human factors in using technology effectively. A major Congressional investment in human factors evaluations could provide the Congress with far better guidance on the effectiveness of its substantial appropriations in this area.

A prime example is NIJ's support of lighter-weight bullet-proof vests, which has apparently saved hundreds of police officers' lives. Even more lives might be saved, however, if evaluation research examined police officer compliance in wearing the vests, factors affecting that compliance, and strategies for increasing the compliance. Similar questions can be answered for the role of automated fingerprint identification systems (AFIS). The percentages of cases in which fingerprints are respectively sought, detected, submitted to an AFIS, resulting in a suspect's identification, leading to an arrest, conviction and incarceration can all be evaluated in a variety of police agencies. The results could encourage greater use of AFIS, if warranted, or if not, a redirection of federal funding into police expenditures that may be more cost-effective in preventing crime.

Another major example is police use of in-car computer terminals. In theory, this equipment can help patrol officers make far more productive use of the time they spend patrolling hot spots, or otherwise awaiting the next dispatch to a call for service. Whether the officers will actually use the terminals to look for stolen cars or check suspicious persons, however, is a key question for an equipment program evaluation. The National Institute of Justice can help design controlled tests (Scientific Methods Score = 5) randomly assigning new in-car computer systems to some officers but not others, with observations of how the officers spend their patrol time both before and after the new equipment is installed. This in turn could inform analyses of the number of arrests made per patrol hour, the number of guns seized, stolen cars recovered, and so on. Similar experiments could be done at the patrol beat level over longer periods of time, testing the hypothesis that beats patrolled by computer-equipped cars will have less crime than beats patrolled without them. If these hypotheses cannot be supported by rigorous scientific testing, additional research could identify the reasons the technology does not prevent crime as expected and possible ways to solve those problems.

Other possible examples of technology evaluations are limited only by the diverse array of police equipment already on the market and currently in development, from hand-held gun detectors revealing weapons concealed under clothing to electrical devices for police to shut off the ignition of pursued vehicles. A Congressional plan setting aside ten percent of program funding for controlled testing, and another ten percent for research costs, would allow evaluations to identify police technology and equipment of proven effectiveness.

Byrne Grant Multijurisdictional Task Forces Against Drugs. This program may be defined as serving purposes other than crime prevention. Other goals might be measured in amounts of drugs seized or the number of mid-level drug dealers arrested and incarcerated. Testing the effectiveness of these programs in accomplishing the goals might be done through random assignment of a large sample of cases to single jurisdiction versus task force investigation. Alternatively, before-and-after comparisons of drug abuse problems could be made in metropolitan statistical areas where the task forces operate, with further comparisons to areas not creating these task forces. Comparisons might also be made across task forces of different sizes. Basic productivity indicators could also be computed and compared across all Byrne-funded task forces, with an analysis of the reasons for variation in productivity. Further funding might then be conditional upon achieving specific productivity levels. Task force leadership might collaborate with NIJ researchers in framing a set of questions to be answered by such an evaluation, and agree upon scientifically and operationally appropriate means of designing an evaluation of this \$190 million annual program.

Violence Against Women Grants. Both the STOP and Encourage Arrest grants have two critical areas in which program evaluation can help. One is discovering programs of proven effectiveness in preventing almost every kind of crime against women. The other is identifying the most effective means of delivering a wide array of support services, from police training to data banks. Both tasks are hindered by the fact that many of the grants awarded under these funding programs are under \$20,000, and are too small in scope to warrant separate evaluations. This issue, which also applies to the Byrne Grants and is addressed in Chapter Ten, is one that a Congressional plan for evaluation can resolve. It is arguably inefficient for each grantee to confront similar issues separately, such as classroom instructional materials for police training. A national evaluation program to identify Violence Against Women programs of proven effectiveness would provide much better guidance for how to focus the thousands of small grants scheduled to be awarded by these programs in future years.

The methods of testing program effectiveness in crime prevention are discussed generally in Chapter Four. The most important police research issues concern the prediction and prevention of serious domestic violence, for which no scientifically validated risk assessment tools are currently available (Sherman and Strang, 1996). The effectiveness of police-monitored personal radio alarm necklaces for women given court orders of protection is a high priority for a randomized controlled trial. So is a comparison of the crime prevention effectiveness of misdemeanor domestic assault arrests with and without prosecution, which could indicate a need for Congressional earmarking of funding for the specific purpose of prosecution of such cases. Issuance of arrest warrants for absent misdemeanor assault offenders is a promising practice (Dunford, 1990) that needs replication. Various police responses to non-violent domestic disputes (which are more numerous than violent ones) can be compared and tested for their effectiveness in preventing subsequent violence.

Program effectiveness at accomplishing goals other than crime prevention can also benefit from evaluations. Improved gender equality and victim services in police actions can also be measured scientifically as program outcomes. Regardless of the effectiveness of mandatory arrest, for example, the literature reveals substantial difficulty in obtaining patrol officer compliance with arrest policies for misdemeanor assaults--of which the majority require no medical treatment and one-third have no visible signs of injury. The tendency of officers to trivialize these crimes, to respond slowly to domestic calls, and to refuse to make arrests are all behaviors that DOJ-funded training and technical assistance programs may seek to change. Whatever methods are used to pursue those goals, randomized controlled tests can reveal which methods are most effective. Followup observations of police treatment of women victims in the field would be a critically important--although expensive--component of evaluating training programs. Absent such careful scrutiny by a "big science" national evaluation effort, however, the effectiveness of programs for changing police behavior will remain unknown. Here again, a Congressional plan for developing programs of proven effectiveness could make a major difference.

Getting Guns Off the Streets--With Legitimacy. One major hypothesis about the declining homicide rate in the US is that police have become more effective at deterring illegal gun carrying in public places (Moore, 1980; Wilson, 1994). Further testing of the gun carrying hypothesis seems to warrant the highest priority for federal research, given the clear connection of guns to serious juvenile and gang violence. At the same time, the issue of police legitimacy and perceived harassment of young black males is a crucial aspect of gun enforcement. A research agenda developing both police effectiveness at detecting illegal guns, while enhancing police legitimacy in the eyes of all citizens including offenders, could address both issues simultaneously. On these issues, research could help reduce both homicides and riots, and increase general compliance with the law through greater respect for the moral authority of police.

Patrol Location and Timing Strategies. Since gun violence is heavily concentrated in less than 100 of the 10,000 police agencies reporting to the FBI, research is also needed on more general approaches to directed patrols in hot spots and hot times. One example is the apparently mundane is of police schedules, which may be vital to crime prevention. Police chiefs face enormous resistance from police unions in changing work assignments and schedules to concentrate police in high crime areas between 7 pm and 3 am, with the most officers assigned on weekends. Many must use overtime pay to even move in that direction. If experiments comparing crime-focused staffing patterns with conventional procedures found a reduction in crime, that could support police chiefs trying to make better use of taxpayer dollars.

Juvenile Shaming and Restorative Justice. Every police agency must deal with juvenile offenders. The Australian community accountability conferences can be tested in police agencies large and small. Given the negative findings about the effects of arrest on juvenile offending, there is much to be gained and perhaps little to lose by developing alternatives to arrest. The growing concern over serious juvenile violence, especially gun offenses in big cities, should not distort the truth that most juveniles are still arrested for shoplifting and other minor offenses. A program for first-offenders that works better to nip criminal careers in the bud may well prevent more serious property crime, such as auto theft, and violent crime. It may also increase police legitimacy in the eyes of the participating adults, far more effectively than conventional approaches to community policing.

Multi-Agency Experiments. The proposed Congressional restructuring of evaluations in Chapter Ten would make possible a major breakthrough in police research: comparing strategies across large sample of police departments. Random assignment of enhanced federal funding for specific strategies to half of the hundred largest cities could go a long way towards learning what works of agency-wide policies. A prime example is traffic enforcement. Proactive police arrests for drunk driving are generally sporadic (Ross, 1994), in part because there is no direct evidence that traffic deaths will rise if drunk driving arrests decline. Moreover, the evidence that traffic enforcement reduces robbery is suggestive but not conclusive. Taken together, the twin objectives of reducing traffic deaths and robberies would justify investment in a 100-agency randomized experiment in traffic enforcement. An experiment in which 50 police agencies selected at random from 100 volunteering agencies received substantial federal funding for greatly increased traffic enforcement--by 300 or 400%-- would be an ideal test of the hypothesis now weakly supported by merely correlational studies.

Another approach would go right to the core of the 1994 Crime Act--the 100,000 police. An experiment in which 20% more officers (over current levels including COPS grants) were randomly funded in half of a sample of police agencies would provide a far more definitive test of the crime prevention effectiveness of the \$1.4 billion annual expenditure. The popular support for this program may render the question moot for the moment, but the question remains of just how effective the program is. Experiments using this design could also test other theories, such as problem-solving or community policing uses of extra officers.

Evaluation Funding Priorities. Over half of all DOJ funding for local crime prevention is directed to the police. The same cannot be said, however, for the allocation of program evaluation funding. The Congress has not addressed the question of evaluation funding priorities with the same clarity as it has identified program funding priorities. This is one more reason for the Congress to consider the restructuring of DOJ crime prevention evaluations as discussed in Chapter Ten.

NOTES

¹And in one case, the arrest of the entire Copenhagen police force by the Nazis in 1944, which was equivalent to a strike because the occupying German army did nothing to enforce civilian criminal laws before or after arresting the police (Andenaes, 1974).

²There was no difference in the self-reported offending data, but only 60% of the offenders gave followup interviews.

³Given the potential for vehicular homicide attached to drunk driving, that offense is included here in the definition of violent crime. It would not, however, be classified that way for most other purposes.

⁴These amounts are extrapolated from the Dunworth, et al (1997) analysis of the award of grants in 1989-94, proportionately applied to the FY 1996 allocation of \$475 million.

REFERENCES

Abrahamse, Allan F., Patricia A. Ebener, Peter W. Greenwood, Nora Fitzgerald, and Thomas E. Kosin

1991 An Experimental Evaluation of the Phoenix Repeat Offender Program. *Justice Quarterly* 8:141-168.

Adams, Kenneth

1996 Paper Presented to the National Evaluation Conference, National Institute of Justice, Washington, D.C.

Annan, Sampson and Wesley Skogan

1993 Drug Enforcement in Public Housing: Signs of Success in Denver. Washington, DC: Police Foundation.

Andenaes, Johannes

1974 Punishment and Deterrence. Ann Arbor, MI: University of Michigan Press.

Barker, M., Geraghty, J., Webb, B. & Key, T.

1993 The Prevention of Street Robbery. Police Research Group Crime Prevention Series Paper No. 44. London: Police Department, Home Office.

Barnes, Geoffrey C.

1996 Paper presented to the American Society of Criminology, Chicago.

Bennett, Trevor

1990 Evaluating Neighborhood Watch. Basingstoke: Gower.

Berk, Richard A., Alec Campbell, Ruth Klap, and Bruce Western

1992a A Bayesian Analysis of the Colorado Spouse Abuse Experiment. *Journal of Criminal Law and Criminology* 83: 170-200.

1992b The Deterrent Effect of Arrest in Incidents of Domestic Violence: A Bayesian Analysis of Four Field Experiments. *American Sociological Review* 57: 698-708.

Black Donald

1980 *The Manners and Customs of the Police*. NY: Academic Press.

Boydston, John

1975 *The San Diego Field Interrogation Experiment*. Washington, DC: Police Foundation.

Brown, W.

1974 *Evaluation of Police Patrol Operations*. Unpublished M.A. Thesis, University of Ottawa.

Brown, Don W.

1978 Arrests and Crime Rates: When Does a Tipping Effect Occur?. *Social Forces* 57: 671-82.

Buerger, Michael E. (ed)

1994 *The Crime Prevention Casebook: Securing High Crime Locations*. Washington, DC: Crime Control Institute.

Buerger, Michael E., Anthony Petrosino and Ellen G. Cohn

1995 In John Eck and David Weisburd, eds. *Crime and Place*. Monsey, N.Y.: Criminal Justice Press and Police Executive Research Forum.

Burney, E.

1990 *Putting Street Crime in Its Place: A Report to the Community/Police Consultative Group for Lambeth*. London: Goldsmith's College.

Bushway, Shawn

1996 *The Impact of a Criminal History Record on Access to Legitimate Employment*. PhD Dissertation, H. John Heinz School of Public Policy and Management, Carnegie Mellon University.

Chaiken, Jan M.

1978 What Is Known About Deterrent Effects of Police Activities. In James A. Cramer, ed., *Preventing Crime*. Beverly Hills, CA: Sage Publications.

Chaiken, Jan M., M. Lawless and K. Stevenson

1975 *The Impact of Police Activity on Crime: Robberies on the New York City Subway System*. *Urban Analysis* 3: 173-205.

Chamlin, Mitchell

1988 Crimes and Arrest: An Autoregressive Integrated Moving Average (ARIMA) Approach. *Journal of Quantitative Criminology*.

1991 A Longitudinal Analysis of the Arrest-Crime Relationship: A Further Examination of the Tipping Effect. *Justice Quarterly* 8: 187-199.

Clark, Gerald

1969 What Happens When the Police Go On Strike. *New York Times Magazine*, Nov. 16, sec. 6, pp.45, 176-85, 187, 194-95.

Clawson, C. and S.K. Chang

1977 The Relationship of Response Delays and Arrest Rates. *Journal of Police Science and Administration*. 5: 53-68.

Cohen, Lawrence and Marcus Felson

1979 Social Change and Crime Rate Trends: A Routine Activities Approach. *American Sociological Review* 44: 588-607.

Crowell, Nancy A. and Ann W. Burgess

1996 Understanding Violence Against Women. Washington, DC: National Academy of Sciences.

Dahmann, J.S.

1975 Examination of Police Patrol Effectiveness. McLean Va.: Mitre Corporation.

Dunford, Franklyn W.

1990 System-Initiated Warrants for Suspects of Misdemeanor Domestic Assault: A Pilot Study. *Justice Quarterly* 7: 631-653.

1992 The Measurement of Recidivism in Cases of Spouse Assault. *Journal of Criminal Law and Criminology* 83: 120-136.

Dunford, Franklyn W., David Huizinga, and Delbert S. Elliott

1990 The Role of Arrest in Domestic Assault: The Omaha Police Experiment. *Criminology* 28: 183-206.

Dunworth, Terence, Peter Haynes, and Aaron J. Saiger

1997 National Assessment of the Byrne Formula Grant Program. National Institute of Justice Research in Brief. Washington, DC: US Department of Justice.

Eck, John E. and William Spelman

1987 Problem Solving: Problem-Oriented Policing in Newport News. Washington, DC: Police Executive Research Forum.

Eck, John E. and Dennis Rosenbaum

1994 The New Police Order: Effectiveness, Equity and Efficiency in Community Policing. In Dennis Rosenbaum, Ed., *The Challenge of Community Policing: Testing the Promises*. Thousand Oaks: Sage.

Epperlein, T.

1985 The Use of Sobriety Checkpoints as a Deterrent: An Impact Assessment. Phoenix: Arizona Department of Public Safety.

Fagan, Jeffrey

1996 *The Criminalization of Domestic Violence: Promises and Limits*. Research Report. Washington, DC: National Institute of Justice.

Farrington, David P.

1977 *The Effects of Public Labeling*. *British Journal of Criminology* 17: 112-25.

1982 *Randomized Experiments on Crime and Justice*. In Michael Tonry and Norval Morris, Eds., *Crime and Justice: An Annual Review of Research*. Chicago: University of Chicago Press.

Felson, Marcus

1994 *Crime and Everyday Life*. Thousand Oaks, CA: Pine Forge Press.

Fienberg, Stephen E., Kinley Larntz, and Albert J. Reiss, Jr.

1976 *Redesigning the Kansas City Preventive Patrol Experiment*. *Evaluation* 3: 124-131.

Garner, Joel, Jeffrey Fagan and Christopher D. Maxwell

1995 *Published Findings From the NIJ Spouse Assault Replication Program: A Critical Review*. *Journal of Quantitative Criminology* 8: 1-29.

Gibbs, Jack

1975 *Crime, Punishment and Deterrence*. New York: Elsevier.

Gold, Martin and Jay Williams

1970 *National Study of the Aftermath of Apprehension*. *Prospectus* 3: 3-12.

Goldstein, Herman

1979 *Improving Policing: A Problem-Oriented Approach*. *Crime and Delinquency* 25: 236-258.

Gorer, Geoffrey

1955 *Exploring English Character*. London: Cresset. Gorer, Geoffrey

Greenberg, David F., Ronald C. Kessler, and Charles H. Logan

1979 *A Panel Model of Crime Rates and Arrest Rates*. *American Sociological Review* 44: 843-50.

Greenberg, David and Ronald C. Kessler

1982 *The Effects of Arrests on Crime: A Multivariate Panel Analysis*. *Social Forces* 60: 771-90.

Gurr, Ted Robert, Peter N. Grabosky, and Richard C. Hula

1977 *The Politics of Crime and Conflict: A Comparative History of Four Cities*. Beverly Hills, CA: Sage.

Hayes, Gary

1979 *Personal Communication*

Hirschi, Travis

1986 On The Compatibility of Rational Choice and Social Control Theories of Crime. In Derek B. Cornish and Ronald V. Clarke, Eds., *The Reasoning Criminal*. NY: Springer-Verlag.

Hirschel, David, Ira W. Hutchison III, Charles W. Dean, Joseph J. Kelley, and Carolyn E. Pesackis

1990 Charlotte Spouse Assault Replication Project: Final Report. Charlotte, NC: University of North Carolina at Charlotte.

Holliday, L.P.

1974 A Methodology For Radio Car Planning. Unpublished Ms., New York City RAND Institute.

Homel, Ross

1990 Random Breath Testing and Random Stopping Programs in Australia. In R.J. Wilson and R. Mann, Eds., *Drinking and Driving: Advances in Research and Prevention*. NY: Guilford Press.

Homel, Ross

1993 Reference supplied upon request

Hope, Tim

1995 Community Crime Prevention. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society*. Crime and Justice, Vol. 19. Chicago: University of Chicago Press.

Huizinga, David and Finn Esbensen

1992 School Safety 15: 15-17.

Hurst, P. and P. Wright

1980 Deterrence at Last: The Ministry of Transport's Alcohol Blitzes. Paper Presented to the Eighth International Conference on Alcohol, Drugs and Traffic Safety, Stockholm.

Isaacs, H.

1967 A Study of Communications, Crimes and Arrests in A Metropolitan Police Department. Task Force Report: Science and Technology, A Report to the President's Commission on Law Enforcement and Administration of Justice. Washington, DC: USGPO.

Kansas City, MO, Missouri Police Department

1977 Response Time Analysis. Kansas City, MO: Author.

Kelling, George L.

1988 Community Policing. Presentation to the Executive Sessions on the Police, Kennedy School of Government, Harvard University.

Kelling, George L., Antony M. Pate, Duane Dieckman and Charles Brown

1974 The Kansas City Preventive Patrol Experiment: Technical Report. Washington, DC: Police Foundation.

Kelling, George L. and Catherine M. Coles

1996 *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities*. NY: Free Press.

Kennedy, David M., Anne M. Piehl, and Anthony A. Braga

1996 *Youth Gun Violence in Boston: Gun Markets, Serious Youth Offenders, and a Use Reduction Strategy*.

Kleiman, Mark

1988 *Crackdowns: The Effects of Intensive Enforcement on Retail Heroin Dealing*. In Marcia Chaiken, Ed., *Street-Level Drug Enforcement: Examining the Issues*. Washington, DC: National Institute of Justice.

Klein, Malcolm

1986 *Labeling Theory and Delinquency Policy: An Empirical Test*. *Criminal Justice and Behavior* 13: 47-79.

Koper, Christopher

1995 *Just Enough Police Presence: Reducing Crime and Disorderly Behavior By Optimizing Patrol Time in Crime Hot Spots*.

Larson, Richard

1975 *What Happened to Patrol Operations in Kansas City*. *Journal of Criminal Justice*. 3: 299-330.

Laycock, Gloria

1991 *Operation Identification, or the Power of Publicity?* *Security Journal* 2: 67-72.

Lee, W.L. Melville

1901

[1971] *A History of Police in England*. Montclair, NJ: Patterson-Smith.

Lindsay, Betsy and Daniel McGillis

1986 *Citywide Community Crime Prevention: An Assessment of the Seattle Program*. In Dennis Rosenbaum, Ed., *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

Logan, Charles H.

1975 *Arrest Rates and Deterrence*. *Social Science Quarterly* 56: 376-89.

Makinen, Tuija, and Hannu Takala

1980 *The 1976 Police Strike in Finland*. *Scandinavian Studies in Criminology* 7: 87-106.

Marciniak, Elizabeth

1994 *Community Policing of Domestic Violence: Neighborhood Differences in the Effect of Arrest*. PhD Dissertation, University of Maryland.

Martin, Susan and Lawrence Sherman

1986 *Selective Apprehension: A Police Strategy for Repeat Offenders*. *Criminology* 24: 55-72.

Marvell, Thomas B. and Carlisle E. Moody

1996 Specification Problems, Police Levels and Crime Rates. *Criminology* 34: 609-646.

Moore, Mark

1980 The Police and Weapons Offenses. *Annals of the American Academy of Political and Social Sciences* 452: 22-32.

1992 In Michael Tonry and Norval Morris, Eds., *Modern Policing. Crime and Justice, Vol. 15*. Chicago: University of Chicago Press.

National Advisory Commission on Civil Disorders

1968 Report. NY: Bantam Books.

Pate, Tony, Amy Ferrara, Robert A. Bowers, and Jon Lorence

1976 *Police Response Time: Its Determinants and Effects*. Washington, DC: Police Foundation.

Pate, Antony M. and Wesley Skogan

1985 *Coordinated Community Policing: The Newark Experience*. Technical Report. Washington, DC: Police Foundation.

Pate, Antony M., Marlys McPherson, and Glenn Silloway

1987 *The Minneapolis Community Crime Prevention Experiment: Draft Evaluation Report*. Washington, DC: Police Foundation.

Pate, Antony, Edwin E. Hamilton and Sampson Annan

1991 *Metro-Dade Spouse Abuse Replication Project: Draft Final Report*. Washington, D.C.: Police Foundation.

Pate, Antony M. and Edwin E. Hamilton

1992 *Formal and Informal Deterrents to Domestic Violence: The Dade County Spouse Assault Experiment*. *American Sociological Review*. 57: 691-698.

Paternoster, Raymond, Bobby Brame, Ronet Bachman and Lawrence W. Sherman

1996 *Do Fair Procedures Matter? The Effect of Procedural Justice on Spouse Assault*.

Paper accepted for publication in *Law and Society Review*.

Pfuhl, Erdwin H., Jr.

1983 *Police Strikes and Conventional Crime: A Look At the Data*. *Criminology* 21: 489- 503.

Pierce, Glenn, Susan A. Spaar, and LeBaron Briggs, IV.

1988 *The Character of Police Work: Strategic and Tactical Implications*. Unpublished Ms., Northeastern University, Center for Applied Social Research.

Police Foundation

1981 *The Newark Foot Patrol Experiment*. Washington, D.C.: Police Foundation.

President's Commission on Law Enforcement and Administration of Justice

1967 *The Challenge of Crime in a Free Society*. Washington, DC: USGPO.

Press, S.J.

1971 *Some Effects of an Increase in Police Manpower in the 20th Precinct of New York City*. NY: New York City Rand Institute.

Pringle, Patrick

1955 *Hue & Cry: The Birth of the British Police*. London: Museum Press.

Repetto, Thomas

1996 *Reducing Gun Crime in New York City: A Research and Policy Report*. NY: Citizens Crime Commission of New York City

Reiss, Albert J. Jr.

1971 *The Police and the Public*. New Haven: Yale University Press.

1985 *Policing a City's Central District: The Oakland Story*. Washington, DC: National Institute of Justice.

1992 *Police Organization in the Twentieth Century*. In Michael Tonry and Norval Morris, eds., *Modern Policing. Crime and Justice*, Vol. 15. Chicago: University of Chicago Press.

1995 *The Role of the Police in Crime Prevention*. In Per-Olof Wikstrom, Ed., *Integrating Crime Prevention Strategies: Propensity and Opportunity*. Stockholm: National Council for Crime Prevention.

Reiss, Albert J. Jr., and Jeffrey A. Roth, eds.

1993 *Understanding and Preventing Violence*. Washington, DC: National Academy of Sciences.

Rosenbaum, Dennis, Dan A. Lewis and Jane A. Grant

1986 *Neighborhood-Based Crime Prevention: Assessing the Efficacy of Community Organizing in Chicago*. In Dennis Rosenbaum, editor, *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

Ross, H. Laurence

1973 *Law, Science and Accidents: The British Road Safety Act of 1967*. *Journal of Legal Studies* 2: 1-78.

1975 *The Scandinavian Myth: The Effectiveness of Drinking-and-Driving Legislation in Sweden and Norway*. *Journal of Legal Studies* 4: 285-310.

1977 *Deterrence Regained: The Chesire Constabulary's "Breathalyser Blitz."* *Journal of Legal Studies* 6: 241-249.

1981 *Deterring the Drinking Driver: Legal Policy and Social Control*. Lexington, Mass: Lexington Books.

1992 *Confronting Drunk Driving: Social Policy for Saving Lives*. New Haven: Yale University Press.

1994 Personal Communication

Ross, H. Laurence, R. McCleary and T. Epperlein

1982 *Deterrence of Drinking and Driving in France: An Evaluation of the Law of July 12, 1978*. *Law and Society Review*.

Russell, Francis

1975 *A City In Terror: 1919--The Boston Police Strike*. New York: Viking.

Sampson, Robert and Jacqueline Cohen

1988 Deterrent Effects of Police on Crime: A Replication and Theoretical Extension. *Law and Society Review* 22:163-189.

Schnelle, J.F., R.E. Kirchner, Jr., J.D. Casey, P.H. Uselton Jr., and M.P. McNees

1977 Patrol Evaluation Research: A Multiple-Baseline Analysis of Saturation Police Patrolling During Day and Night Hours. *Journal of Applied Behavioral Analysis* 10: 33-40.

Schwartz, Richard and Jerome Skolnick

1962 Two Studies of Legal Stigma. *Social Problems* 10: 133-138.

Sellwood, A.V.

1978 *Police Strike--1919*. London: W.H. Allen.

Shaw, James W.

1994 *Community Policing Against Crime: Violence and Firearms*. PhD dissertation, University of Maryland at College Park.

Sherman, Lawrence W.

1974 *Becoming Bent*. In Lawrence W. Sherman, Ed., *Police Corruption: A Sociological Perspective*. NY: Anchor-Doubleday.

1990 *Police Crackdowns: Initial and Residual Deterrence*. In Michael Tonry and Norval Morris, Eds., *Crime and Justice: A Review of Research*, Vol. 12. Chicago: University of Chicago Press.

1992 *Policing Domestic Violence: Experiments and Dilemmas*. NY: Free Press.

1993 *Defiance, Deterrence, and Irrelevance: A Theory of the Criminal Sanction*. *Journal of Research in Crime and Delinquency* 30: 445-473.

1995 *The Police*. In James Q. Wilson and Joan Petersilia, eds. *Crime*. San Francisco: ICS Press.

Sherman, Lawrence W., Catherine H. Milton and Thomas Kelly

1973 *Team Policing: Seven Case Studies*. Washington, DC: Police Foundation.

Sherman, Lawrence W., Patrick R. Gartin and Michael E. Buerger

1989 Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place. *Criminology* 27: 27-55.

Sherman, Lawrence W. and Richard A. Berk

1984 The Specific Deterrent Effects of Arrest for Domestic Assault. *American Sociological Review* 49: 261-272.

Sherman, Lawrence W., Janell D. Schmidt, Dennis P. Rogan, Patrick R. Gartin, Ellen G. Cohn, Dean J. Collins and Anthony R. Bacich

1991 From Initial Deterrence to Long-Term Escalation: Short-Custody Arrest for Poverty Ghetto Domestic Violence. *Criminology* 29: 821-50.

Sherman, Lawrence W., Janell D. Schmidt, Dennis P. Rogan, Patrick R. Gartin, Ellen G. Cohn, Dean J. Collins and Anthony R. Bacich

1992 The Variable Effects of Arrest on Criminal Careers: The Milwaukee Domestic Violence Experiment. *Journal of Criminal Law and Criminology* 83: 137169

Sherman, Lawrence and Dennis P. Rogan

1995 Deterrent Effects of Police Raids on Crack Houses: A Randomized, Controlled, Experiment. *Justice Quarterly* 12: 755-781.

Sherman, Lawrence W., James W. Shaw and Dennis P. Rogan

1995 The Kansas City Gun Experiment: Research in Brief. Washington, D.C.: National Institute of Justice.

Sherman, Lawrence and David A. Weisburd

1995 General Deterrent Effects of Police Patrol in Crime "Hot Spots:" A Randomized, Controlled Trial. *Justice Quarterly* 12: 625-648.

Sherman, Lawrence W. and Heather Strang

1996 Policing Domestic Violence: The Problem-Solving Paradigm. Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Skogan, Wesley

1990 Disorder and Decline. New York: Free Press.

1994 The Impact of Community Policing on Neighborhood Residents: A Cross-Site Analysis. In Dennis Rosenbaum, Ed., *The Challenge of Community Policing: Testing the Promises*. Thousand Oaks: Sage.

1996 Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Skogan, Wesley and 18 others

1995 Community Policing In Chicago, Year Two. Chicago: Illinois Criminal Justice Information Authority.

1996 Community Policing in Chicago, Year Three. Chicago: Illinois Criminal Justice Information Authority.

Skolnick, Jerome and David Bayley

1985 *The New Blue Line*. NY: Free Press

Smith, Douglas and Visher, Christy

1981 Street-Level Justice: Situational Determinants of Police Arrest Decisions. *Social Problems* 29: 167-78.

Smith, Douglas and Patrick R. Gartin

1989 Specifying Specific Deterrence: The Influence of Arrest on Future Criminal Activity.

Spelman, William and Brown, Dale K.

1981 Calling the Police: A Replication of the Citizen Reporting Component of the Kansas City Response Time Analysis.

Washington, DC: Police Executive Research Forum.

Stead, Philip John

1977 Patrick Colquhoun. In Philip John Stead, Editor, *Pioneers in Policing*. Montclair, NJ: Patterson-Smith.

Strang, Heather

1996 Paper Presented to the American Society of Criminology, Chicago, November.

Sviridoff, Michelle, et al.

1992 *The Neighborhood Effects of Street-Level Drug Enforcement: Tactical Narcotics Teams in New York*. NY: Vera Institute of Justice.

Task Force Report

1967 *The Police*. Report to the A Report to the President's Commission on Law Enforcement and Administration of Justice. Washington, DC: USGPO.

Tittle, Charles R. and Alan R. Rowe

1974 Certainty of Arrest and Crime Rates: A Further Test of the Deterrence Hypothesis. *Social Forces* 52: 455-62.

Trojanowicz, Robert

1986 *Evaluating a Neighborhood Foot Patrol Program: The Flint, Michigan Project*. In Dennis Rosenbaum, editor, *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

Tyler, Tom

1990 *Why People Obey the Law*. New Haven: Yale University Press.

Uchida, Craig D., Brian Forst and Sampson O. Annan

1992 *Modern Policing and the Control of Illegal Drugs: Testing New Strategies in Two American Cities*. Research Report. Washington, D.C.: National Institute of Justice.

Voas, et al

1985 from Ross 1992

Weisburd, David and Lorraine Green

1995 Policing Drug Hot Spots: The Jersey City Drug Market Analysis Experiment. *Justice Quarterly* 12: 711-735.

Weiss, Alex and Edmund McGarrell

1996 Paper Presented to the American Society of Criminology, Chicago, November.

Wilson, James Q.

1994 Just Take Away Their Guns: Forget Gun Control. *New York Times Magazine* March 20, pp. 46-47.

Wilson, James Q. and Barbara Boland

1978 The Effect of the Police On Crime. Law and Society Review 12: 367-390.

Wilson, James Q. and George L. Kelling

1982 Broken Windows: The Police and Neighborhood Safety. Atlantic Monthly 249: 29- 38.

Wilson, O.W.

1963 Police Administration. NY: McGraw-Hill

Wolfgang, Marvin, Robert Figlio and Thorsten Sellin

1972 Delinquency in a Birth Cohort. Chicago: University of Chicago Press.

Wycoff, Mary Ann, Antony M. Pate, Wesley Skogan and Lawrence W. Sherman

1985 Citizen Contact Patrol in Houston: Executive Summary. Washington, DC: Police Foundation.

Wycoff, Mary Ann and Wesley Skogan

1986 Storefront Police Offices: The Houston Field Test. In Dennis Rosenbaum, editor, Community Crime Prevention: Does It Work? Beverly Hills, CA: Sage.

1993 Community Policing in Madison: Quality from the Inside Out. An Evaluation of Implementation and Impact. Research Report. Washington, D.C.: National Institute of Justice.

Zimmer, Lynn

1990 Proactive Policing Against Street-Level Drug Trafficking. American Journal of Police 11: 43-74.

Chapter 9

CRIMINAL JUSTICE AND CRIME PREVENTION¹

By Doris Layton MacKenzie

1. INTRODUCTION

Past behavior is the best predictor of future behavior. From this perspective, it is reasonable to attempt to prevent crime by preventing known offenders from continuing their criminal behavior. This chapter focuses on the options for dealing with actual perpetrators once they are identified so that crime in the community can be reduced. While traditional crime prevention efforts are directed toward those who are not yet involved in crime, our broader definition includes any setting that reduces crime in the community. By definition, therefore, we include as crime prevention, programs in the courts and corrections that focus on reducing the criminal activities of offenders.

For policy purposes, recent interventions for reducing crime through the courts and corrections can be classified into six categories:

(1) **Incapacitation** or depriving the offender of the capacity to commit crimes usually through detention in prison or capital punishment.

(2) **Deterrence** or punishment that is so repugnant that neither the punished offender (specific deterrence) nor others (general deterrence) will commit the crime in the future.

- (3) **Rehabilitation** or treatment directed toward changing the offender and thereby preventing future criminal behavior of the treated individual.
- (4) **Community Restraints** or the surveillance and supervision of offenders in the community in order to reduce their capacity and/or opportunity for criminal activities.
- (5) **Structure, Discipline and Challenge** programs that use physically and/or mentally stressful experiences to change the offenders in a positive way or deter them from later crime (specific deterrence).
- (6) **Combining Rehabilitation and Restraint** in order to insure that offenders make changes that are associated with a reduction in future criminal behavior.

As shown in Table 9-1, these are not mutually exclusive categories. The categorization is a heuristic device to classify a wide range of programs currently existing in criminal justice systems throughout the United States. They represent different strategies for controlling crime in the community. Most have some theoretical rationale for expecting a reduction in crime; they differ enormously in the mechanism anticipated to produce the reduction in crime.

Support for these different strategies of crime prevention in the courts and corrections have changed enormously in the past thirty years. In the 1970s, the strong emphasis on rehabilitation that had existed since the turn of the century gave way first to a focus on equality and fairness in sentencing, and then to an increased focus on incapacitation, deterrence and restraint strategies of crime prevention. Today, incapacitation is the primary justification for imprisonment in the U.S. criminal justice system (Zimring and Hawkins, 1995).

A dramatic increase in offender populations accompanied this change in philosophy. The increase was unprecedented. It followed a period of relative stability in incarceration rates that had existed throughout most of the twentieth century. For example, from 1945 to 1974 the average incarceration rate was 106 inmates per every 100,000 individuals in the population. Incarceration rates fluctuated only slightly, from a low of 93 inmates per 100,000 to a maximum rate 119 (Blumstein and Cohen, 1973). Since that time, however, incarceration rates have grown enormously. By 1985, the number of inmates per 100,000 U.S. residents was to 313; this grew to 600 by 1995 (Bureau of Justice Statistics, 1996).

This increase impacted the total correctional populations and not just prisons. Since 1980, the total estimated correctional population rose 179 percent from 1.8 million in 1980 to 5.1 million in 1994 (BJS, 1995). For parole populations the increase was 213 percent, for probation populations the increase was 1,565 percent (BJS, 1995).

While this analysis of crime prevention focuses on how effective these different strategies are in reducing crime, it is important to remember that each strategy has impacts other than crime reduction. For example, analysis of the costs and benefits is critically important in any examination of policy relevant issues. This has been the focus of much of the incapacitation discussion because of the large impact associated with policies that increase the need for building, operating and maintaining the prisons necessary for incapacitation. On the other hand, with the exception of some drug treatment analyses, there are fewer discussions and less research

examining the costs and benefits of rehabilitation. Yet, such analysis is important. A high quality, intensive treatment program for offenders can be relatively costly. The advantages of the program must be weighed against the costs. Such issues, among others, are important in policy decisions.

Table 9-1. Different strategies for preventing crime by the courts and corrections showing the anticipated mechanisms for impact.

THE COURTS AND CORRECTIONS		CRIME PREVENTION IN		
				Community
Structure,	Combining			
	Incapacitation	Deterrence	Rehabilitation	Restraints
Discipline and	Restraints and			

Challenge	Rehabilitation				
Experience	Imprisonment	General:	Change aspects	Increased	
will change	Offenders can	Punitive	of offenders	surveillance	
offenders in a	be coerced	punishment will	that are	and control in	
MECHANISM FOR	into	keep those in	changeable and	the community	
positive way	capacity to	the community	associated with	will decrease	so
IMPACT	commit crimes	from committing	criminal	offenders	not
they will	(forced to	crimes	behavior	capacity to	to
continue	in community			commit crimes	
commit	take steps to				
crimes	(General)				
	positively				
	change)				
General and	Small number	Specific:	Intensive,	Increased	
specific	of high rate	Punitive	adequately	surveillance	
deterrence	Offenders can	punishment will	implemented	and control in	
treatment	be coerced to	keep punished	programs (with	the community	
longer	be identified	individuals	treatment	will decrease	
Coercion will	remain in	from committing	integrity) of	offenders'	
not diminish	and imprisoned	more crimes	sufficient	opportunity to	
the	during their		duration	commit crimes	
effectiveness	active		(dosage)		
of treatment	criminal		Target higher	Specific	
	career		risk cases	deterrence	
	(Specific)				
	General and				
	Specific				
	deterrence				
			Cognitive,		
			skill oriented		
			and behavioral		
			treatment		
			methods		

However, the focus of this chapter is on strategies that reduce crime in the community. From this perspective, issues such as costs, prison crowding, reducing risk factors, public opinion, and the politicalization of decision making are considered important only if they have a direct impact on criminal activities and crime prevention. In the following sections of this chapter, these topics are discussed only when they are such an important part of the interpretation of the impact of some programs that they cannot be easily dismissed. In general, the focus of this review is on activities in the courts and corrections that have a direct bearing on preventing crime by reducing the criminal activities of known offenders.

Given the scope of programs and evaluations, examining crime prevention techniques in the criminal justice system is a very

large assignment and decisions had to be made about what was important to emphasize in this review. Given the limitations on time, some important topics had to be omitted from this report. Four obvious examples are: Capital punishment; deterrence research not directly related to court or correctional programs; transferring juveniles to adult courts; and community treatment for drug-involved offenders. Another topic that was not described is the relatively new programs on restorative justice and mediation. These are important and current topics, and the interested reader should refer to the recent summaries of the work.

1.1 Examining the scientific evidence

In evaluating the research and assessing the effectiveness of the six identified strategies of crime reduction, this chapter uses three different methods: (1) reviews of the research literature; (2) reviews of meta-analyses used to examine groups of studies; and (3) the scientific methods score combined with significance tests. There were several reasons for this decision to use the different methodologies to review the research and draw conclusions about effectiveness in crime prevention. First, some strategies of crime prevent do not lend themselves to program evaluation that can be easily categorized using the scientific methods score we designed. For example, incapacitation research uses complex statistical models to estimate the crimes prevented by various policy decisions. Such studies do not easily lend themselves to the scoring methodology used for evaluating specific programs. We decided that reviewing the literature on incapacitation, and not scoring each study was more valuable for drawing conclusions about the effectiveness of incapacitation strategies.

Reviews of the literature were also used to judge the effectiveness of several other programs. Most often this was because current reviews of the literature were available, and there was little research that had been completed in the past five or six years that would change the conclusions of the previous reviews. For example, the discussion of shock probation and the Scared Straight programs were based on past literature reviews.

Broad assessments of treatment effects have greatly benefited from the rise of a new statistical technique, meta-analysis that enables researchers to aggregate the continuously growing research literature in order to examine and compare the effect sizes for treatment versus control groups comparisons. In some areas, such as the rehabilitation literature, there is a body of research using meta-analyses to examine the effectiveness of programs. Wherever possible, these meta-analyses are used to draw conclusions about programs. The rationale for this decision is that meta-analysis techniques are respected statistical techniques that are more rigorous than the scientific methods score we are using in this project. The meta-analysis technique permits the aggregation of a large body of research literature in order to examine and compare the effect sizes for treatment versus control group comparisons. The meta-analyses reported herein summarize a large number of studies and control for important methodological issues.

There is an enormous body of literature on crime prevention efforts in criminal justice. Much of this literature is not research examining the impact of crime prevention strategies. Few of the research studies are of sufficient quality to permit conclusions regarding the effectiveness of the program studied. In order to evaluate the quality of the research, as described in Chapter 1, this report uses a scale of 1 to 5 to summarize the scientific rigor of the studies examined. A score of 5 indicates the strongest evidence for inferring cause and effect, a score of 1 indicates the weakest. Studies scoring a 1 were considered so low in scientific rigor that they were excluded from conclusions about a topic. Topics were chosen and the previously described categories were identified by examining current research publications. The focus was on research that had been completed since 1987. In most other cases, the discussion of a topic is based on published reviews of the literature or meta-analyses.

Most of the studies reviewed examine the recidivism of offenders who receive some treatment, service or regime. Studies with scientific method scores of 5 are random assignment studies with successful assignment of cases to treatment conditions, sufficient numbers to reasonably expect that the experiment had sufficient statistical power to detect a difference in recidivism if indeed one was there, and limited attrition during the study.

Two problems that continually arose in the research were the small number of subjects and attrition. Even if a strong experimental design is used, a study will not have sufficient power to detect a difference that may exist if the number of subjects are small. This was particularly a problem with studies using juvenile subjects. Attrition is another problem. Some studies used as comparison groups those who had dropped out of the program being studied. At times this is referred to a comparison between the motivated individuals and others. The problem is these groups can be assumed to differ prior to receiving any treatment and, therefore, no conclusion can be drawn about the effect of the program being studied. This is a serious problem with some of the drug treatment studies.

Frequently studies did not fulfil the requirements for a score of 5 because the assignment process was not successful, there were too few subjects, or subjects were lost during the study. If the effect of these problems could be assumed to be minimal from a research perspective, such studies were given a score of four. Other studies that scored a 4 were quasi-experimental designs with

careful statistical controls for differences among subjects. These studies were also required to have limited attrition during the study and sufficient numbers of subjects.

A score of 3 indicated more serious problems with the research design such as limited information on the subjects and comparison groups so that it was impossible to determine how similar the groups were before the study began. Attrition, uncontrolled group differences, and few subjects would also contribute to a score of 3.

A score of 2 revealed serious flaws with the research design, therefore only tentative conclusions could be drawn from such a study because the scientific rigor was so limited.

The next sections of this report review the proposed strategies for preventing crimes through the use of the criminal justice system. Studies for juveniles and for drug-involved offenders are evaluated in separate sections because of the particular focus of these studies. Conclusions about what works, what doesn't and what is promising are based on a careful examination of the literature reviews, meta-analyses, statistical significance, and the scientific methods scores.

2. INCAPACITATION

The concept of incapacitation is simple -- for as long as offenders are incarcerated they clearly cannot commit crimes outside of prison. Crime is reduced because the incarcerated offenders are prevented from committing crimes in the community. At least while they are in prison, they cannot continue to commit crimes. A secondary benefit of incarceration is thought to be the indirect effect of deterring (or inhibiting) others from committing crimes because of the threat of incarceration (general deterrence effect). Furthermore, individuals who spend time in prison may be deterred from continuing their criminal activities when they are released (a specific deterrence effect).

Most people accept the notion that crime prevention through incapacitation is a primary justification of imprisonment (Zimring and Hawkins 1995). Generally accepted also, is the fact that some individuals should be incapacitated for long periods of time because of the seriousness of their offenses and the threat they pose if released. Questions arise over how broadly the incapacitation strategy should be used and whether it is a cost efficient and effective crime prevention strategy. Some ask that prison space be reserved for only a small select group of dangerous repeat offenders. Others advocate a general incapacitation strategy that would incarcerate a substantial number of felons. The success of incapacitation in reducing crime in the community remains a controversial subject.

During the mid-1970s, interest in incapacitation as a crime prevention strategy grew, in part due to concerns about the efficacy of rehabilitation, rising crime rates and public fear of crime. Originally, incapacitation strategies were supported because of what seemed to be the logical utility of keeping offenders in prison so they could not commit crimes. In some jurisdictions increases in incarceration rates were found to be accompanied by decreases in crime rates. This correlation was used to justify incapacitation policies. However, careful scientific examination requires more than an association between two variables because both could easily be caused by some third factor. Furthermore, correlational studies examining the association between incarceration rates and arrest rates within jurisdictions have not found any consistent relationship between the two (Zimring and Hawkins 1995).

More rigorous research examining the effectiveness of incapacitation in reducing crime has focused on developing models to estimate the impact of incarceration on individual level offending (Zimring and Hawkins 1995; Spelman 1995). Estimating the crime prevention benefits that can be obtained through incarceration is a complicated process. The researcher must estimate how frequently offenders commit crimes and the duration of active criminal careers. The majority of studies examining incapacitation effects demonstrate a small but positive effect in reducing crime. Frequently, however, this crime prevention effect is associated with significant increases in prison populations. Issues of concern relate to whether this reduction is worth the additional costs for building and maintaining prisons and jails, and whether there are other more cost-effective methods of crime reduction.

Early research on incapacitation used official-records to estimate individual-level offense rates (Clarke 1974; Greenberg 1975; Van Dine, Conrad, and Dinitz 1977; Petersilia and Greenwood 1978; Blumstein and Cohen 1979). In a review of these studies, the National Academy of Sciences Panel on Research on Deterrent and Incapacitative Effects (1978) reported that the incapacitation studies offered widely divergent estimates of the incapacitative effect of imprisonment. While some studies indicated that incapacitative effects were negligible, others claimed major potential impacts on crimes through increased use of imprisonment. The panel concluded that the principal disagreement was over the value of the individual crime rates that were used to estimate the effectiveness of incapacitative policies. That is, models of the crime reduction effectiveness of imprisonment required estimates of how frequently individuals commit crimes when they are in the community. There were no

generally accepted estimates of these rates nor did researchers know how long criminals continued to commit crimes (e.g., the length of the "career" of crime).

Surveys of prisoners conducted during the late 1970s and early 1980s were designed to answer the questions about the individual crime rates and criminal careers of offenders (Peterson, Greenwood, and Lavin 1977; Peterson and Braiker 1980; Peterson and Braiker with Polich 1981; Marquis and Ebener 1981; Peterson, Chaiken, Ebener, and Honig 1982; Chaiken and Chaiken 1982; Greenwood with Abrahamse 1982). If researchers could discover how frequently individuals committed crimes when they were in the community (e.g., individual crime rates) and for how long they continued committing crimes (the career), the information could be used to refine the models predicting how much crime would be reduced by locking them up in prison. The surveys asked prisoners to report on their criminal activities before they had been incarcerated.

Using these estimates, researchers examined the number of crimes prevented by actual and hypothetical criminal justice practices and sanctioning policies. In general, reviews of these "collective" incapacitation strategies demonstrated a modest reduction in crime combined with substantial increases in prison populations. For instance, in a 1987 review of the research on general incapacitation, Visher (1987) concludes that the sentencing practices and policies, that doubled prison populations during the 1970s and early 1980s, resulted in an estimated crime reduction of 10 to 30 percent.

Increases in prison populations and the research findings of large differences in crime rates of individual offenders moved attention towards a more selective strategy of incapacitating a small group of offenders. Encouragement for this selective incapacitation as a crime control strategy also came from research that revealed a small number of very active offenders (six percent of the cohort) accounted for a disproportionately large number of the arrests (52 percent) in a Philadelphia birth cohort (Wolfgang, Figlio, and Sellin 1972). That is, a relatively small number of offenders were responsible for a large amount of crime. Incapacitation advocates argued that crime could be reduced if these "career criminals" were identified and incapacitated. This "selective incapacitation" strategy would identify the offenders who were predicted to commit serious crimes at high rates so that they could be incarcerated for long periods of time. Further support for the benefits of incapacitation as a correctional strategy came from the proposal that, although there were enormous costs to incarcerating large numbers of felons, there were also substantial costs if they were released and continued to commit crimes (in terms of such factors as criminal processing, loss to victims, etc.) (Zedlewski 1987). Some of the practices that can be attributed to these incapacitation strategies are habitual offender laws, mandatory sentences and the more recent three-strikes laws.

In support of the selective incapacitation sentencing policy, Greenwood and Abrahamse (1982) argued that increasing the length of time served by the predicted high-rate offenders while at the same time reducing the time served by those who were predicted to be low-rate offenders could reduce crime rates without a corresponding increase in prison populations. From this perspective, in the face of constraints on available prison resources, the issue for criminal justice policy was how to allocate a limited number of cells among competing offenders. Ideally, the worst (those who commit the most and/or the most serious crimes), active (not yet at the end of the "career" of crime) criminals would be identified and put in the prison cells. Greenwood and Abrahamse (1982) examined whether such policies could reduce the robbery rate in California. They found evidence that through the use of a selective incapacitation strategy the robbery rate could be reduced by about 15 percent, and the number of incarcerated robbers would be reduced by about five percent, but they cautioned that their analysis had several limitations and they suggested that the work should be replicated in other jurisdictions.

Other researchers reviewed Greenwood and Abrahamse's results and concluded that the original analysis greatly overstated the effects of the proposed selective incapacitation (Cohen 1983, 1984; Spelman 1984; von Hirsch and Gottfredson 1984; Visher 1987). And, in 1983 the National Academy of Sciences panel on Criminal Careers commissioned a reanalysis of the original survey data. The estimates resulting from this study indicated substantially smaller incapacitative effects than those found by Greenwood and Abrahamse. Furthermore, substantial increases in the prison population were predicted (Blumstein et al. 1986).

For selective incapacitation to be effective, it must be possible to identify and incarcerate offenders who will commit the most crimes in the future. The estimates of crime commission rates used in the incapacitation studies were derived from the RAND studies using inmate self-reports of criminal activities prior to incarceration. Greenwood and Turner (1987) investigated whether this retrospective data could be used to predict future arrests. They found their data had poor predictive accuracy and, furthermore, the small differences in arrest rates between the groups classified as high- and low-risk did not justify the large differences in sentence lengths that would be required for these offenders if significant selective incapacitation effects were to be achieved. This research, as well as the more recent work of Gottfredson and Gottfredson (1994), suggests that identifying future offenders in order to selectively incarcerate them will prove difficult.

Surprisingly there was little research on the magnitude of incapacitation effects during the decade of the 1980s when the incapacitation philosophy drove the largest increase in incarceration in American history (Zimring and Hawkins 1995). A few more recent studies were completed in the early 1990s (Miranne and Geerken 1991; Horney and Marshall 1991; English and

Mande 1992). In one recent study, Cohen and Canela-Cacho (1994) studied the relationship between incarceration and levels of violent crime using both national data and corrections data from six states. The study focused on the crime control effects of incarceration especially whether incarceration was an effective strategy for controlling violent crimes and the merits of pursuing alternative incarceration policies. Their data indicate that changing prison policies such as guidelines, mandatory minimum prison terms, and restrictions on parole release, have played a major part in the rising prison populations over the last decade. In comparison to the past, a higher proportion of those who are arrested in the U.S. are sentenced to prison and those who are committed to prison stay there for longer periods of time. This increased risk of being sent to prison after arrest, and of spending more time if committed to prison was true, in general, for those convicted of various types of crimes and across different jurisdictions.

In their research, Cohen and Canela-Cacho (1994) used sophisticated estimating techniques that took into consideration the fact that high-rate offenders are over-represented among inmates while low-rate offenders are disproportionately found among the offenders who remain free, and the fact that termination of criminal careers reduces the crime prevention effects derived from increased incarceration. They estimate that the incapacitation effects during periods of low incarceration rates are probably much greater than previously estimated, and that the increasing numbers of offenders being incarcerated today bring only marginal returns for incapacitation effects. This occurs because the expanding prison populations are likely to include an increasing number of offenders who would be low-rate.

The focus on tougher sentencing laws has led to increasingly rigid sentencing statutes and these have particularly impacted repeat offenders. By 1994, 30 states had introduced "three-strikes" legislation and ten had passed tougher sentencing for repeat offenders (Benekos and Merlo 1996). The "three-strikes and you're out" baseball metaphor is used throughout the country in reference to criminal sanctions that become increasingly severe for each conviction an offender receives until they are considered to be "out" or in prison for life. Greenwood, Rydell, Abrahamse, Caulkins, Chiesa, Model and Klein (1994) estimated the crime prevention impact of the California three-strikes law, one of the most sweeping of the laws. Although the first two "strikes" accrue for serious felonies, the third strike that triggers the life sentence can be any felony. According to their estimates the new law would reduce serious felonies committed by adults in California between 22 and 34 percent below what would have occurred had the previous law remained in effect. One third of these prevented felonies would be violent crimes such as murder, rape, and assaults. The remaining two-thirds of the prevented crimes would be less violent felonies such as less injurious assaults, and most robberies, and burglaries of residences. Several alternative models were tested to see if other less costly options would be predicted by the model to be as effective as the three-strikes laws. Although these options were predicted to drop the costs, they would also drop the effectiveness. The researchers caution, that while these results appear encouraging for crime prevention, it will come at great financial cost due to the large estimated increase in prison population. For example, the California three-strikes law, if applied in all eligible cases, would reduce the number of serious felonies in a year by about 28 percent or 329,000 crimes. However, this would cost an additional \$5.5 billion a year in additional criminal-justice funding for the additional costs of the construction and operation of prisons. This can be translated as a cost of \$16,000 per serious felony prevented.²

In summary, there is now a body of research examining the crime prevention effectiveness of incapacitation policies. In general the results indicate:

- o Incapacitation policies prevent crime because offenders who are imprisoned do not have the opportunity to commit crimes;
- o There are a small number of offenders who commit a large number of crimes. If they could be incapacitated a large number of crimes would be prevented.

However, there are many unresolved questions that make the effectiveness of this strategy questionable. Most important are the following issues:

- o It is not yet possible to predict who will be the high frequency offenders in the future; therefore targeting them for increased prison sentences is impossible;
- o Increased use of incapacitation as a crime prevention strategy must address the expected increases in imprisonment rates and the associated financial costs that accompany such strategies;
- o Large increases in the use of incapacitation may have limited returns because the additional offenders not now incarcerated are lower frequency offenders who would not be committing many crimes in the community, thus, reducing the return on investment for every new dollar expended;

- o Large increases in the use of incapacitation may also have limited returns because offenders who are incarcerated for lengthy periods of time may be at the end of their criminal career and therefore would not be committing crimes in the community;
- o True estimates of the crimes prevented are difficult to obtain because both the frequency of criminal participation and the duration of careers must be estimated.

Furthermore, recent studies of the impact of the increases in imprisonment rates that have occurred in the past twenty five years have revealed that the impact has had a major impact on minority populations in urban environments (Tonry, 1995). Other disadvantages of increased use of imprisonment strategies are the unintended consequences of imprisonment on the families and communities of those who are imprisoned (Clear, 1996).

3. DETERRENCE

Deterrence strategies are based on early criminological theory proposing that sufficiently repugnant punishments will inhibit individuals from committing crime. As is obvious from Table 1, deterrence could be an expected impact of incapacitation, community restraints and challenge programs. However, this is secondary to the primary mechanism that is expected to have an impact on crime prevention for these strategies. Here, the programs classified as deterrence are those with a primary purpose of deterring either the individual offender or others through the repugnant nature of the sanction. At the individual level, specific deterrence is explained by the fact that the pain generated by the punishment will serve to discourage future criminality. It assumes a rational choice model of decision making where the offender perceives that the cost and benefits of punishment are not outweighed by the crime. General deterrence refers to the impact of the threatened punishment has on other potential offenders, thus reducing the chance that they will commit crimes.

Deterrence is the rationale given for programs such as Scared Straight, chain gangs and shock probation. These are distinguished from other strategies because the major emphasis is on the punitive nature of the punishment and not on reducing crime through restraint, discipline or challenge. Another deterrence strategy is that of fines, particularly day fines. These fines are designed to be fair given the difference in the economic circumstances of the individual offenders thereby making this sanction more punitive than the tradition fines.

Research examining two types of deterrence programs is reviewed in this section. It is important to note, as shown in Table 9-1 that other programs such as incapacitation policies that threaten offenders with longer prison sentences as well as the programs requiring offenders to participate in emotionally and physically strenuous programs (e.g., structure, discipline and challenge) are also expect to deter offenders. However, they are also viewed as potentially having other impacts and, therefore, they have been examined in separate sections.

3.1 Monetary Penalties

Fines are frequently used as criminal penalties for a wide variety of cases in American courts (Hillsman, 1990; Hillsman, Sichel, and Mahoney 1984; Casale and Hillsman 1986; Cole et al. 1987). However, many of the fine sentences are composites of fines and other noncustodial sanctions and not stand alone sanctions. Judges have wide discretion in setting fines. They are not uniformly imposed, and jail sentences are sometimes used as alternatives to fines particularly for the poor. Rarely are fines in the U.S. used as the sole sanction for more serious cases or for repeat offenders. In contrast, in Western Europe fines are the most often imposed sentence for most crimes and are a major alternative to imprisonment (Hillsman 1990). One of the differences between the use of fines in the United States and other countries is the fact that American judges are not able to set fines that are proportionate to the severity of the offense but are also equitable and fair given the difference in the economic circumstances of the individual offenders. "Day" or "unit" fines as they are called in Western Europe are linked to both the offender's daily income and to the gravity of the crime.

In terms of crime prevention, fines may act as a deterrent to criminal activities. Most studies of fines, however, have focused on setting just and proportionate levels for the amount of the fine, or on compliance, cost savings, or prison population impact issues. Until recently little was known about the use of fines as criminal penalties in the United States. NIJ has filled this gap by supporting studies to examine fining practices (see Hillsman et al. 1984; Casale and Hillsman 1986; Cole et al. 1987; Glaser and Gordon 1988; Hillsman and Green 1987, 1988). These studies are discussed in this chapter only if they examine the impact of fines on crime prevention. However, it is important to note that the results from these studies demonstrate that the use of fines is widespread throughout the U.S. and they are used for a wide range of offenses. Collection rates vary greatly by court, however, these difference may be due to differences in collection techniques and enforcement strategies. The assumption is that these practices could be improved to achieve greater compliance (Casale and Hillsman 1986).

Gordon and Glaser (1991) did examine the impact of traditional fines on recidivism in a quasi-experimental study comparing financial penalties versus similar sentences (probation or probation plus jail). While there were no significant difference between groups, as shown in Table 9-2, offenders who received a fine with probation have lower recidivism rates than offenders who received only probation. Similarly, those who received a fine with probation and jail had lower recidivism than offenders who received only probation and jail without the fines.

As yet, there are few jurisdictions in the United States that use the day fine concept. However several courts are currently adapting day fines to the American context and they are experimenting with their use (Hillsman 1990). Two studies have examined the impact of day fines on the recidivism of offenders. One study assessed the recidivism of offenders sentenced in Milwaukee's Municipal Court Day-Fine Pilot Project and compared the recidivism rates to a comparison group who received traditional fines (Worzella 1992). A larger proportion of the day-fine offenders paid their fine in full. There was no difference in the percent of the groups who committed further violations of municipal ordinances but the day-fined group had fewer arrest warrants (neither measure was significantly different).

In 1991, the Bureau of Justice Assistance funded a multi-site demonstration project, "Structured Fines Demonstration Project," designed to enhance the application and enforcement of structured fines (day fines) as sanctions for drug offenders and other misdemeanants and felons. NIJ awarded funding to Turner and Petersilia (1996) to complete an evaluation the project. While most of the research focused on the implementation and development of the day fine programs, there was some outcome data from one of the jurisdictions. As shown in Table 2, day fines were associated with reductions in both technical violations and rearrests.

Overall, there is a limited amount of research examining the effectiveness of fines in reducing the recidivism of offenders. The Gordon and Glaser (1991) study suggests that fines as additions to other sanctions may be effective in reducing recidivism. Since fines could potentially reduce the cost of courts and corrections, and day fines address the problems of inequality, this strategy appears to be a promising avenue for future research.

3.2 Shock Probation, Shock Parole, and Split Sentences

The programs in this section have been grouped together because the major emphasis of the programs has been on specific deterrence of the offender participants. Shock probation or parole programs are a form of split sentence in which offenders are incarcerated for unspecified short periods of time in prisons or jails followed by a period of community supervision. The idea is that a short period of time incarcerated would "shock" offenders into abandoning criminal activity and into more conventional and law-abiding behavior. During their incarceration there are no special programs for them and they are mixed with other offenders in the jail or prison. Reviews of the research examining shock programs has provided little evidence of a deterrent effect. Studies examining the recidivism of shock probationers with similar probation groups have found no differences and in some cases the shock probationers have done demonstrably worse (Vito, 1984; Vito and Allen, 1981; Boudouris and Turnbull, 1985; Finckenauer, 1982).

"Scared Straight" is another program designed to deter young offenders or at-risk juveniles from continuing criminal activities. They are taken to maximum security institutions where inmates tell them the horrors and difficulties of life in prison. Studies of these programs have not indicated any differences between those who participated in the programs and comparison groups and in some cases the re-arrest rates were higher for those who participated in the program (Buckner and Chesney-Lund 1983; Lewis 1983).

Overall there is no evidence that deterrence programs such as these effectively reduce the future criminal activities of the offender participants (see also section on rehabilitation in this chapter).

Table 9-2. Studies of fines and recidivism showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Gordon and Glaser (1991)	3	Probation + fine had fewer arrests (25%) than probation only (36%), S. Probation + jail + fine had fewer arrests (37%) than probation + jail

only (50%), S.

Worzella (1993)	3	No differences between day fine group in new ordinance violations (33%) and conventional fine group (34%), NS.
Turner and Petersilia (1996)	5	Day fine group had fewer technical violations (9%) than conventional sentenced group (22%), S. Day fine group had fewer rearrests (11%) than conventional sentenced group (17%), NS.

Note: NS=nonsignificant, S=significant

4. REHABILITATION AND TREATMENT

In contrast to incapacitation, rehabilitation strategies focus on changing individual offenders so they will not continue their criminal activities. The research goal is to identify and understand the individual differences that explain criminal behavior and how interventions can be used to change individuals so they will not continue to commit crimes. The work is based on psychological theories of learning, cognition and the general principles of human development applied to the analysis of illegal behavior (Andrews and Bonta 1994). Research has focused on examining the components of programs that are effective in reducing recidivism.

Since the mid-1970s there have been major changes in how the courts and corrections manage offenders in this country. One of the most visible influences on this change was the report by Martinson (1974) that was widely interpreted as showing that "nothing works" in rehabilitation. Distilled from a larger coauthored research report by Lipton, Martinson, and Wilks (1975), Martinson's essay described the results of the research teams' assessment of 231 evaluations of treatment programs conducted between 1945 and 1967. From this research, he concluded "With few and isolated exceptions the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism (1974:25; see also Sechrest, White, and Brown 1979 and Martin, Sechrest, and Redner 1981).

Critics (Gendreau 1981; Gendreau and Ross 1979, 1981, 1987; Gottfredson 1979; Cullen and Gilbert 1982, Greenwood and Zimring 1985; Halleck and Witte 1977; Palmer 1975; Palmer 1983; Van Voorhis 1987) argued against this conclusion, saying it was not that treatment programs could not potentially reduce recidivism, but instead that it was impossible to draw any conclusions from the research because:

1. The research methodology was so inadequate that few studies warranted any unequivocal interpretations about what works; and,
2. The programs studied were so poorly implemented and delivered in such a weakened form that they would not reasonably be expected to have an impact.

The predominantly negative reviews of rehabilitation that dominated the 1970s were challenged by researchers such as Palmer (1975; 1983) who argued that the broad generalizations of the conclusions overlooked many positive instances of success and the researchers gave little attention to such important issues as the fit between the type of offender and the type of treatment provided. Reviews of evaluations published after Martinson's essay indicated that substantial research exists showing the effectiveness of correctional treatment (Gendreau 1981; Gendreau and Ross 1979, 1981, 1987; Gottfredson 1979; Cullen and Gilbert 1982; Greenwood and Zimring 1985; Halleck and Witte 1977; Van Voorhis 1987). However, despite the critiques of the work and its questionable validity, the phrase "nothing works" became an instant cliché and exerted an enormous influence on both popular and professional thinking (Walker, 1985; Cullen and Gendreau 1989; Tonry 1996; Stojkovic 1994). The perception of the conclusion became widespread throughout the U.S. and it gave rise to a strong movement to change both the philosophy and control of imprisonment policy and this impact was felt throughout the 1980s.

Today, while there is still some debate about the effectiveness of rehabilitation (e.g., Lab and Whitehead 1988; Whitehead and Lab 1989) recent literature reviews and metaanalyses demonstrate that rehabilitation programs can effectively change offenders (Andrews and Bonta 1994; Andrews, Bonta, and Hoge 1990; Andrews, Zinger, Hoge, Bonta, Gendreau, and Cullen 1990; Palmer 1975; Gendreau and Ross 1979, 1987). In general, according to Andrews et al. (1990), reviews of the literature show positive evidence of treatment effectiveness. For example, in a series of literature reviews, the proportion of studies reporting positive evidence of treatment effectiveness varied from near 50 percent to 86 percent: 75 percent (Kirby 1954), 59 percent (Bailey 1966), 50 percent (Logan 1972), 48 percent (Palmer's 1975 retabulation of studies reviewed by Martinson in 1974), 86 percent (Gendreau and Ross 1979) and 47 percent (Lab and Whitehead 1988).³ In reviewing these studies, Andrews et al. (1990) conclude that "This pattern of results strongly supports exploration of the idea that some service programs are working with at least some offenders under some circumstances." The important issue is not whether something works but what works for whom.

What is clear is that some approaches to treatment are better than others. Psychological researchers emphasize that effective treatment programs must follow some basic principles (Gendreau and Ross 1979, 1987; Gendreau and Cullen 1989). First, treatment must directly address characteristics that can be changed (dynamic) and that are directly associated with an individual's criminal behavior (criminogenic factors). There are numerous risk factors associated with criminal activity. Age, gender and early criminal involvement are some examples. In comparison to others, young males who began criminal activities at a young age are higher risks for future criminal activities. But these "static" characteristics such as age, gender and past history, while predictive of recidivism, cannot be changed in treatment. Instead, the "dynamic" or changeable factors should be the target of treatment programs.

Equally as important is the distinction between factors that are criminogenic and those that are not. Criminogenic factors are those that are directly associated with criminal behavior. Research has revealed some dynamic factors that are also criminogenic: attitudes, cognitions, behavior regarding employment, education, peers, authority, substance abuse and interpersonal relationships that are directly related to an individual's criminal behavior. Less promising targets for reducing future criminal behavior include increasing selfesteem without touching antisocial propensity, or increasing the cohesiveness of antisocial peer groups. While factors such as self esteem many be correlated with criminal behavior, changing them will not necessarily reduce future criminal activities. That is, criminals may have relatively strong self concepts but they may continue to commit crimes. Treatment programs that target such noncriminogenic factors will not be particularly successful in reducing recidivism. In order to be successful, treatment must address factors that can be changed (e.g., dynamic factors) and that are directly related to an individual's criminal behavior (criminogenic).

In a recent metaanalysis examining predictors of adult recidivism, Gendreau, Little and Goggen (1996) found antisocial cognitions, values, and behaviors (dynamic, criminogenic factors) along with static factors (history, age, gender, race) were the strongest predictors of recidivism. This provides support for the proposal that these changeable factors should be targeted in treatment. In contrast, self esteem, depression and anxiety were relatively weak predictors of recidivism. These characteristics are commonly targets of treatment despite the fact that they appear to have little association with recidivism.

Also important in determining whether a treatment program will be effective is the therapeutic integrity of the program or the need for effective programs to be delivered as planned and designed. Poorly implemented programs, delivered by untrained personnel, where offenders spend only a minimal amount of time in the program, can hardly be expected to successfully reduce recidivism.

Furthermore, programs must target offenders who are at sufficient risk for recidivism so that this reduction is measurable. Many offenders are low risk for future recidivism. Treatment programs that provide intensive services for such offenders will show little reduction in future criminal activities because few of these offenders will recidivate anyway.

The final principle of effective treatment is the need to deliver treatment in a style and mode that addresses the learning styles and abilities of offenders. For example, more effective programs follow a cognitive behavioral and social leaning approach rather than nondirective relationship-oriented counseling or psycho-dynamic, insight-oriented counseling.

Using these principles as the basis to classify studies of treatment as appropriate or inappropriate, Andrews et al (1990) undertook a meta-analysis of 154 treatment comparisons.⁴ Most often studies were classified as appropriate because the treatment was behavioral in nature. Few studies could be classified on the basis of risk or treatment integrity. Inappropriate treatments were those that employed deterrence (e.g., "Scared Straight"), nondirective approaches, non-behavioral milieu approaches, and group interactions. They found an effect size of .63 for appropriate treatment and this was significantly larger than the mean values for inappropriate services and criminal justice sanctions (warnings, probation, intensive probation, custody). Over all they found an effect size of .21 for the effectiveness of treatment programs. The researchers do note that,

considering the enormous number of offenders who have passed through the criminal justice system, there are a comparatively small number of evaluations of appropriate correctional programming.

Lipton and Pearson (1996) found some, but limited, evidence corroborating the finding that treatment programs could be classified by the appropriateness of the treatment provided. These researchers are currently working on a comprehensive, detailed review of the evaluation research on rehabilitation programs for offenders, the Correctional Drug Abuse Treatment Effectiveness Project (CDATE). The project, funded by The National Institute on Drug Abuse (NIDA) at the National Institutes of Health, has been collecting evaluation studies conducted from 1968 until 1994 in order to assess the effects of correctional interventions on various outcome measures (e.g., drug use, recidivism). Preliminary findings from a meta-analysis of the first 500 coded evaluation studies (they anticipate over 1,500 studies) replicated the findings of the Andrews et al. (1990) study on the significance of the appropriateness of treatment. However, while Andrews et al. found a correlation of .69 between appropriateness of correctional service (as defined by the Andrews group) and recidivism (using effect size), Lipton and Pearson found a correlation of only about half that size (.34). They speculate that part of this difference may be because the conceptualization of appropriateness of correctional service still has some ambiguity that results in differences in the categorization of studies used in meta-analyses. From the perspective of crime prevention, the implication is that there are some difficulties in identifying what is appropriate treatment. However, the preliminary analysis of the CDATE data does support the conclusion that specific types of correctional treatment are associated with lower rates of recidivism. The difficulty appears to be in identifying exactly what characteristics are associated with effective treatment.

In summary, there is evidence that:

- o Rehabilitation is effective in reducing the criminal behavior of at least some offenders.

The evidence from the meta-analyses suggests that effective correctional treatment programs appear to follow some basic principles. In order to effectively reduce recidivism, treatment programs appear to need to:

- o Be carefully designed to target the specific characteristics and problems of offenders that can be changed in treatment (dynamic characteristics) and those that are predictive of the individual's future criminal activities (criminogenic) such as antisocial attitudes and behavior, drug use, anger responses;

- o Be implemented in a way that is appropriate for the participating offenders and utilizes therapeutic techniques that are known to work (e.g., designed by knowledgeable individuals, programming provided by appropriately educated and experienced staff, use of adequately evaluated programs) and require offenders to spend a reasonable length of time in the program considering the changes desired (deliver sufficient dosage);

- o Give the most intensive programs to offenders who are at the highest risk of recidivism;

- o Use cognitive and behavioral treatment methods based on theoretical models such as behaviorism, social learning or cognitive behavioral theories of change that emphasize positive reinforcement contingencies for prosocial behavioral and is individualized as much as possible.

More information is needed regarding: (1) how to ensure that treatment programs have adequate integrity; (2) what should be targeted in the treatment (antisocial attitudes, values, employment behavior, education, etc.); and, (3) what method should be used to deliver the treatment (required staff training, outpatient, in-prison programs).

5. COMMUNITY RESTRAINTS

Many of the sanctions and correctional options categorized as community restraints are frequently referred to as intermediate sanctions or alternative punishments. However, here the term community restraint refers to the fact that a group of these alternative punishments increase the amount of surveillance and control over offenders while they are in the community. In a sense, they might be referred to as "semi-incapacitation" because they are expected to reduce offenders' ability to commit crimes. Examples of restraint programs are intensive supervision, house arrest, electronic monitoring, and halfway houses. Theoretically, increasing the surveillance and control over offenders in the community will prevent criminal activities by reducing both their capacity and their opportunity to commit crimes. Additionally, it is expected that the punitive nature of the sanctions will act as a specific deterrence to reduce the offenders future criminal activity.

In response to the record numbers of convicted offenders and widespread prison crowding, correctional officials in recent years have expanded the range of intermediate sanctions that fall between traditional probation and complete incarceration (Cullen,

Wright, and Applegate 1996; Tonry and Lynch 1996; Byrne, Lurigio and Petersilia; Harland 1996; Smykla and Selke 1995). House arrest, intensive supervision, curfew, day reporting and other intermediate sanctions fulfill many purposes. They provide graduated punishments that may be more appropriate than either probation or prison for some offenses, and they maintain a higher level of offender restraint and accountability than does standard probation or parole supervision. In addition, intermediate sanctions may provide enhanced levels of treatment or services for problems that are common among criminal offenders, such as drug abuse, low education levels and unemployment. Finally, when used in lieu of confinement, intermediate sanctions may reduce prison or jail populations and associated costs.

This section examines sanctions that increase the restraints on offenders in the community and studies assessing the effectiveness of these restraints in reducing criminal activity. The term restraints is used to refer to activities such as contacts with agents, urine testing (see section on drug-involved offenders, this chapter) and employment verification that represent control over offenders and increased accountability. Since these restraints and not rehabilitation are the primary focus of the research, this section examines whether the sanctions are effective in preventing the future criminal activities of these offenders. That is, the research is designed to investigate such factors as the number of contacts with probationers, curfews, or confinement to home, and not the amount of rehabilitation provided within the programs. However, when available, follow-up studies or components of studies that examine the effectiveness of rehabilitation within these restraint-focused sanctions are reviewed as well. All of these sanctions increase the restraints above what would usually occur in traditional probation or parole.

Most jurisdictions in the U.S. have some type of intermediate sanctions programs. These programs have variously been called correctional alternatives, intermediate sanctions, community corrections or, more recently, correctional options. As a result of disillusionment with the effectiveness of rehabilitation and the focus on justice and incapacitation, intermediate sanctions were proposed as an ideal way to provide a range of sanctions between probation and parole (Morris and Tonry 1990; Tonry 1996). Theoretically, these sanctions could be scaled in severity so as to be proportionate to the seriousness of the crimes committed. Furthermore, the additional control and threat of sanctions were expected to either deter offenders from future criminal acts or restrict them (in a sense incapacitate them) so they would not have the opportunity to reoffend.

Throughout the 1980s and 1990s, NIJ funded a wide range of evaluations of different correctional alternatives. There is now a body of research that permits us to draw some conclusions about the crime prevention effectiveness of these programs. This section reviews the literature and research on some of the major alternative sanctions. The focus of most of these studies has been the recidivism rates of offenders who are given sanctions that increase the degree of control and surveillance over their activities. In the majority of cases no significant differences are found between offenders placed in alternative sanctions and the comparison groups. Except in a few instances, there is no evidence that these alternatives are effective in reducing crime as measured by official record data. The problem is that most of these alternatives increase the probability of detection. It is unknown whether the actual offense rates change. That is, the increased probability of detection may mean that the intensively supervised offenders are at higher risk of being caught when a criminal act is committed, compared to the comparison offenders, who may commit crimes much more frequently.⁵

The most hopeful sign from this work is in the exploratory research that has followed most of these evaluations. This research focused on alternative sanctions that increase the treatment and therapeutic aspects of the programs and compares the effectiveness of such programs with similar alternatives that do not include treatment or therapy. The findings suggest that if sanctions include appropriate treatment, the recidivism of the offenders receiving the treatment may be reduced. From this perspective, it is not the restraints that are effective in reducing the criminal activities of the offenders, but rather, their criminal activities are reduced through the treatment they receive.

5.1 Intensive Community Supervision

Compared to regular probation and parole services, Intensive Community Supervision, usually called Intensive Supervised Probation (or Parole) or ISP, was designed to provide increased restraints on offenders in the community (Lurigio and Petersilia 1992; Petersilia and Turner 1993; Cullen, Wright and Applegate 1996; Tonry and Lynch 1996) Studies of ISP do indeed reveal that there are increased direct contacts between the offenders and the supervising probation or parole agent. Many programs combine other options such as electronic monitoring and/or home confinement with the increased agent-offender contacts. Furthermore, indirect methods of observation are also frequently combined with the ISP programs. Many times offenders are required to report for more frequent urine testing or agents may conduct regular employment verification. In all, these direct and indirect observations provide substantially increased levels of control within probation and parole programs. However, the type and level of demands placed on offenders differs enormously by jurisdiction. Offenders are often required to pay fines, keep a mandatory curfew, or provide community service and these additional requirements also differ by jurisdiction.

ISP programs grew dramatically in the 1980s, and by 1990 virtually every state in the nation had developed some type of ISP

program. In part, this was the result of the initial research examining the programs in New Jersey and Georgia where the findings suggested that ISP led to a significant decrease in reincarceration (in Georgia, see Erwin 1986) and rearrests (in New Jersey, see Pearson 1987). However, critical reviews of the research demonstrated that the data did not support the initial unqualified conclusions about the ability of the ISP programs to reduce crime.

Recognizing the limitations of the prior research, the National Institute of Justice funded RAND to evaluate fourteen ISP programs in nine states using an experimental design (Petersilia and Turner 1993). The research was greatly facilitated by the addition of funds from the Bureau of Justice Assistance to assist sites in the additional costs for the increased probation and parole staff required to provide the additional supervision. This experimental design with random assignment of offenders to ISP and control groups eliminated many of the past methodological problems of the earlier studies. Recidivism was measured using arrests and technical violations. The results were disappointing for the ISP advocates. When ISP participants were compared to the control group, there were no significant differences in arrests. At the end of the one year study period, about 37 percent of the ISP participants and 33 percent of the control offenders had been arrested. In comparison, the researchers found a significant difference when the technical violation rates were examined. The average ISP violation rate was found to be 65 percent for ISP participants compared with 38 percent for the controls. In summary, while there was no evidence that the increased surveillance in the community deterred offenders from committing crimes, it did appear that this additional control increased the probability that criminal or technical violations would be detected.

In another study funded by NIJ, Deschenes, Turner and Petersilia (1995) found similar conclusions -- no difference between comparison groups and two groups of offenders on ISP programs. One ISP group was diverted from prison and the other was given ISP after release from prison. Supporting the results of the previous 14 site study, findings revealed no significant difference between groups. As shown in Table 9-3, there is a fairly substantial body of research now available on ISP. Few of the studies found statistically significant differences and the direction of the differences between the ISP groups and the comparison groups varied, sometimes favoring ISP, sometimes favoring the alternative.

Although research has not revealed a significant relationship between levels of surveillance and recidivism, there is some evidence that increased treatment of offenders in ISP programs may be related to significant reductions in rearrests. Follow-up analyses by the RAND researchers (Petersilia and Turner 1993) and also researchers evaluating ISP programs in Massachusetts (Byrne and Kelly 1989), Oregon (Jolin and Stipack 1991) and Ohio (Latessa 1993) have found evidence that rearrests are reduced when offenders receive treatment services in addition to the increased surveillance and control of the ISP programs. For example, Petersilia and Turner (1993) reported a 10 to 20 percent reduction in recidivism for those who were most active in programs while they were in the community. However, the research designs used in these evaluations do not reach the experimental rigor of the random assignment study by RAND that examined the effect of increasing the surveillance and control of ISP participants.

In summary the results indicate:

- o Increasing the surveillance and other restraints on offenders in ISP programs is not associated with decreases in recidivism;
- o The increased surveillance of ISP is often associated with increases in technical violations of the conditions of the ISP programs;
- o Incorporating treatment into the requirements of ISP programs may lead to a reduction in recidivism but this research has not been as rigorously examined.

5.2 Home Confinement

Home confinement is designed to regulate and restrict the freedom of the offender within the community (Renzema, 1992; Baumer and Mendelsohn 1992). The terms "house arrests," "home confinement" and "electronic monitoring" are often used interchangeably. However, it is important to note that house arrest, home confinement and more recently "community control" are terms describing the programs, while electronic monitoring is a tool used to monitor the compliance with the requirements of the sentence. During the 1980s, technological advances made it possible to monitor offenders electronically to insure that the offender was complying with the requirements of the program. Unlike ISP, house arrest is usually a sentence given by the court that are much more restrictive than ISP.

In general home confinement programs had targeted low-risk offenders such as those convicted of Driving While Intoxicated (DWI). However, more recently home confinement has been used for parolees (Beck and Klein-Saffran 1989) or other more serious offenders (Baumer, Maxfield and Mendelsohn 1993; Baumer and Mendelsohn 1991; Austin and Hardyman 1991). Early

research examining the effectiveness of the home confinement programs suffered from poor research designs, lack of program integrity, and the low risk offenders placed in the programs.

Recidivism rates of the low-risk offenders placed in home confinement programs are usually very low. Therefore, many studies do not have the power to detect small differences that might be expected between the participants and control groups. Two studies using experimental designs shown in Table 9-4 found no significant difference in recidivism when the behavior of offenders who are electronically monitored on home confinement is compared with those being manually supervised (Baumer and Mendelsohn 1991; Austin and Hardyman 1991).

In summary:

o Most likely because of the low-risk offenders in the programs, most home confinement programs have low recidivism and technical violations rates;

o The available evidence indicates no significant differences in recidivism outcome when the participants are compared to control groups.

Table 9-3. Studies of intensive supervised probation/parole (ISP) showing scientific methods score and findings (from Cullen et al. 1993 and Byrne and Pattavina 1992).

Study	Scientific Methods Score	Findings
Fallen et al. (1981)	3	Recidivism lower for ISP
Erwin (1986)	3	Recidivism rates lower for ISP than probationers and lower for prison releasees.
Mitchell et al. (1986)	3	Recidivism higher for ISP than parolees and CCC.
Pearson (1987)	3	ISP recidivism rates lower
Byrne and Kelly (1989)	3	ISP lower recidivism
Molof (1991)	2	ISP lower recidivism than probationers
Jolin and Stipack (1991)	4	Recidivism rates higher for ISP than EM and work release groups
Latessa (1991a)	3	Recidivism rates higher for ISP offenders than three comparison samples
Austin and Hardyman (1991)	3	ISP-EM offenders arrested more than parolees
NCCD (1991)	3	Recidivism rates for ISP-jail probationers and ISP-parolees higher than comparisons but rates lower for ISP parolees than comparison
Latessa (1992)	3	Recidivism rates higher for ISP
Latessa (1993)	2	Offenders in drug and mental health units had higher

		recidivism rates than those in sex-offenders and alcohol offender units.
Moon and Latessa (1993)	3	ISP drug program participants had lower recidivism rates
Latessa (1993b)	3	ISP groups had higher recidivism than probationers.
Petersilia and Turner (1993)	5	ISP sample in 10 states had higher recidivism than comparison. ISP samples in 4 states had lower recidivism than comparison.

Table 9-4. Studies of home confinement and electronic monitoring showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Baumer and Mendelsohn (1991)	5	EM had more revocations (21%) than Manual supervision (18%), NS.
Austin and Hardyman (1991)	5	EM arrested (14%) more than controls (11%), NS.

Note: NS=nonsignificant, S=significant **5.3 Community Facilities: Residential and Day Reporting**

Halfway houses, also called community residential centers, pre-release centers, or restitution centers, are nonconfining residential facilities for adjudicated adults or juveniles, or those subject to criminal or juvenile proceedings (pre-trial period). They are intended as an alternative to confinement for persons not suited for probation or who need a period of readjustment to the community after imprisonment. More halfway houses provide services for juveniles than for adults, and some houses specialize by client or treatment modality such as women only, pre-release, substance abusers, or developmentally disabled (Latessa and Travis 1991). The facilities are included as community restraints because most of the research reviews have focused on their use as additional restraint and not on the details of the services provided.

Research examining the effectiveness of halfway houses in reducing recidivism has indicated mixed results. In an early evaluation of correctional halfway houses, Allen et al. (1976) reviewed 35 studies. The majority of the studies used quasi-experimental designs or nonexperimental designs; only two used true experimental designs. The evidence was about equally divided between lower recidivism for the halfway house residents and no differences in recidivism in comparison to control groups in the quasi-experimental and experimental designs. In a later study focusing on parolees in halfway houses, Latessa and Allen (1982) examined 44 studies with sufficiently rigorous methodology to enable the researchers to draw reasonable assessments of post-release outcomes. As Allen et al. (1976) had found earlier, the results were mixed -- at times showing halfway house residents having lower recidivism rates and at times showing no differences or that halfway house residents did worse on recidivism rates.

Day reporting centers are a more recent correctional option that require offenders who are on pretrial release, probation, or parole to appear at specific location on a frequent and regular basis. Unlike the halfway houses, the day reporting centers are non-residential, offenders are required to report to the centers but they return to their homes to sleep at night. While at the centers

they are required to participate in services (treatment, employment search, etc) or activities (urine test, meetings with agents) provided by the agency or other community agencies. These programs are currently being widely implemented in the United States. In 1990, a study by the NIJ found only 13 centers in the United States, by 1995 there were at least 114 centers in 22 states (Parent, Byrne, Tsarfaty, Valdae and Esselman 1995). The centers emphasize both strict surveillance and high levels of treatment and other services to offenders. As with the other intermediate sanctions, there is a tension between providing increased surveillance and increased treatment in the day reporting centers, and centers vary greatly in the emphasis placed on one or the other. While there have been some descriptive studies of day reporting programs, to date there have been no impact evaluations examining the effectiveness of the programs in preventing crime.

5.4 Summary of Community Restraints

A large body of research, much of it funded by NIJ, including random assignment studies, consistently shows the failure of these programs to lower recidivism. Restraining offenders in the community by increasing surveillance and control over their activities does not reduce their criminal activities. In general, they are arrested as often as their counterparts who receive less surveillance. Most research has focused on the restraining aspects of these community programs and not the treatment services delivered to the offenders. That is, the research fails to clearly identify and rigorously examine (from a research perspective) the impact of the therapeutic aspects of the community programs. When the researchers have mentioned the therapeutic integrity of the programs, it is often to note that the anticipated services or staffing did not occur (see for instance, Sontheimer and Goodstein's study or Greenwood et al.'s study of the Skillman aftercare program discussed in the juvenile programs section of this chapter). Questions remain about the impact of additional treatment within a program that increases restraints.

6. STRUCTURE, DISCIPLINE AND CHALLENGE

Correctional boot camps for adults and for juveniles and wilderness programs have been grouped together because they all focus on structure, discipline and physical and/or mental challenge. The experiences of the offenders in the programs is anticipated to change them in a positive way so that their future criminal activities will be reduced. The mechanism for this change is attributed to various factors such as self esteem, or increased bonds with staff and peers. Some also expect that these punitive programs will discourage others from committing crimes or that the individuals who spend time in the programs will be deterred from future criminal activities. At times programs combine therapeutic programming with the structure, discipline and challenge aspects. The studies of the programs focus on the recidivism rates of those who are released from the programs and compare these rates to comparison groups who served different sentences. Thus, the studies examine the specific deterrence or positive change impacts of the programs.

6.1 Boot Camps for Adults

Boot camp prisons, alternatively called shock incarceration, regimented discipline or intensive incarceration, are correctional programs designed to be similar to military basic training. These relatively new programs began in 1983 in Georgia and Oklahoma but rapidly spread throughout the nation (MacKenzie 1990; MacKenzie and Parent 1991). The early programs emphasized the military aspects of discipline, comportment and drill and ceremony.

More recently the programs have changed to include more programming and treatment and many have de-emphasized the military focus of the programs. As has occurred with other correctional options, the boot camp programs vary tremendously when cross-program comparisons are made in type of population served, treatment components, aftercare or follow-up supervision, and emphasis on military drill and ceremony. The majority of the state department of corrections have opened boot camp programs and increasing numbers of programs are being opened for juveniles and for jail inmates.

To date, there have been no random assignment studies examining the effectiveness of boot camp prisons for adult offenders. As shown in Table 9-5, most of this research had limited scientific rigor (scores of 3). Some of the research has made use of statistical controls to adjust for original differences between the boot camp releasees and comparison groups to examine their performance in the community (see for example, MacKenzie et. al 1995). In general, the results show no significant differences in recidivism between offenders who are sent to boot camps when compared to others including those who either served a longer period of time in prison or those who served their sentence on probation (MacKenzie et. al. 1993; MacKenzie and Shaw 1993; Flowers, Carr and Ruback 1991; Florida Department of Corrections 1990). However, in programs where a substantial number of offenders were dismissed from the boot camp prior to completion, the recidivism rates for those who completed the program were significantly lower than the rates for those who were dismissed (MacKenzie et al. 1995; NYDCS and NYDP 1993). Thus, while there is no evidence that the boot camps actually change offenders, there is some indication that the programs can be used to "signal" which offenders will have difficulty completing probation or parole. That is, offenders who remain in the program and complete it are at less risk for recidivism than those who are dismissed (either voluntarily dropping

out or for misbehavior).

In a further exploratory analysis examining program differences and recidivism rates, MacKenzie et al. (1995) found some commonality among programs where the boot camp releasees had lower recidivism rates than comparison groups on some but not all, measures of recidivism. In particular, these programs: (1) devoted more than three hours per day to therapeutic activities such as therapy, counseling, drug treatment and education; (2) there was some type of follow-up for the offenders in the community after they left the boot camp; and (3) participants had to volunteer for the program.

The following conclusions can be drawn from the available research examining boot camps for adult offenders:

o The military atmosphere, structure and discipline of correctional boot camps does not significantly reduce the recidivism of releasees in comparison to offenders serving time on parole or probation;

o In programs where a substantial number of offenders are dismissed from the boot camp, the recidivism rates for those who complete the boot camp are significantly lower than the rates for those who were dismissed;

o Exploratory analyses suggest that programs incorporating components such as therapeutic activities during the boot camp and follow-up in the community may be successful in reducing recidivism but this conclusion is tentative until more research is completed.

6.2 Boot Camps for Juveniles

Recently, four random assignment studies have been completed examining the recidivism of juveniles released from boot camps. With cooperative funding from The NIJ and the Office of Juvenile Justice and Delinquency Prevention (OJJDP) a carefully designed experimental study examining boot camps in three sites was completed. Funding was provided for sites to develop innovative demonstration programs, if they were willing to permit research to randomly assign juveniles to the boot camps or some alternative. Three sites were selected to participate. The research results are considered preliminary because data collection continued after these analyses were completed.

The fourth study of juvenile boot camps is being conducted by The California Youth Authority (CYA). This study used random assignment to evaluate the effectiveness of the CYA juvenile boot camp. The results are considered preliminary at this point because the juveniles have been in the community for only a short period of time.

As shown in Table 9-6, all of these studies are judged to be rigorous (methods score of 5). The results from three of the studies reveal no significant differences in recidivism between the boot camp youth and the control groups. In the fourth site, the CYA, more of the boot camp youth were reincarcerated than the control youth. Obviously, this presents little support for these boot camps as crime prevention techniques.

Table 9-5. Studies of correctional boot camps showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
N.Y. Department of Correctional Services and N.Y. Division of Parole (1992, 1993)	2	Male BC graduates reincarcerated less for new crimes and parole violations compared to: (1) parolees sentenced before the program began; (2) those who refused to enter; (3) dismissals from the program.
N.Y. Department of Correctional Services and N.Y. Division of Parole (1993)	2	Female BC graduates reincarcerated less for new crimes and parole violations compared

to: (1) parolees sentenced before the program began; (2) those who refused to enter; (3) Dismissals from the program.

Flowers and Ruback (1991)	3	Compared with those sentenced to various alternatives, male BC graduates were reincarcerated less often. But when graduates were compared with groups most similar to BC graduates the reincarceration rates were higher for BC graduates.
MacKenzie (1991)	3	BC graduates had fewer arrests and reconvictions for new crimes when compared to samples of parolees and probationers but more arrests for technical violations. Those dismissed from the program had fewer arrests than graduates but were the same in reconviction rates.
Texas Department of Criminal Justice (1991)	2	BC releasees were reincarcerated more than parolees, ISP and restitution center releasees.
MacKenzie et al (1995)	4	Compared to probationers BC releasees had fewer rearrests in one state and more in two states; fewer revocations in three states, NS. Compared to parolees BC releases had fewer rearrests in four states; fewer revocations in five states and more revocations in one state NS.
Florida Department of Corrections (1990)	2	There were no differences between BC graduates and prison releasees in new felonies. BC graduates had more new misdemeanors but fewer technical violations.

Note: NS=nonsignificant, S=significant

Table 9-6. Studies of juvenile boot camps and recidivism showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Peters et al. (1996a)	5	More boot camp youths (38.8%) recidivated than control group (35.5%), NS.
Peters et al. (1996b)	5	Fewer boot camp youths (28.1%) recidivated than control group

(31%), NS.

Peters et al. (1996c)	5	More boot camp youths (71.8%) recidivated than control group (50%), S.
Bottcher et al. (1996)	5	More boot camp youths (77.7%) rearrested than control group (77.1%), NS.

Note: NS=nonsignificant, S=significant

6.3 Summary

The boot camps reviewed in this section do not, as a whole, appear to be good candidates for crime prevention. In general, findings indicate no difference between the offenders who participated and those who did not. There was some suggestion in the research examining adult boot camps that enhanced therapeutic programming within the boot camps may have had an impact on reducing recidivism, but the research is exploratory and did not use a strong methodology. The juvenile programs appeared less hopeful. Several questions remain. First, more information is needed about the therapeutic integrity of the programs and how the programs compare to the alternatives where the control groups spent time. Possibly, the failure to find differences in recidivism may be because the control groups were receiving enhanced treatment while the juveniles in the boot camps were spending time on physical activities. Such physical activities may have health benefits but they may not address the criminogenic needs of these offenders. Questions remain about how rehabilitation can be combined with these programs and whether this would enhance or conversely reduce the effectiveness of the rehabilitation.

7. JUVENILE OFFENDERS

7.1 Treatment Programs for Juveniles

Rehabilitation has particular appeal for use with juveniles. Juvenile crime is often serious and it may represent a large proportion of the total criminal activity in a community. However, it is usually assumed that adolescents deserve and require special handling because at this stage of life they are in a formative period and criminal behavior at this stage will not necessarily be continued into adulthood. Theoretically, rehabilitation has been the focus of correctional programs for juveniles. However, in practice, as occurs with adult programs, juvenile programs are generally poorly implemented. Juveniles have a potentially long adulthood in front of them, therefore, strategies that reduce the future criminal activities of juveniles are also particularly important. An effective preventive intervention at an early age, that results in reduced criminality over a lifetime, can have a substantial payoff.

The most extensive meta-analysis examining the effectiveness of delinquency outcome studies was conducted by Lipsey (1992). In a meta-analysis of juvenile delinquency programs, Lipsey examined the effectiveness of 443 different research studies.⁶ This meta-analysis improved on previous reviews of delinquency treatment research by: (1) broadening the coverage of the literature through an exhaustive search for relevant studies; and, (2) coding sufficient detail from each eligible study.

Among other criteria, the studies included in Lipsey's analysis were those that provided some intervention or treatment that had as its aim the reduction, prevention, treatment, or remediation of delinquency or antisocial behavior problems similar to delinquency. Delinquency was defined as behavior chargeable under applicable laws. Studies were included in the analysis only if the majority of the subjects were between the ages of twelve and twenty one.

Findings from the Lipsey (1992) study revealed that overall in 64.3 percent of the studies the treatment group did better (in most cases this refers to a reduction in recidivism) than the control group. The mean effect size for the studies was .172 which was comparable to previous meta-analyses of more highly selected sets of studies. One way to understand this effect size is to translate it into a comparison to a baseline of 50 percent. This effect size is equivalent to an average reduction in recidivism from 50 to 45 percent. That is, considering all treatment program studies combined, 45 percent of those who received treatment would be expected to recidivate in comparison to 50 percent of the non-treated control group.

In more detailed analyses, Lipsey worked to identify those characteristics most important in determining differences among treatment and control groups. Table 7 shows the estimated recidivism rates for the treated group if 50 percent of the control group had recidivated. He examined both methodological aspects of the study (sample size, equivalence of groups, attrition, outcome measures, etc.) and treatment aspects (subjects, dosage, treatment modality, philosophy). As expected, differences in study methodology were associated with effect sizes. More important for purposes here are the findings for the treatment effects (once the methodology effects are controlled). As shown in Table 7, the more effective programs were predicted to reduce recidivism substantially. For instance, in comparison to 50 percent recidivism rate for the control group, only 32 to 38 percent of the juveniles who were given employment, multi-modal and behavior programs were estimated to recidivate.

Overall, the results of the meta-analysis indicate that more effective programs were:

- o Judged to provide larger amounts of meaningful contact (treatment integrity) and were longer in duration (more dosage);
- o Provided by the researcher or in situations where the researcher was influential in the treatment setting;
- o Behavioral, skill-oriented and multi-modal treatment.

There was also some evidence that more effective programs targeted higher risk juveniles but this effect was small and nonsignificant. On the other hand, treatment in public facilities, custodial institutions, and in the juvenile justice system were less effective than other alternatives. This suggests that treatment provided in community settings may be more effective. However, Lipsey cautions that this conclusion is confounded with dosage (intensity) and needs a more refined breakdown before definite conclusions can be drawn.

It is interesting that effective programs were those that were either provided by the researcher or where the researcher was influential in the treatment setting. This may indicate that treatment delivered or administered by the researcher was better implemented than typical programs.

Table 9-7 shows his results for individual treatment modalities. Lipsey cautions the reader to interpret the individual categories carefully because crude descriptions of treatment programs in the studies as well as the multiple elements in some programs made coding extremely difficult. He suggests instead that the reader examine the broader patterns of the rankings of treatment modalities. From this perspective, the more structured and focused treatment (e.g., behavioral, skill-oriented)⁷ and multi-modal treatments⁸ seem to be more effective than the less structured and focused approaches (e.g., counseling). Interestingly, while programs that emphasized employment are near the top in effectiveness, vocational treatment programs were associated with increased recidivism for the treated group. The reason for this is difficult to determine. Possibly the employment programs were more directly related to skills needed to find and keep jobs while the vocational training programs were school based and less directly associated with obtaining employment.

The best treatment types show delinquency effects of meaningful practical magnitude, in the range of 10 to 20 percentage points reduction in recidivism. On the other hand, there is no evidence that programs emphasizing deterrence treatments are effective and, in fact, such programs were estimated to increase recidivism (e.g., 62 percent of those who received a deterrence program were estimated to recidivate in comparison to 50 percent of the controls).

In comparing his results to the earlier findings by Andrews et al. (1990), Lipsey asserts that with few exceptions the largest effect sizes occurred for treatment that would be classified by Andrews et al. as clinically relevant. Similarly, as found by Andrews et al., deterrence treatments were associated with negative effects (e.g., an increase in recidivism). Few studies of interventions deal exclusively with the most serious or most violent juvenile offenders so, at this point, little can be said about the effectiveness of programs for these offenders.

Table 9-7. Effect size estimates for different treatment modalities after controlling for study methodology for juvenile delinquency treatment programs (Lipsey, 1992).

Treatment Modality	Estimated Recidivism Treated Group/Control Group
Employment	32/50

Multi-modal	38/50
Behavioral	38/50
Institutional, other	40/50
Skill-oriented	40/50
Community residential	42/50
Any other juvenile justice	43/50
Probation/Parole, release	45/50
Probation/Parole, reduced caseload	46/50
Probation/Parole, restitution	46/50
Individual counseling	46/50
Group counseling	47/50
Probation/Parole, other enhancement	47/50
Family counseling	49/50
Vocational	59/50
Deterrence programs	62/50

7.2 Juvenile Residential Programs

One type of program particularly popular during the late 1970s and early 1980s was the wilderness or outward bound-type programs. These programs emphasize physical challenge and demand that individuals excel beyond what they feel they can do. Winterdyk and Roesch report that they found well over one hundred wilderness programs for treating delinquent youths in North America in the early 1980s. Outcome evaluations have been extremely rare (Gendreau and Ross 1987). Recently, several other wilderness-type programs have been studied. The results are shown in Table 8. All of these programs consider themselves wilderness programs. Perhaps the most frequently cited study of this type of program in the VisionQuest study by Greenwood and Turner (1987). They examined the behavior of the juveniles during the six to 18 months after release from the program (controlling for prior arrests). Youth from VisionQuest had fewer rearrests than youth who had served time in a probation camp or who had refused to accept the VisionQuest placement and were placed in other programs. While the results appear positive, as noted on the table the research methodology makes it impossible to draw conclusions regarding the program's effectiveness.

In a more recent study, Deschenes, Greenwood and Marshall (1996) examined the Nokomis Challenge Program in the Michigan Department of Social Services. Nokomis was designed as an intensive treatment program for low to medium risk juveniles. The focus of the program was on relapse prevention. Male youth were expected to spend less time in the residential facility but a longer time in community treatment when compared with youth in the training schools. Findings (see Table 9-8) indicated that the Nokomis youth had more felony arrests after release than did the comparison (significant). It is important to note that the examination of the implementation of the program revealed that the aftercare phase of the program failed to provide many of the expected treatment programs. There was limited substance abuse treatment and control group youth had more family counseling than the treatment group.

Castellano and Soderstrom completed a study of the Spectrum program in Illinois. This wilderness program was modeled after outward bound. The thirty day course focuses on teaching wilderness survival and group living skills to pre-delinquent and delinquent juveniles. A comparison of recidivism rates indicated that 75 percent of the Spectrum participants were rearrested in the follow-up period compared with 62.6 percent of the matched comparison group (nonsignificant).

In a random assignment study, RAND researchers examined the effectiveness of the Paint Creek Youth Center (PCYC) in southern Ohio (Greenwood and Turner 1993). The program targeted youth convicted of serious felonies who were required to spend an average of almost a year in residential treatment. While the program was located in a rural setting, it would not be classified as a wilderness or challenge program because these activities were not a major component of the program. The distinguishing features of the PCYC were: small size, problem oriented focus, cognitive/behavioral methods, family group therapy and intensive community reintegration and aftercare. Youth were randomly assigned to either the PCYC or regular training schools. Their behavior in the community after release was compared. The design was weakened because a relatively large number of the youth (25 percent) were removed from the PCYC and sent to the training schools to serve the remainder of their term. Furthermore, 27 percent of the remaining youth did not complete all three phases of the residential program. Official records of recidivism indicated that 50.7 percent of the PCYC youth (including those who were removed) and 61.3 percent of the control group had been arrested during a one-year follow-up. The difference was nonsignificant. The small numbers of offenders in the study limits the power to detect differences between groups. This along with the loss of 25 percent of the PCYC youth makes it difficult to draw any definitive conclusions from the research.

Overall, these studies of juvenile residential programs had very mixed results. Although several of the studies were well designed, problems with the small number of subjects, attrition and program implementation limit the conclusions that can be drawn about the effectiveness of the programs in preventing crime. The one program that included both a strong research design and a reduction in recidivism, although this difference was not significant, was Paint Creek. Interestingly, this program followed many of the principles proposed by Andrews et al. (1990). High risk youth were targeted for participation on the intensive program that used a cognitive/behavioral mode of treatment. However, problems with the research design severely limited the potential for detecting differences even if the program had indeed been effective. Most notably, the focus of the program was not on wilderness or challenge activities.

The other programs reviewed in this section either targeted individuals who were lower risks for recidivism (Nokomos, Spectrum), were of short duration (Spectrum), were less behavioral in treatment philosophy, or focused on non-criminogenic factors such as physical challenge (Spectrum). Thus, from the perspective of the research on rehabilitation (see section on rehabilitation and the Andrews et al. 1990 study), we would not expect them to be effective in reducing future criminal behavior.

Table 9-8. Studies of youth residential programs showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Greenwood and Turner (1987)	2	VisionQuest (39%) fewer arrests than YCC Control (71%), S.
Deschenes et al (1996)	3	Nokomis group (48%) had more arrests than control (23%), S.
Greenwood and Turner (1993)	3	Paint Creek youth had fewer official arrests (51%) than control youth (61%), NS. Paint Creek youth self-reported more serious offenses (75%) than control (62%), NS.
Castellano and Soderstrom (1992)	2	Spectrum youth did not differ from control youth in recidivism, NS.

Note: NS=nonsignificant, S=significant

7.3 Community Supervision and Aftercare for Juveniles

Approximately 55 percent of adjudicated juveniles are given probation (Butts, Snyder, and Finnegan 1994). Furthermore, those knowledgeable about juvenile corrections increasingly argue for aftercare and transitional services for juveniles following a period of incarceration. Both of the recent meta-analyses (e.g., Andrews et al. 1990; Lipsey 1992) suggest there will be greater reductions in recidivism if treatment is provided in community settings instead of in institutions. However, national surveys of intensive supervision and aftercare programs for juveniles completed during the 1980s revealed that few programs had been evaluated (Armstrong, 1988; Krisberg et al., 1989). Additionally, the evaluations that had been completed were severely limited in scientific rigor. Two exceptions to this were the New Pride Study sponsored by NIJ and OJJDP (NIJ, 1985) and The Violent Juvenile Offender Study implemented by OJJDP (Fagan et al., 1988). However, in neither study did the group who received the additional aftercare or supervision have significantly lower recidivism rates.

Most recent studies of community programs have focused on the increased surveillance and restraint aspects of the programs and not the enhanced services. While some of the programs enhance services, the research is designed to compare the increased surveillance and restraint with or without increased services. For this reason, the research is included in this section on community restraints instead of the rehabilitation section. The treatment and restraint components cannot be untangled, and since the research designs focus on surveillance the outcomes are more indicative of the effectiveness of restraints than rehabilitation. Additionally, when the treatment integrity is examined, few differences are found between the experimental program and the control in either the services delivered or the impact on risk factors. For example, in the Greenwood et al. (1993) study described below researchers did not find that the aftercare program they studied had an effect on the targeted risk factors. This section examines some of the recent studies of increased restraints over juveniles in the community (see Table 9-9).

Using a random assignment design, Land, McCall and Williams (1990) examined the North Carolina Court Counselors' Intensive Protective Supervision Project (ISP). The majority of the subjects were status offenders who entered the program as runaways or truants. The program was designed to enhance both the surveillance and services provided to the juveniles. As shown in Table 9-9, the results indicated that youth with no prior delinquent offenses had fewer delinquent offenses compared to the control group (11.9 percent to 27.5 percent) but the ISP youth with prior delinquent offenses had more delinquent offenses (57.1 percent compared to 33.3 percent). However, there were only a small number of youth with prior delinquencies. Whether the results were the effect of surveillance or services could not be distinguished in the research design.

In another study of youth in the community, Wiebush (1993) compared the performance of youth on intensive supervision (ISP) with comparison groups of youth on probation and parole. During the 18 month follow-up, a larger percent of the ISP youth received felony complaints (50.6 percent) than the probationers (37.9) but fewer felonies than the parolees (56.6 percent). Similarly, a larger percent of the ISP group were adjudicated (76.5) when compared to the probationers (61.6 percent) but fewer than the parolees (77.6). The results were not significant. Furthermore, it is difficult to draw conclusions because the groups were not randomly assigned and the groups differed prior to the treatment.

Sontheimer and Goodstein (1993) examined whether a juvenile intensive supervision program (ISP) in Pennsylvania had an impact on juvenile's propensity to reoffend (a rehabilitative or deterrent effect) or whether the restraints provided by the officers limited the opportunity juveniles had to reoffend. The program was an intensive aftercare program for serious juvenile offenders. Probationer officers supervising juveniles in the aftercare program were required to have frequent contacts with the juveniles and significant others; however, other than these additional contacts, there was no statement of the mission or philosophy of the program. Significantly fewer of the experimental group were rearrested (50 percent) than the controls (74 percent) and their mean number of rearrests were fewer (1.02 compared to 2.07 for the controls). The researchers interpret their findings as support for the restraining effect of ISP and not necessarily a reduction in the criminal propensity of the juveniles.

There were problems with the implementation of the program studied by Sontheimer and Goodstein. Contacts were substantially less than the mandated number and there was a large turnover of staff. This turnover would be expected to create turmoil for participants and uneven staff training and accountability. This combined with the failure to clearly define the mission of the program led the researchers to question whether the results were indicative of problems in the implementation of the treatment components of the program and not what could be achieved in such programs.

Minor and Elrod (1990,1992) examined the impact of an enhanced treatment program for juveniles on intensive and moderate levels of supervision. While there were no significant differences between the groups, juveniles in the enhanced treatment ISP program had more criminal offense complaints than the juveniles on ISP but without the enhanced treatment. Follow-up analyses also indicated that the intervention did have an effect on those who had more lengthy criminal backgrounds (e.g., the higher risk group). The major problem with this research was the number of subjects was so small there was no power to detect any difference that might have existed.

Greenwood, Deschenes and Adams (1993) studied the Skillman aftercare program in Michigan and Pennsylvania. The programs were designed to provide treatment components, hence the term "aftercare", along with intensive supervision. Subjects were randomly assigned to either the aftercare ISP or the control. Results indicated no significant difference between the experimental and control groups in the proportion of the youth who were rearrested, or who self-reported either offending or drug use in a one year follow-up period. However, an examination of what the programs provided for the youth indicated that in comparison to the control group the aftercare group: did not participate more in education or work activities; had little family support; and did not associate less with delinquent peers. Thus, despite the fact that the program was designed to promote changes in these risk factors there was little evidence of such change. Consistent with the previous meta-analyses of rehabilitation, it appears that the program did not have the required "treatment integrity" to bring about the changes in the risk (criminogenic) factors associated with criminal behavior.

The above studies compared the ISP programs in the community to other community alternatives. The following studies were designed to compare the recidivism of those who spent time on community supervision with others who had spent time in training schools.

Barton and Butts (1990) evaluated an in-home ISP program compared to commitment to traditional training schools in a random assignment study. They found that the ISP groups had a higher mean number of charges but the mean seriousness of the charges was greater for the control group. These differences were not significant when time in the community was controlled in the statistical analysis.

Gottfredson and Barton (1993) used a nonequivalent comparison group design to compare the effect of the closing of a juvenile training facility to the performance of juveniles who were then managed in the community. They found that the juveniles who had spent time in the institution had significantly lower recidivism rates than the comparison group. It is important to note that the comparison group was not intensively supervised in the community and there is little information about what services they may have received in the community.

In summary, most of the results reveal no significant difference between the experimental condition and the controls. In part, this reflects the small number of subjects in the studies so there is little power to detect any differences that might exist between the groups. The two studies by Land et al. (1990) and Sontheimer and Goodstein (1993) did find lower recidivism rates for the experimental groups. In both cases it appears that the experimental group received more services than the comparison. Again, this suggests the importance of meeting the rehabilitative needs of such offenders. This may also be why the institutionalized juveniles in the Gottfredson and Barton (1993) study had lower recidivism rates -- because of the services and rehabilitation they received when they were in the institution. Whether or not the juvenile is in a facility or on ISP may not be as important as whether appropriate rehabilitation programs are a part of the correctional option.

Table 9-9. Studies of juvenile community supervision and recidivism showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Land et al (1990)	5	ISP youth (mostly status offenders) with no prior delinquent offenses had fewer delinquent offenses (12%) than control group (28%), S. ISP youth with prior delinquent offenses had more delinquent offenses (57%) than control group (33%), NS.
Weibush (1993)	3	ISP youth had more felony complaints (51%) than probationers (38%) but fewer than parolees (57%), NS. ISP youth had more adjudications (77%) than probationers (62%) but

		fewer than parolees (78%), NS.
Sontheimer and Goodstein (1993)	5	ISP juveniles had fewer rearrests (50%) than parolees (74%), S.
Minor and Elrod (1990)	2	ISP group had more self-reported criminal and status offenses, NS.
Elrod and Minor (1992)	2	ISP group had fewer status offenses but more criminal offenses (68%) than control group (67%), NS.
Barton and Butts (1990)	5	ISP juveniles had more charges but control group had more serious charges, NS.
Greenwood et al (1993)	5	Detroit: Aftercare group (22%) had more arrests than controls (18%), NS. Pittsburgh: Aftercare group had fewer arrests 49%) compared to controls (48%), NS.
Gottfredson and Barton (1993)	4	Institutionalized juveniles had fewer arrests than non-institutionalized, S.

Note: NS=nonsignificant, S=significant

8. DRUG-INVOLVED OFFENDERS

8.1 Treatment in Prison

Advocates of treatment and rehabilitation have perhaps made the strongest arguments in favor of increased treatment for substance abusing offenders. The need for treatment is demonstrated by the large body of research indicating the relationship between criminal activity and use of alcohol and other drugs (Chaiken 1986; Chaiken and Chaiken 1982; Inciardi 1979; Johnson and Wish 1986; Nurco, Kinlock and Hanlon, 1990; Speckart and Anglin, 1986). Furthermore, the National Institute of Justice (NIJ)'s Drug Use Forecasting (DUF) program consistently finds high rates of illicit drug use among arrestees in the 24 participating cities. In 1995, between 47 and 78 percent of the men and 44 to 85 percent of the women test positive for use of illegal drugs.

Documentation of this high level of use and the strong association between drug use and crime clearly indicates the critical need for treatment for these offenders. However, the recent focus of criminal justice policies on incapacitation and deterrence did not easily provide the necessary funds. In 1987, approximately 11 percent of prison inmates were involved in some type of drug treatment (Chaiken 1989). Although the numbers are sizeable (51,500), the majority of inmates with substance abuse problems still do not receive treatment while in prison. In 1991, 48 percent of state prisoners and 43 percent of the Federal prisoners reported that they had been in a drug program since admission to prison (BJS 1994). Yet the intensity and quality of these treatment programs is unknown.

Despite the fact that many drug-involved offenders are not treated while they are under the control of the criminal justice system, a growing body of research indicates that treatment for substance-involved offenders can effectively reduce substance use and criminal recidivism (Gerstein and Harwood 1992). Effectiveness of drug treatment is directly related to the length of time an individual remains in treatment. This is true for various treatment modalities. Furthermore, the treatment is effective whether the offender enters voluntarily or under some form of coercion (Anglin and Hser 1990a, b; Anglin and Maugh 1992; Falkin, Wexler, and Lipton 1992; Leukefeld and Tims 1992; Travis, Wetherington, Feucht, and Visher 1996). From this perspective, the criminal justice system presents an ideal opportunity to require offenders to participate and remain in treatment.

Some of the most promising evaluations of drug treatment for criminal justice have focused on the effectiveness of prison-based therapeutic communities (TCs) that operate as 24-hour live-in facilities within the prison. We examined evaluations of five such programs (Wexler et al. 1992; Martin et al. 1995; Wexler et al. 1995; Field 1989; Eisenberg and Fabelo 1996). As shown in Table 9-10, the studies were judged to be of sufficient rigor to draw conclusions about the effectiveness of the treatment programs. In all studies, the researchers found that the graduates of the programs had lower recidivism rates than those who spent less time in the programs. They concluded that the programs were effective in reducing recidivism of the offenders (See Table 9-10).

Although these studies are widely cited as evidence of the success of drug treatment, there are some concerns about the research methodology. In particular, the programs have high attrition rates (large numbers of offenders leave the programs before completing). Many of the research designs do not take this attrition into account in the data analysis. As a result, it is difficult to conclude that the programs are effective in reducing recidivism. The alternative conclusion is that the programs identify those who are ready to change and these will be the individuals who will be successful in the community. That is, the research design does not permit one to draw conclusions about the effect of the program because offenders who complete the TC program may be very different from those who do not, a difference which could have existed prior to the program. More work needs to be done to examine program attrition and how programs can be carefully matched to the needs of offenders so that larger numbers will complete the program. It may also be possible to use the power of the criminal justice system to coerce offenders to remain in programs.

In summary research examining the effectiveness of drug treatment shows:

- o Drug treatment is effective in reducing the recidivism of offenders;
- o Offenders coerced into treatment by the criminal justice system do as well as those who enter voluntarily.

Dropouts from treatment present a major problem in terms of both evaluating the effectiveness of the programs and in the determining how successful the program will be.

Table 9-10. Studies of in-prison therapeutic communities for drug treatment and recidivism showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Wexler, et al. (1992)	4	Males: Therapeutic Community had fewer rearrests (27%) compared to Milieu (35%), S; Counseling (40%), S; No Treatment (41%), S; and all groups combined, S. Females: Therapeutic Community had fewer rearrests (18%) compared to counseling group (29%), S; No Treatment (24%) NS: and both groups combined, S.
Martin, et al. (1995)	3	Combined KEY-CREST (3%) fewer rearrests than Comparison group, S; KEY (19%) fewer rearrests than Comparison group (29%), NS.
Wexler, et al. (1995)	3	Fewer Treatment (Amity TC) plus Aftercare (Vista) participants (26%) returned to prison than control group (63%); than Treatment Drop-outs (50%), and Treatment Only (43%), S.

Field (1989)	2	Cornerstone graduates had fewer rearrests (63%) than non-graduates with 6+ months of exposure (79%); than non-graduates with 2 to 6 months of exposure (88%); and than non-graduates with 0 to 2 months of exposure, (92%). No significance tests.
Eisenberg and Fabelo (1996)	2	Texas Initiative graduates had fewer rearrests (13%) than non-completers (31%), S; and than comparison group (29%), S. Texas Initiative graduates had fewer reincarcerations (7%) than non-completers (19%), S; and than comparison group (19%),S.

Note: NS=nonsignificant, S=significant

8.2 Urine Testing

There are a wide array of drug testing technologies including urinalysis, hair assays, and other emerging technologies such as saliva tests and sweat patches (Travis, Wetherington, Feucht, Visser 1996). These technologies are viewed as an important component of criminal justice programming for drug-involved offenders because they provide objective evidence of drug use independent of self-reports. While the new technologies hold great promise for overcoming some of the limitations of urinalysis, at this point in time urinalysis is the most commonly used testing technology.

Urine testing is currently applied throughout the criminal justice system in order to achieve a variety of program objectives. From the perspective of crime prevention, urine testing can be useful to help assess risk or to deter offenders from continued use of drugs and the associated criminal activities.

During the pretrial period, urine testing can be used as a tool for assessing the risk that defendants will reoffend or fail to appear in court. This information could be used to make decisions about who to release from jail during the pretrial period. Evaluations of the efficacy of such use of urine testing show mixed results (Travis et al. 1996; Rhodes, Hyatt and Scheiman 1994). There is some evidence that recent use of cocaine is associated with an increased risk of failure to appear for trial but this is true in only some jurisdictions. Additionally, it does not seem to be the case with other drugs. Similarly, there has been some evidence that opiate use predicts pretrial re-offending but this is not true of other drugs nor is it the case in all jurisdictions. However, in a recent study in Washington, D.C., Smith and Polsenberg (1992) found that arrestees who tested positive for any drug were significantly more likely to be rearrested before trial.

Offenders on probation or parole in the community are often required to submit to urine tests. Deschenes, et al. 1996 evaluated the effect of 3 levels of urine testing on recidivism rates for drug offenders on probation. All subjects were sentenced to standard probation supervision and then randomly assigned to one of the levels of testing conditions. Group one received no urine testing (n=168). Group two received random monthly urine testing (N=141) and group three received twice weekly, scheduled testing (N=145). Rearrest rates for "any technical violation" after 12 month follow-up were: "No Test" 39.9%, "Low-Rate" 44.7%, and "High-Rate" 54.5%. There was a significant difference between "No" and "High-Rate" testing (p<.05). Average number of violations" also showed a significant difference between "No" and "High-Rate" (2.1, 4.1, p<.05), as well as between "Low" and "High-Rate" testing, (2.5, 4.1, p<.05). While there were several other recidivism outcome measures, such as "average number of arrests and "percent with any arrest", there were no other significant differences among the groups, in terms of criminal recidivism. The authors conclude that increased testing frequency does not effect arrest or conviction rates. They suggest that increased testing does serve to identify sooner, rather than later, offenders "who continue to use drugs while on probation".

9. COMBINING REHABILITATION AND RESTRAINT

Some programs have begun to combine components of community restraints or challenge programs with rehabilitation. As previously reported, there is some evidence, not yet fully tested, suggesting that ISP programs that combine surveillance and treatment may be successful in reducing the recidivism of offenders. Similarly, correctional boot camps that combine the military aspects of the camps with rehabilitation and aftercare show some promise for reducing recidivism. Programs combining urine testing and treatment and the relatively new drug courts are examples of programs designed to combine restraints with rehabilitation. The research examining the crime prevention effectiveness of such programs is described in the following sections.

9.1 Urine Testing and Drug Treatment

Drug testing in combination with drug treatment can be useful as a method of monitoring progress in treatment and holding offenders accountable for treatment participation. The question is whether such testing can reduce the criminal activities of offenders while they are in treatment. As shown in Table 11, four studies were identified that used testing and treatment interventions for offenders in the community.

Nurco, Hanlon, Bateman, and Kinlok (1985) used an experimental design to examine the effectiveness of drug abuse treatment coupled with urine monitoring compared to two groups: (1) an intensive urine-monitoring and (2) routine parole involving random urine monitoring. While the group receiving treatment and urine monitoring had fewer revocations (48 percent) than the two control groups of intensive monitoring (50 percent) and routine parole (56 percent), the differences were not significant. The study is a preliminary report and so the results are based on a small number of subjects.

In a study funded by NIJ, Hepburn and Albonetti (1994) examined the effectiveness of drug monitoring and treatment compared to drug monitoring alone using 718 probationers. While the study was designed to use random assignment, the procedure was not followed. The researchers statistically controlled for sample differences; however, this greatly reduced the scientific rigor of the study. Furthermore, the researchers describe the intervention as relatively weak.

Taxman and Spinner (1996) used a random assignment study to compare a jail-based treatment program using TASC (Treatment Alternatives to Street Crime). Approximately 80 percent of the offenders underwent drug testing while they were in community treatment programs. The experimental group who received jail-based treatment as well as follow-up treatment and urine monitoring in the community had fewer rearrests than comparison groups.

The fourth study, by Anglin, Longshore, Turner, McBride, Inciardi, and Pendergast (1996) examined the impact of five TASC programs on recidivism and drug use. Groups were randomly assigned in two sites and a quasi-experimental design was used in the remaining sites. There was no evidence that treatment plus testing decreased recidivism.

Overall, of the four programs only the jail-based treatment programs showed a significant impact on rearrests.

9.2 Drug Courts

Faced with the enormous growth and impact of drug-related criminal caseloads in most jurisdictions across the United States, many court systems have searched for alternatives to traditional methods of processing the drug-involved offenders. One solution has been drug courts. Earlier versions of drug courts were designed to rapidly process offenders through the system. However, the recently developed drug courts are treatment-oriented courts that seek to bring substance abuse treatment to bear on the problems of drug-involved felony defendants in a diversionary, alternative processing approach. A courtroom-based team approach with specially adapted outpatient drug abuse treatment is used to coerce offenders into treatment. Judges play a central and active role in the team in the unorthodox courtroom approach that brings the defense, prosecution, treatment, and other court-related agencies together. This approach combines elements of both criminal justice and drug treatment -- two perspectives accustomed to different methods and sometimes competing aims regarding drug-involvement and its reduction. Drug use is monitored through urine testing and the results are reported to the court. Frequently the courts emphasize individual accountability through a system of rewards and graduated sanctions for misbehavior.

The relatively recent development of these programs means there has been little time for outcome evaluations (see Table 9-12). We could identify only four evaluations. Harrell and Cavanagh (1996) are studying the DC Superior Court Drug Intervention Program under a grant from the NIJ. Preliminary data are encouraging because offenders who receive treatment and sanctions for noncompliance with the drug-free requirements, as well as those who receive only sanctions, test free of drugs more often than those who are on standard dockets. However, recidivism data are not yet available from this study.

Table 9-11. Studies of drug treatment and urine testing showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Nurco et al. (1995)	3	Treatment with urinalysis had fewer revocations (48%) than intensive urine monitoring (50%) and routine supervision (56%), NS.
Hepburn and Albonetti (1994)	2	No differences in revocations when treatment with urinalysis was compared to two urinalysis only conditions, NS.
Taxman and Spinner (1996)	5	Treatment with urinalysis reduced rates of new arrests (55.1%) compared to the no treatment condition (68.1%), S.
Anglin et al (1996)	3	TASC treatment with urinalysis did not reduce re-arrest rates at any site, NS.

Note: NS=nonsignificant, S=significant

Gottfredson, Coblenz and Harmon (1996) examined the Baltimore City Drug Treatment Court Program. While the numbers are quite small, the results suggest that the program may have very different impacts depending upon the court and characteristics of the offenders involved. Males in the circuit and district courts had fewer arrests and convictions than their comparison groups when their criminal risk was controlled in the statistical analysis. On the other hand, women in these two drug courts and cases that entered as probation violators had fewer new arrests and convictions than their comparisons.

Goldkamp (1994) completed a study of the original Miami Drug Treatment Court in Dade County co-funded by the State Justice Institute and The NIJ. As shown in Table 9-12, the results demonstrate a lower rearrest rate for participants in the drug court. However, there were several problems with the study making it difficult to definitely conclude that the effect can be attributed to the drug court. In particular, the groups were not randomly assigned, and, furthermore, the failure to report rates differed tremendously between the drug court participants (55 percent) and the comparisons (9 percent).

Unlike many drug courts the Maricopa County (Arizona) Drug Court is a post-adjudication program for probationers with a first-time felony conviction for drug possession. Participants are required to participate in an outpatient comprehensive drug treatment program and their progress is monitored by the judge. Under a grant from the NIJ, Deschenes, Turner and Greenwood (1996) completed a random assignment study of this court. The analysis of recidivism after twelve months indicated that drug court participants had fewer rearrests (nonsignificant) and fewer incarcerations (significant) in comparison to the control group offenders (see Table 9-12).

In contrast to many of the other intermediate sanctions, drug courts attempt to combine increased surveillance with treatment. The court's responsibility for oversight of the offender, the treatment programs, and the supervising agents also means that all involved can be held accountable for outcomes. There is yet little research to examine how effective the programs are in reducing crime but the early results appear hopeful.

Table 9-12. Studies of drug courts showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Goldkamp (1994)	2	Fewer Miami Drug Court participants were rearrested (33%) than comparisons (52%), S. More Miami Drug Court group failed to appear (52%) than comparisons (9%).
Deschenes et al. (1995)	4	Fewer Drug Court participants were rearrested than probationers, NS. Fewer Drug Court arrestees sentenced to prison (9%) compared to probationer arrestees (23%), S.
Gottfredson et al. (1996)	3	When seriousness was statistically controlled, male: drug court participants had fewer rearrests, NS, and fewer reconvictions than comparison, NS; female drug court participants had fewer rearrests, S, and fewer convictions, NS.

Note: NS=nonsignificant, S=significant

10. SUMMARY AND RECOMMENDATIONS

10.1 Scientific Conclusions

It is obvious from this review of the research on crime prevention in the criminal justice system that no one strategy is appropriate for all offenders and all situations. Careful system planning is required to maximize the crime prevention potential of these different strategies. Shown in Table 9-13, are some of the issues that remain unresolved in the research on these strategies. What has not been addressed in this review of the scientific evidence supporting these strategies is the differential impacts of the strategies. For example, important in any consideration of the combination of incapacitation and deterrence strategies is the effect these policies have had on the minority community (Tonry, 1995) and the unintended effect of incarceration of inmates' families (Clear, 1996). Similarly, types of rehabilitation programs may be more effective with some offenders than others. Differences in gender, mentally illness, or risk level, for instance, may be associated with program effectiveness.

Despite the fact that many such topics have had to be omitted due to time and length constraints, some conclusions can be offered regarding the crime prevention effects of the different criminal justice strategies reviewed.

What works? The research examined herein provides evidence that the following strategies are effective in reducing crime in the community:

- o Rehabilitation programs with particular characteristics;
- o Prison-based therapeutic community treatment of drug-involved offenders;
- o Incapacitating offenders who continue to commit crimes at high rates.

There is now substantial evidence that rehabilitation programs work. There is a body of research supporting the conclusion that

some treatment programs work with at least some offenders in some situations. Effective rehabilitation programs:

- o Are structured and focused, use multiple treatment components, focus on developing skills (social skills, academic and employment skills), and use behavioral (including cognitive-behavioral) methods (with reinforcements for clearly identified, overt behaviors as opposed to non-directive counseling focusing on insight, self esteem, or disclosure); and,
- o Provide for substantial, meaningful contact between the treatment personnel and the participant.

The best treatment programs reduced recidivism by as much as 10 to 20 percentage points.

However, in order to be effective, treatment must follow some important principles. Programs must be designed to address the characteristics of the offenders that can be changed and that are associated with the individual's criminal activities. Furthermore, the treatment provided to offenders must be of sufficient integrity to insure that what is delivered is consistent with the planned design.

The research demonstrates that drug treatment is effective in reducing the criminal activities of offenders. The current examination of prison-based therapeutic community treatment for drug-involved offenders demonstrates that these programs are an effective method of providing prison-based treatment. These intensive, behaviorally-based programs target offenders' drug use, a behavior that is clearly associated with criminal activities.

Incapacitating offenders who will continue to commit crimes at a high rate and who are not at the end of their criminal careers is effective in reducing crimes in the community. Studies investigating the effectiveness of these incapacitation techniques show there are advantages in locking up the high-rate career criminals who commit serious crimes. The difficulty is in identifying who these high-rate offenders are, and the diminishing return on invested dollars with the increased incarceration rates. It is clear that the most serious offenders such as serial rapists should be incapacitated. However, locking up those who are not high-rate, serious offenders or those who are at the end of their criminal careers is extremely expensive.

Table 9-13. Different strategies for preventing crime by the courts and corrections showing issues unresolved by the research.

THE COURTS AND CORRECTIONS		CRIME PREVENTION BY			
Structure, Discipline and Challenge	Combining Incapacitation and Restraints and Rehabilitation	Deterrence	Rehabilitation	Community Restraints	
such programs enhance or conversely	Limited How to provide ability to coercion. predict future high risk offenders. How to insure well-implemente	What types of deterrents (e.g., day fines) are effective with what types of offenders (e.g., DWI)?	Retaining offenders in treatment.	How to combine with treatment.	Do
UNRESOLVED ISSUES	Financial rehabilitation costs and increases in		How to insure well-implemented intensive rehabilitation programs.	Does increased surveillance reduce criminal activities?	
reduce the effectiveness of treatment? program.					

<p>What components are associated with success or failure? How to maximize the effectiveness of each.</p>	<p>imprisonment rates. coordinate treatment and Diminishing surveillance returns with increased incarceration rates.</p> <p>Adequacy of estimates of length of criminal career and rates of offending unknown.</p> <p>Negative impact on minorities</p> <p>Unintended Consequences.</p> <p>Increased use may decrease deterrent effects.</p> <p>Self-reported crime rates of those monitored in the community.</p>	<p>Most effective targets (attitude of conditions, values, employment) for change.</p> <p>Do violations of supervision or "signal" new criminal activity?</p> <p>Most effective service delivery methods for change.</p>
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What Does Not Work? Studies of poorly implemented rehabilitation programs given to low risk offenders using vague behavioral targets were not be effective in reducing crime. Nor were programs that emphasized characteristics such as discipline, structure, challenge, and self esteem that are not directly associated the offender's criminal behavior. Rehabilitation programs that did not reduce the recidivism of offenders:

- o Emphasized specific deterrence such as shock probation and Scared Straight;
- o Used vague, nondirective, unstructured counseling.

Studies demonstrate little evidence that continuing the policies of the past several decades emphasizing the increased use of incarceration will have a major impact on reducing crimes at this point in time. As incarceration rates grow there appear to be

diminished returns (e.g., reduced impact on crime rates) because lower rate offenders are being locked up. It may also be counterproductive by limiting the deterrent effect of prison because people have less fear of incarceration. The impact on minority communities has been disastrous. An additional difficulty with the strategy is that, at this point in time, we cannot intelligently make the distinction between those who will commit serious crimes in the future and those who will not.

Community restraints without programming and services were not effective in reducing the recidivism rates of offenders. There is now an extensive body of research examining the crime prevention effects of community sanctions designed to restrain offenders while they are in the community. The studies are scientifically rigorous, so it is possible to draw conclusions about the effectiveness of these efforts. The following programs were not effective in reducing the criminal activities of either adult or juvenile offenders, if they were not combined with rehabilitation:

- o Intensive supervised probation or parole (ISP)
- o Home confinement
- o Community residential programs
- o Urine testing

Evaluations of these programs have focused on the impact of increased control. The results have been discouraging because there are usually no differences between those in the intermediate sanctions and the comparison groups. In fact, in many cases the group receiving the intermediate sanction has had more technical violations. It is important to note that, while these sanctions may not reduce recidivism, they do not do any worse than other forms of "management as usual" and they may have other advantages when compared to incarceration such as reduced costs. The failure to find differences in recidivism means these sanctions do not result in increased public safety concerns by increasing the recidivism. Therefore, they may compare favorably with other sanctions on grounds other than recidivism.

Other programs that were not shown to be effective (again, if they were not combined with rehabilitation) are those emphasizing structure, discipline and challenge such as:

- o Correctional boot camps using the old-style military model
- o Juvenile wilderness programs

As with the research examining community restraints, there are a reasonable number of scientifically credible studies that have been completed, so conclusions about the effects of the programs are clear. It is unclear why these programs have failed to show crime reduction effects. Possibly individuals in the programs spend more time in the physical challenge activities and not in therapeutic activities that would more directly address the problems they have that are associated with their criminal activities. Another possibility is that the programs are group-oriented and do not offer enough individualized programming to address specific difficulties of the individual participants.

Deterrence programs that increase the punitive impact of the sentence such as Scared Straight or shock probation do not reduce crime. Reviews of the literature on these programs as well as the meta-analyses of rehabilitation continually show that these programs are not effective in preventing crime. In fact, some research suggests that such programs are associated with increases in the later criminal activities of the participants (see the meta-analysis by Lipsey, 1992).

What's promising? There are, however, some promising signs. Several strategies have been shown in only one study to reduce recidivism of offenders so we classify these as promising. The following are promising programs:

- o Drug courts combining both rehabilitation and criminal justice control.
- o Day fines
- o Juvenile aftercare
- o Drug treatment combined with urine testing

What we don't know. We do not know whether rehabilitation combined with ISP or with boot camps will be effective in reducing the recidivism of offenders because the research has been exploratory in nature (e.g., a one or two on our scale). Research examining these programs reveals that these combinations may be effective in preventing the criminal activities of offenders. The exploratory follow-up studies of ISP have investigated the differences in recidivism that can be attributed to treatment. The results from these investigations suggest that rehabilitation programs combined with community restraint programs may be effective in reducing recidivism. Similarly, the research from the discipline, structure and challenge programs suggests that combining these programs with rehabilitation may effectively reduce the later criminal behavior of participants. The idea of combining control and rehabilitation is also supported by the drug treatment research revealing that substance abusing offenders who are coerced into treatment stay in treatment longer and they do as well as others who were not coerced.

From this perspective, intensive supervision programs, and correctional boot camps may be effective in reducing recidivism if the programs incorporate treatment programs that follow the principles of effective rehabilitation. The question is how to combine the programs so that the integrity of the treatment program is not lost. Those responsible for the control and surveillance and those responsible for providing the treatment will have to be held accountable for the component of the program they are expected to deliver. Furthermore, there will have to be close coordination between the groups to insure a close working relationship between the treatment and control providers.

Day reporting programs also hold potential program for combining the treatment and community control of offenders. However, to date there are no studies showing whether these can be effective. Furthermore, there is a possibility that the programs will emphasize the control and surveillance aspects of the program and not the combination of treatment and control.

10.2 The Effectiveness of DOJ Programs.

Research on the effectiveness of different strategies of crime prevention in the courts and corrections, much of it supported by the Office of Justice programs (OJP), has provided some clear guidance for the next steps in crime prevention in this setting. Shown in Table 9-14, are some of the major funds provided by OJP bureaus for programs in courts and correctional. Most of the funding goes to prison construction, correctional boot camps, residential substance abuse treatment for state prisoners, correctional alternatives, graduated sanctions and aftercare for juveniles, and drug courts. The following sections examine these programs based on the scientific evidence of effectiveness.

Alternative sanctions and community restraints. The OJP bureaus have completed exemplary work examining the effectiveness of restraint-type programs for offenders in the community and old-style military boot camps models. There is a considerable body of high quality research examining various community restraint-type programs. The results point clearly toward the ineffectiveness of these programs in reducing criminal activities of offenders, at least as measured by official measures of recidivism. The research has focused on the restraint and control of offenders in the community. That is, the research has been designed to compare those in a restraint program versus those who are not. There has been little focus on the quality of the therapeutic programming within the different correctional options. Nor have studies examined other measures of criminal activities, such as self-reported crimes.

Under the Byrne Grant Funding, BJA has funded the local development of alternative sanctions and correctional options. The research evidence does not demonstrate that the programs will be effective in reducing the criminal activities of offenders unless they are combined with treatment. Much of research appears to replicate earlier studies examining the effectiveness of the restrain aspect of the programs. Thus, it does not provide additional information about how to improve the programs in order to maximize the crime prevention potential.

What is needed in the future are high quality studies with experimental assignment of subjects to programs with different rehabilitation components focusing on participants with varying characteristics. The meta-analyses reviewed in this manuscript suggest that it will be important to have researchers involved in the program design and implementation. Certainly the research on rehabilitation suggests that many offenders will benefit from treatment programs. Again, it is important to note that future research on rehabilitation will have to consider the costs and benefits of such programs.

OJJDP's Intensive Community-Based Aftercare. When intensive supervision programs are combined with treatment and follow a term in an institution, they are often referred to as "aftercare" programs. The as OJJDP aftercare program was designed first to document information about aftercare in various jurisdictions throughout the U.S. This information was used to develop a model aftercare program that will be tested in selected jurisdictions. The program targets chronic and serious juvenile offenders who initially require secure confinement; the community aftercare follows this period of confinement. A prototype model for the aftercare has been developed. According to the model, aftercare planning begins when the juvenile first enters a facility. Each youth is assessed for risk and service needs, and an individualized plan is developed to address the identified

needs.

If this program is studied with an experimental design that will compare experiences of the juveniles who receive the aftercare to others, it will provide important information about the combination of rehabilitation and community restraint. The intensive aftercare for high-risk juveniles proposes a model of treatment that is consistent with successful treatment programs according to our review of the rehabilitation literature. The model fits many of the principles identified as necessary for effective rehabilitation programs by the meta-analysis by Andrews and his colleagues. It targets high risk juveniles for an intensive program. Surveillance and services are integrated in an attempt to coerce the juveniles to participate in rehabilitation programs.

Table 9-14. Major Federal Funding of the Office of Justice Programs for Corrections and Court Programs FY96 and FY97.

DOJ Office and Program	Purpose Areas	Total Funding	
Corrections Program Office	Residential Substance Abuse Treatment for State Prisoners	FY96	\$ 27 million
		FY97	\$ 30 million
		FY96	\$405 million
	Prison Construction	FY95	\$ 24.5 million
Violence Against Women Office	Training Programs for Probation and Parole Offices to Work With Released Sex Offenders	FY96	\$ 1 million
		FY97	\$ 1 million
Drug Courts Program Office	Drug Courts	FY95	\$ 12 million
		FY96	\$ 15 million
		FY97	\$ 30 million
Bureau of Justice Assistance			
Byrne Grant Funding ⁹	Courts, Corrections, Drug Treatment	FYL96	\$109 million
Local Law Enforcement Block Grants	Drug Courts	Unable to determine portion allotted to specific programs	
Office of Juvenile Justice and Delinquency Prevention			
Title V Comprehensive Strategy for SVCs	Graduated Sanctions for SVCs	unable to determine portion allotted to these two programs	
Intensive Community-Based Aftercare	Aftercare for Juveniles		

Correctional Boot Camps. There are a reasonable number of evaluations demonstrating that the boot camps do not have an

impact on the recidivism rates of offenders. The only hopeful sign is in one follow-up study examining programs that provided intensive rehabilitation-type activities in the boot camp and aftercare upon release. The scientific rigor of this analysis was low as it was an exploratory analysis but it did suggest that such enhancements may reduce the recidivism of participants. Again, most of the research focus has been on the control aspects of the programs and not the rehabilitation components. It appears that these programs will have to be changed if they are going to have an impact on reducing crimes in the community.

During FY95, as directed by Congress, all prison construction money appropriated to OJP was given for the construction and planning of correctional boot camps. Prior to that time NIJ and OJJDP had funded studies of adult and juvenile correctional boot camps. The programs were not effective at reducing the recidivism of the participants once they were released. Using this results of this research, and the research on rehabilitation, OJP held meetings for interested applicants for the prison construction money. At these meetings, those who were developing boot camp programs were informed of the results of the research and they were encouraged to develop "new generation" models of correctional boot camps. These models would move the focus of the boot camps from the traditional old-style military boot camps that are not effective to new models emphasizing leadership, restorative justice or work skills.

We do not know if adding therapeutic programming into the boot camps will be more or less effective than similar programs that have the therapy but not the military aspects of the correctional boot camps. This is an ideal area for random assignment studies and several such studies are currently underway.

Prison construction. Approximately \$471 million will be available in 1997 for formula grant awards to build or expand correctional facilities for violent offenders; build or expand temporary or permanent correctional facilities for nonviolent offenders and criminal aliens to free prison space for violent offenders; and build or expand jails.¹⁰ Whether these funds will help prevent serious crime remains a matter of great debate and small scientific evidence.

From 1980 until 1995, there was an overall 242 percent increase in prison populations. In 1980 the total inmate population was 330,000, but by 1995 this had grown to approximately 1.1 million inmates. Reflecting this growth in inmate populations, U.S. prison annual operating costs have swelled from \$3.1 billion in fiscal year 1980 to about \$17.7 billion in fiscal year 1994. Forecasting groups anticipate that the growth will continue at least for the foreseeable future. According to a recent report by GAO (1996), the growth is a function of factors such as crime levels, sentencing laws and law enforcement policies, most recently it can be traced to major legislation intended to get tough on criminals, particularly drug offenders (GAO). The question is whether the increased funding for prison construction for such offenders will reduce crime in the community.

The research suggests that this massive increase in imprisonment does reduce the number of crimes because some offenders who would be active criminals will instead be locked in prison. However, the question is whether the incarceration rate has grown so large that now there is a diminished return on every dollar invested. That is, the offenders now sent to prison may be those who would be committing few crimes if they were in the community. Thus, relatively few crimes will be prevented by the continued expansion of the capacity to incarcerate. Furthermore, little is said about who will be incarcerated in the prisons built by the monies provided for prison construction. Studies reveal that the effectiveness of incapacitation will be dependent upon identifying and incarcerating high frequency offenders who are not at the end of their criminal careers. Researchers have not been able to identify these individuals so that the effectiveness of this strategy can be maximized.

Many state and local jurisdiction have begun to invest time and money into system planning in order to rationally distribute offenders in prisons and alternatives (boot camps, intensive supervision, etc.). There is little research examining the effectiveness of such system planning. What research there is focuses on descriptive studies and not the impact of such policies. This would be a fruitful avenue for future research if it uses rigorous research designs to examine impact.

Drug Courts. Given the enormous number of drug-involved offenders that are arrested each year, the association between drug involvement and criminal activities, and the enormous number of these offenders in prisons, one important body of research focuses on the drug-involved offenders. Two OJP funding programs address drug-involved offenders: drug courts and residential drug treatment for state prisoners. Both programs move beyond the deterrence options and increased restraints that have failed to reduce the criminal activities of these offenders. Substantial scientific evidence shows that drug treatment is an effective method of reducing both drug use and crime by these offenders. Furthermore, the criminal justice system can coerce offenders to remain in treatment longer. The longer they stay in treatment the better they do later, and those who are coerced do as well as comparisons who volunteer for treatment. One advantage of drug courts is that the court can oversee and supervise the coordination of the treatment and the community restraint. Theoretically the court has the authority to hold each provider accountable for their responsibilities in an effort to force the offender to change.

We rank the current scientific evidence on the effectiveness of drug courts as promising. While evaluations to date show

encouraging results, the studies were of limited scientific rigor. Drug courts also vary widely in the services provided, populations served, and when interventions are offered. Given these large differences in programs, it will be crucial to examine what components of programs are effective for what target population using what intervention.

As with the boot camps, it is anticipated that the people developing the programs will be hesitant to initiate a rigorous experimental design to examine these programs. Yet, this will be required in order to determine the effectiveness of the programs and to justify the proliferation of such courts without evidence of effectiveness. Programs that will be used as models for other new drug courts should be required to provide evidence of the effectiveness of the programs.

Residential Substance Abuse Treatment for State Prisoners. As with the drug courts, the prison-based substance abuse programs appear to be a promising way to reduce the drug use and associated criminal activities of offenders, once they leave prison. In general, the studies of in-prison therapeutic community programs demonstrated that such programs reduced the recidivism rates of offenders once they were released. While the studies suffered from design problems such as attrition and comparison group deficiencies, several used sufficiently strong methodology to warrant the conclusion that they successfully reduced the recidivism rates of participants. All of the programs studied provided intensive programming for participants in prison. Further reductions in recidivism were associated with the length of time offenders spent in the programs, and whether they participated in aftercare following release from prison.

Future research needs to focus on determining whether offenders who are at different stages in the change process would benefit from different types of programs. In addition, research should focus on methods of keeping offenders in the programs, once they have decided to enter.

10.3 Improving The Effectiveness Through Research

The development of more effective crime prevention in the courts and corrections would be improved if the following steps were taken.

Support research on incapacitation.

Large-scale research studies examining the effects of increasing the capacity of prisons are needed to determine the effects of incapacitation strategies. There has been little rigorous research examining the impact of incapacitation strategies. This is evident in a recent study of research articles published on the topic of deterrence, rehabilitation and incapacitation. Zimring and Hawkins (1995) examined the titles of articles found in Social Scisearch (SOSCISCH) system. From 1980 until 1989, over 4,000 studies had rehabilitation/recidivism in the title, 610 had deterrence but only 45 had incapacitation/preventive detention.

Self-report studies of the criminal activities of offenders are needed to determine crime rates after arrest or when offenders are serving time on probation, parole or in some alternative sanction in the community.

Require (and provide the substantial financial investment to enable) rigorous evaluation using experimental designs of rehabilitation models that are guided by the principles of effective programs revealed in meta-analyses.

While there appear to be an enormous number of studies examining the effectiveness of rehabilitation (see for instance, the Zimring and Hawkins study described above), researchers completing reviews of the literature and meta-analyses report that there are a relatively limited number of studies that use a scientifically adequate methodology. As a result, it is impossible to draw unequivocal conclusions about the effectiveness of the programs.

Support the development of a methodology to study the therapeutic integrity (implementation, staff training, treatment modality) of rehabilitation to insure that programs can be held accountable for implementing programs that are effective in reducing recidivism.

Many times the evaluation of programs is unsuccessful because the program is not implemented as designed or is designed so poorly that it would reasonably be expected to have an impact on the individual participants. More research needs to be completed to identify methods of holding rehabilitation programs accountable for the treatment and services delivered.

Provide funding for research test sites that enable researchers to be intimately involved in the design and implementation of programs.

Congress has earmarked funds for many of the OJP programs like prison construction, drug courts and boot camp prisons. To

insure that these programs will be evaluated, OJP has transferred money to NIJ to be used for evaluations. For example, in FY 1996 OJP transferred over \$3 million to NIJ for corrections. For some of the programs, jurisdictions receiving funding have been required to agree to participate in an evaluation. This arrangement between NIJ and the programming money causes some difficulties that require researchers to play "catch-up" in trying to design the research and obtain agreements from sites. Many programs would benefit greatly if the researchers were involved from the beginning and the money was tied to the requirement that sites would participate in studies. Such test-site research would insure close cooperation between the programs and the research. This is a particular concern with the funding for the boot camps and drug courts because the effectiveness of these programs have not been demonstrated.

Research examining intermediate sanctions, alternative punishments or correctional options should be carefully designed to address the questions that are still unanswered by the research.

These programs are not effective in reducing the recidivism rates of offenders as measured by official records. Self-report measures of criminal activities may reveal that the crime rates are reduced for offenders in such alternatives but that the increased attention to offenders means their misbehavior is more apt to be detected. Furthermore, research should examine whether combining these options with rehabilitation is successful in reducing criminal activity.

More research is need on the programs identified as promising in this report: Drug Courts; Day Fines; Juvenile Aftercare; and, Drug Treatment combined with Urine Testing.

In summary, what is clear from this report is that none of these strategies should be eliminated as an option. In particular situations, each strategy has some support for successfully reducing crime in the community. What will be important is a strategic plan defining who should be incapacitated, who should be rehabilitated, who can be deterred, and how to combine restraint and rehabilitation to effectively reduce crime. Important in this plan will be measures to insure that each program is held accountable for the expected outcome. The question is whether we can reduce the future criminal activities of offenders by holding the individual accountable for his or her own behavior, the treatment program accountable for outcomes and the criminal justice system for sanctioning offenders who do not comply with requirements. Equally as important are questions addressing the differential impacts of programs for individuals who differ in characteristics such as gender, home community (urban/rural), race/ethnicity and age. The argument is not which of these different strategies of crime prevention should be used, but when and where the effect of each strategy can be used to maximally prevent crime in the community.

NOTES

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²It should be noted that this research made use of a complex statistical model with reasonable estimates of the relevant factors completed by a respected group of researchers. Although, there is still debate about the estimates used in the statistical models, it is important to distinguish the predictions from unscientific estimates given in some policy debates. For example, Hawkins and Zimring (1995) describe one unscientific estimate that would have produced a \$300 billion savings in the cost of crimes prevented, and, as noted by Hawkins and Zimring this unreasonable estimate is greater than the federal deficit or the national defense budget.

³Note that this is the proportion of all the studies reviewed that show positive and significant reductions in recidivism when the treated group is compared to the control group.

⁴While this analysis included both adult and juvenile treatment programs, the majority of the studies dealt with juvenile programs.

⁵A current NIJ study is examining the self-reported crime rates of offenders on probation. This information will provide some estimates of the crime rates and the association between these rates and the conditions of probation in order to determine whether those who are more intensively supervised have lower self-reported crime rates (MacKenzie, Browning and Prui 1996).

⁶This was a more extensive analysis than previous meta-analyses that had focused on delinquents in residential programs (Garrett 1984;1985), at-risk juveniles (Kaufman (1985), and treatment of adjudicated delinquents (Gottschalk et al.1987;

Whitehead and Lab 1989). While the conclusions from these analyses differed, all yielded a positive mean effect of about the same order of magnitude (1/4 to 1/3 of a standard deviation superiority for the treatment group outcome compared with the control group outcome). See also the early discussion of the Andrews et al. (1990) meta-analysis in this chapter.

⁷Behavioral interventions are strategies that focus on changing behaviors by setting behavioral goals and using positive and negative reinforcement to encourage or discourage clearly identified behaviors.

⁸Multi-modal or multi-components treatment programs are those that combine several different treatment strategies in one program.

⁹These amounts were extrapolated from the Dunworth, et al. (1997) analysis of the award of grants in 1989-94, proportionately applied to the FY96 allocation of \$475 million.

¹⁰Office of Justice Programs Crime Act Programs Fiscal Year 1997 Update.

REFERENCES

Allen, H. E., Seiter, R. P., Carlson, E. W., Bowman, H. H. Grandfield, J. J., & Beran, N. J. (1976). National Evaluation Program Phase I: residential inmate aftercare, the state of the art summary. Columbus, OH: Ohio State University, Program for the Study of Crime and Delinquency.

Andrews, D.A., Zinger, I, Hoge, R.D., Bonta, J., Gendreau, P, & Cullen, F.T. (1990). Does correctional treatment work? A clinically-relevant and psychologically-informed meta-analysis. Criminology,28,369-404.

Andrews, D.A. Bonta, J., & Hoge, I. (1990). Classification for effective rehabilitation: rediscovering psychology. Criminal Justice and Behavior, 17, 19-52.

Andrews, D.A., & Bonta, J. (1994). The Psychology of Criminal Conduct. Cincinnati, OH: Anderson Publishing Co.

Anglin, M. D., & Hser, Y.I. (1990). Treatment of drug abuse. In M. Tonry and J.Q. Wilson (Eds.). Drugs and crime. Chicago, IL: University of Chicago Press.

Anglin, M.D., & Maughn, T.H. (1992). Overturning myths about coerced drug treatment. California Psychologist,14,20-22.

Anglin, M.D, Longshore, D., Turner, S., McBride, D., Inciardi, J., & Pendergast, M. (1996). Studies of functioning and effectiveness of Treatment Alternatives to Street Crime (TASC) programs: final report. Washington, DC: National Institute on Drug Abuse.

Armstrong, T. (1988). National survey of juvenile intensive probation supervision: Parts 1 & 2. Criminal Justice Abstracts, 20(2,3):342-348, 497-523.

Austin, J & Hardyman, P. (1991). The use of early parole with electronic monitoring to control prison crowding: Evaluation of the Oklahoma Department of Corrections pre-parole supervised release with electronic monitoring. Unpublished report to the National Institute of Justice.

Bailey, Walter C. (1966). Correctional outcome: An evaluation of 100 reports. Journal of Criminal Law and Criminology and Police Science, 57 (2).

Barton, W. H., & Butts, J. A. (1990). Viable options: intensive supervision programs for juvenile delinquents. Crime and Delinquency,36(2), 238-256.

Baumer, T.L., & Mendelsohn, R.I. (1991). Comparing methods of monitoring home detention: the results of a field experiment. Paper presented at the meeting of the American Society of Criminology, San Francisco.

Baumer, T.L., & Mendelsohn, R.I. (1992). Electronically monitored home confinement: Does it work? In J.M. Byrne, A.J.

Lurigio, & J. Petersilia (Eds.). Smart sentencing: the emergence of intermediate sanctions. Newbury Park, CA: Sage.

Baumer, T.L., Maxfield, M.G., & Mendelsohn, R.I. (1993). A comparative analysis of three electronically monitored home detention programs. Justice Quarterly, 10, 121-42.

Beck, A. & Klein-Saffran, J. (1989). Community control project. (Report No. 44). Washington, DC: United States Parole Commission.

Benekos, P. J. & Merlo, Alida V. (1996). Three strikes and you're out: The political sentencing game. In J.W. Marquart and J.R. Sorensen, eds. Correctional Contexts: Contemporary and Classical Readings. Los Angeles, CA: Roxbury Pub. Co.

Blumstein, A., and Cohen, J. (1973). A theory of the stability of punishment. Journal of Criminal Law and Criminology, 64:198-206.

Blumstein, A., and Cohen, J. (1979). Estimation of individual crime rates from arrest records. Journal of Criminal Law and Criminology, 70:561-85.

Blumstein, A., Cohen, J. Roth, J. A. And Visher, C. A. (Eds) (1986). Criminal Careers and "Career Criminals." Washington, D. C.: National academy Press.

Bottcher, J., Isorena, T., & Belnas, M. (1996). Lead: a boot camp and intensive parole program: an impact evaluation: second year findings. State of California, Department of the Youth Authority, Research Division.

Boudouris, J. & Turnbull, B.W. (1985). Shock probation in Iowa. Journal of Offender Counseling Services and Rehabilitation, 9:53-67.

Buckner, J.C. & Chesney-Lind, M. (1983). Dramatic cures for juvenile crime: An evaluation of a prison-run delinquency prevention program. Criminal Justice and Behavior, 10:227-247.

Bureau of Justice Statistics 1995. The nation's correctional population tops 5 million. Washington, D.C.: U.S. Department of Justice Bureau of Justice Statistics (NCJ-156432)

Bureau of Justice Statistics 1996. Prison and Jail Inmates, 1995. Washington, D.C.: Bureau of Justice Statistics Bulletin (NCJ-161132).

Butts, J.A., H.N. Snyder and T.A. Finnegan (1994). Juvenile court statistics 1992. Washington DC, U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Byrne, J.M., & Kelly, L.M. (1989). Restructuring probation as an intermediate sanction: An evaluation of the Massachusetts intensive probation supervision program: final report to the National Institute of Justice. Lowell, MA: University of Lowell, Department of Criminal Justice.

Byrne, J.M., Lurigio, A.J., Petersilia, J. (1996). Smart Sentencing: The Emergence of Intermediate Sanctions. Newbury Park, CA: Sage Publications.

Casale, Silvia, G., and Hillsman, S. T. (1986). The enforcement of fines as criminal sanctions: The English experience and its relevance to American practice. New York: Vera Institute of Justice.

Castellano, T.C., & Soderstrom, I. R. (1992). Therapeutic wilderness programs and juvenile recidivism: a program evaluation. Journal of Offender Rehabilitation, 17(3/4), 19-46.

Chaiken, M. R. (1986). Crime rates and substance abuse among types of offenders. In B. D. Johnson & E. Wish (Eds), Crime rates among drug-abusing offenders. Final report to the National Institute of Justice. New York: Narcotic and Drug Research, Inc.

Chaiken, M.R. (1989). In-prison programs for drug involved offenders. National Institute of Justice: Issues and Practices.

Chaiken, M. R. & Chaiken, J. M. (1982). Varieties of criminal behavior. Santa Monica, CA: Rand Corp.

Clarke, S.H. (1974). Getting 'em out of circulation: Does incarceration of juvenile offenders reduce crime? Journal of Criminal Law and Criminology, 65 (4): 528-35.

Clarke, S.H. (1994). Increasing imprisonment to prevent violent crime: Is it working? Popular Government, (Summer), 16-24.

Clear, T. R. (1996). The Unintended Consequences of Incarceration. Paper presented at the NIJ workshop on corrections research, Feb. 14-15.

Cohen, J., & Canela-Cacho, Jose, A. (1994). Incarceration and violent crime. In Albert J. Reiss, Jr. & Jeffery A. Roth (eds). Understanding and preventing violence: Consequence and control. vol. 4. Washington, D.C.: National Academy of Sciences.

Cohen, J. (1983). Incapacitation as a strategy for crime control: possibilities and pitfalls. In M. Tonry and N. Morris : (eds). Crime and Justice, An Annual Review of Research. Chicago: University of Chicago Press.

Cohen, J. (1984). Selective Incapacitation: An assessment. University of Illinois Law Review, 2 :253-90.

Cole, G., Mahoney, B., Thornton, M., Hanson, R. A. (1987). The practice and attitudes of trial court judges regarding fines as a criminal sanction. Final report submitted to the National Institute of Justice, U.S. Department of Justice, Washington, D.C.

Cullen, F.T. , & Gendreau, P. (1989). The effectiveness of correctional rehabilitation: reconsidering the "Nothing Works" debate. In L. Goodstein & D. Mackenzie (Eds.). The American prison: issues in research and policy. NY: Plenum Press.

Cullen, F. T. & Gilbert, K. E. (1982). Reaffirming Rehabilitation. Cincinnati, OH: Anderson publishing, Co.

Cullen, F.T., Wright, J.P. & Applegate, B.K. (1996). Control in the community: The limits of reform? In A.T. Harland Choosing correctional options that work: defining the demand and evaluating the supply. Thousand Oaks, CA: Sage Publications Company.

Deschenes, E. P., Greenwood, P., & Marshall, G. (1996). The Nokomis challenge program evaluation. Santa Monica, CA: RAND Corp.

Deschenes, E.P., Turner, S., Greenwood, P., & Chiesa, J. (1996). An experimental evaluation of drug testing and treatment interventions for probationers in Maricopa County, Arizona. RAND Corp.

Deschenes, E.P., Turner, S., & Petersilia, J.. (1995). Intensive community supervision in Minnesota: A dual experiment in prison diversion and enhanced supervised release. Final report to The National Institute of Justice, Washington DC.

Dunworth, T., Haynes, P. & Saiger, A.J. (1997). National Assessment of the Byrne Formula Grant Program. Washington, DC: National Institute of Justice.

English , K., & Mande, M. J. (1992). Measuring from many of the studies about the effectiveness of the programs. crime rates of prisoners. Denver: Colorado Department of Public Safety, Division of Criminal Justice, Office of Research and Statistics.

Eisenberg, M., & Fabelo, T. (1996). Evaluation of the Texas correctional substance abuse treatment initiative: the impact of policy research. Crime and Delinquency, 42(2), 296-308.

Elrod, H. P., & Minor, K.I. (1992). Second wave evaluation of a multi-faceted intervention for juvenile court probationers. International Journal of Offender Therapy and Comparative Criminology, 36(3), 247-262.

Erwin, B. (1986). Turning up the heat on probationers in Georgia. Federal Probation. 50:17-29.

Fagan, J., Forst, M. & Vivona, T. (1988). Treatment and reintegration of violent juvenile offenders: Experimental Results. San Francisco: URSA Institute.

Falkin, G. P. , Wexler, H. K. & Lipton, D. S. (1992). Drug treatment in state prisons. In D. R. Gerstein & H. J. Harwood (Eds).

Treating Drug Problems (Vol. II, pp. 89-132). Washington, D.C: National Academy Press.

Fallen, D.L., Apperson, C.G., Hall-Milligan, J., & Aos, S. (1977). Report: intensive parole supervision. Washington, DC: Department of Social and Health Services.

Field, Gary (1989). The effects of intensive treatment on reducing the criminal recidivism of addicted offenders. Federal Probation, 53: 51-56.

Finckenauer, James O. (1982). Scared Straight and the Panacea Phenomenon. Englewood Cliffs, NJ: Prentice-Hall.

Florida Department of Corrections. (1990). Florida executive summary: boot camp: a 25 month review. Tallahassee, FL: Florida Department of Corrections.

Flowers, G.T., Carr, T.S., & Ruback, R.B. (1991). Special alternative incarceration evaluation. Atlanta, GA: Georgia Department of Corrections.

Gendreau, P. (1981). Treatment in corrections: Martinson was wrong. Canadian Psychology, 22, 332-338.

Gendreau, P & Ross , R. R. (1979). Effective correctional treatment: Bibliotherapy for cynics. Crime and Delinquency, 25 : 463-489.

Gendreau, P & Ross , R. R. (1981). Correctional potency: Treatment and deterrence on trial. In R. Roesch & R. Corrado (eds) Evaluation Research and Policy in Criminal Justice. Beverly hills: Sage.

Gendreau, P & Ross , R. R. (1987). Revivification of rehabilitation: Evidence from the 1980's. Justice Quarterly, 4 349-407.

Gendreau, P, Little, T, & Goggin, C. (1995). A meta-analysis of the predictors of adult offender recidivism: What works! University of New Brunswick, St. John, Canada. Unpublished manuscript.

Gerstein, D.R. and Harwood, H.J. (Eds). (1992). Treating Drug Problems. Washington, DC: National Academy Press:119-20.

Glaser, D. and Gordon, M.A. (1988). Use and Effectiveness of Fines, Jail, and Probation. Los Angeles: University of Southern California, Social Science Research Institute.

Goldkamp, J.S., & Weiland, D. (1993). Assessing the impact of Dade County's felony drug court. Washington, DC: U.S. Department of Justice.

Goldkamp, J. S. (1994). Miami's treatment drug court for felony defendants: some implications of assessment findings., The Prison Journal,73(2), 110-166.

Gordon, M.A., & Glaser, D. (1991). The use and effects of financial penalties in municipal courts. Criminology, 29(4), 651-676.

Gottfredson, D.C., & Barton, W.H. (1993). Deinstitutionalization of juvenile offenders. Criminology, 31(4), 591-611.

Gottfredson, D.M., Coblenz, K., & Harmon, M.A.(1996). A short term outcome evaluation of the Baltimore city drug treatment court program. College Park, MD: Department of Criminology and Criminal Justice, University of Maryland.

Gottfredson, M.R. (1979). Parole guidelines and reduction of sentence disparity. Journal of Research in Crime and Delinquency, 16 :218-31.

Gottfredson, S.D. and Gottfredson, D.M. (1994). Behavioral prediction and the problem of incapacitation. Criminology, 32:441-474.

Greenberg, David F. (1975). The incapacitative effects of imprisonment: Some estimates. Law and Society, 9(4): 541-586.

Greenwood, Peter W., with Allan Abrahamse (1982). Selective incapacitation. Santa Monica , CA: RAND Corp.

- Greenwood, P., Model, K., Rydell, C., & Chiesa, J. (1996). Diverting children from a life of crime: measuring costs and benefits. Santa Monica, CA: RAND Corp.
- Greenwood, P.W., Rydell, C.P., Abrahames, A.F., Caulkins, J.P., Chesia, J., Model, P. E.& Klein, S.P. (1994). Three strikes and you're out: Estimated benefits and costs of California's new mandatory sentencing law. Santa Monica, CA: RAND Corp.
- Greenwood, P.W., Deschenes, E.P., & Adams, J. (1993). Chronic juvenile offenders: final results from the Skillman aftercare experiment. Santa Monica, CA: RAND Corp.
- Greenwood, P.W., & Turner, S. (1993). Evaluation of the Paint Creek center: a residential program for serious delinquents. Criminology, 31(2), 263-279.
- Greenwood, P & Zimring, F. E. (1985). One more chance: The pursuit of promising intervention strategies for chronic juvenile offenders. Santa Monica, CA: Sage Publications.
- Greenwood, P., & Turner, S. (1987). The VisionQuest program: an evaluation. Santa Monica, CA: RAND Corp.
- Halleck, S & Witte, A. E. (1977). Is rehabilitation dead? Crime and Delinquency. 372-382.
- Hepburn, J.R. & Albonetti, C.A. (1994). Recidivism among drug offenders: a survival analysis of the effects of offender characteristics, type of offense, and two types of intervention. Journal of Quantitative Criminology, 10(2), 159-179.
- Harland, A.T. ed. (1996). Choosing Correctional Options That Work: Defining the Demand and Evaluating the Supply. Thousand Oaks, CA: Sage Publications.
- Harrell, A. and S. Cavanagh. 1996. Preliminary results from the evaluation of the DC Superior Court Drug Intervention Program for Drug Felony Defendants. Unpublished manuscript presented at the National Institute of Justice Research in Progress Seminar (July). Washington, D.C.
- Hillsman, S.T. (1990). Fines and day fines. In M. Tonry & N. Morris (Eds.). Crime and justice: a review of research. Vol. 12. Chicago, IL: University of Chicago Press.
- Hillsman, S. T., Joyace, L. Sichel, and Mahoney, B. (1984). Fines in sentencing: A study of the use of the fine as a criminal sanction . New York: Vera Institute of Justice.
- Hillsman, S.T. and Green, J.A. (1987). Improving the Use and Administration of Criminal Fines: A Report of the Richmond County, New York, Criminal Court Day-Fine Planning Project. New York: Vera Institute of Justice.
- Hillsman, S.T. and Green, J.A. (1988). Improving the Use and Administration of Monetary Penalties in Criminal Cases: An Experiment to Apply Means based Fining Concepts and Practices to the Superior Court of Maricopa County, Arizona. New York: Vera Institute of Justice.
- Horney, J., & Marshall, Haen I. (1991). Measuring lambda through self-reports. Criminology 29 (3): 471-95.
- Inciardi, J. A. (1979). Heroin use and street crime. Crime and Delinquency, 25: 335-46.
- Johnson, Bruce D & Wish, Eric D (1986). The impact of substance abuse on criminal careers. In Alfred Blumstein, Jacqueline Cohen, Jeffrey A. Roth & Christy Visher (eds). Criminal Careers and "Career Criminals". Vol. 2. Washington, D.C.: National Academy Press.
- Jolin, A., & Stipack, B. (1991). Clackamas county community corrections intensive drug program: program evaluation report. Portland, OR: Portland State University, Department of Administration of Justice.
- Kirby, B.C. (1954). Measuring effects of treatment of criminals and delinquents. Sociology and Social Research. 38:368-374.
- Krisberg, B. Rodriguez, O., Baake, A., Neuenfeldt, D. & Steele, P. (1989) Demonstration of post-adjudication non-residential intensive supervision programs: Assessment report. San Francisco: National council on Crime and Delinquency.

- Lab, S.P., & Whitehead, J.T. (1988). An analysis of juvenile correctional treatment . Crime and Delinquency, 34: 60-83.
- Land, K. C. McCall, P. L., Williams, J.R. (1990). Something that works in juvenile justice: an evaluation of the North Carolina court counselors' intensive protective supervision randomized experimental project, 1987-1989. Evaluation Review, 14 (6), 574-606.
- Latessa, E. J. & Allen, H. E. (1982). Halfway houses and parole: A national assessment. Journal of Criminal Justice, 10 (2):153-163.
- Latessa, E. J. (1991). A preliminary evaluation of the Cuyahoga county adult probation department's intensive supervision groups. Unpublished manuscript. Cincinnati, OH: University of Cincinnati.
- Latessa, E. J. (1992). Intensive supervision and case management classification: an evaluation. Unpublished manuscript. Cincinnati, OH: University of Cincinnati.
- Latessa, E. J. (1993a). An evaluation of the Lucas county adult probation department's IDU and high risk groups. Unpublished manuscript. Cincinnati, OH:, University of Cincinnati.
- Latessa, E. J. (1993b). Profile of the special units of the Lucas county adult probation department. Unpublished manuscript. Cincinnati, OH: University of Cincinnati.
- Latessa, E.J., & Travis, L.F. III. (1991). Halfway house or probation: a comparison of alternative dispositions. Journal of Crime and Justice,14(1), 58-75.
- Leukefeld, C.G. , & Tims, F. M. (Eds). (1992). Drug abuse treatment in prisons and jails. National Institute of Drug Abuse, Research Monograph Series, No. 18. Washington, D.C.: U.S. Government Printing Office.
- Lewis, R.V. (1983). Scared straight-California style: Evaluation of the San Quentin squire program. Criminal Justice and Behavior, 10: 209-226.
- Lipsey, M. (1992). Juvenile delinquency treatment: a meta-analytic inquiry into the variability of effects. In T. Cook, et al. (Eds.). Meta-analysis for explanation: a casebook. New York, NY: Russell Sage Foundation.
- Lipton, D. And Pearson, F.S. (1996). The CDATE Project: Reviewing research on the effectiveness of treatment programs for adult and juvenile offenders. Paper presented at the Annual Meeting of the American Society of Criminology, Chicago, IL.
- Lipton, D., Martinson, R., & Wilks, J. (1975). The effectiveness of correctional treatment: A survey of treatment evaluation studies. New York: Praeger.
- Logan, C. (1972). Evaluation research in crime and delinquency: An reappraisal. Journal of Criminal Law Criminology, and Police Science, 63: 378-387.
- Lurigio, A. J., & Petersilia, J. (1992). The emergence of intensive probation supervision programs in the United States. In J.M. Byrne, A. J. Lurigio, & J. Petersilia (Eds.). Smart sentencing: the emergence of intermediate sanctions, (pp. 18-41). Newbury Park, CA: Sage Publications.
- MacKenzie, D. L. (1990). Boot camp prisons: Components, evaluations, and empirical issues. Federal Probation, 54 (3): 44-52.
- MacKenzie, D.L., Browning, K. & Prui, H. (1996). Self-reported criminal activities of probationers. Paper presented at the Annual Meeting of the American Society of Criminology, Chicago, IL.
- MacKenzie, D. L. & Parent, D. G. (1991). Shock incarceration and prison crowding in Louisiana. Journal of Criminal Justice, 19: 225-237.
- MacKenzie, D. L., & Shaw, J.W. (1993). The impact of shock incarceration on technical violations and new criminal activities. Justice Quarterly,10, 463-487.

- MacKenzie, D. L. , Shaw, J.W., & Gowdy, V. (1993). An evaluation of shock incarceration in Louisiana. Washington, D.C. , National Institute of Justice.
- MacKenzie, D. L. (1991). The parole performance of offenders released from shock incarceration (boot camp prisons): a survival time analysis. Journal of Quantitative Criminology(3), 213-236.
- MacKenzie, D. L. Brame, R., MacDowall, D., & Souryal , C. (1995). Boot camp prisons and recidivism in eight states. Criminology,33(3), 327-358.
- Marques, K.H., & Ebener, P.A. (1981). Quality of Prisoner Self-Reports: Arrest and Conviction Response Errors. Santa Monica, CA: Rand Corporation.
- Martin, S., Sechrest, L., & Redner. (Eds) (1981). New directions in the rehabilitation of criminal offenders. Washington, DC: National Academy Press.
- Martin, S.S., Butzin, C.A., & Inciardi, J. (1995). Assessment of a multistage therapeutic community for drug involved offenders. Journal of Psychoactive Drugs, 27(1), 109-116.
- Martinson, R (1974). What works? -Questions and answers about prison reform. The Public Interest .10 :22-54.
- Minor, K.I., & Elrod, P. (1994). The effects of a probation intervention on juvenile offenders self-concepts, loci of control, and perceptions of juvenile justice. Youth and Society, 25(4), 490-511.
- Minor, K.I., & Elrod, H.P. (1990). The effects of a multi-faceted intervention on the offense activities of juvenile probationers. Journal of Offender Counseling, Service and Rehabilitation, 1(2), 87-108.
- Miranne, A.C., & Geerken, M.R. (1991). The New Orleans inmate survey: A test of Greenwood's predictive scale. Criminology, 29(3): 497-518.
- Mitchell, C.J.Z., & Butter, C. (1986). Intensive supervision/early release parole. Utah Department of Corrections.
- Molof, M. (1991). Study of the intensive probation supervision for multiple DUI offenders in Linn county, Oregon. Linn county, OR: Integrated Research Services.
- Moon, M.M., & Latessa, E.J. (1993). The effectiveness of an outpatient drug treatment program on felony probationers. Paper presented at the annual meeting of the Academy of Criminal Justice Sciences, Kansas City.
- Moon, M.M., & Latessa, E.J. (1994). Drug treatment in adult probation: an evaluation of an outpatient and acupuncture program. Evaluation and Program Planning, 17(2), 217-26.
- Morris, N., & Tonry, M. (1990). Between Prison and Probation: Intermediate Punishments in a Rational Sentencing System, New York: Oxford University Press.
- National Council on Crime and Delinquency. (1991). Evaluation of the Florida community control program. San Francisco: Author.
- New York State, Department of Correctional Services, Division of Parole. (1995). Annual Shock Legislative Report. New York: Author.
- New York Department of Correctional Services (1992). The fourth annual report to the legislature on shock incarceration and shock parole supervision. Albany: Department of Correctional Services and Division of Parole.
- New York Department of Correctional Services (1993). The fifth annual report to the legislature on shock incarceration and shock parole supervision. Albany: Department of Correctional Services and Division of Parole
- Nurco, D., Hanlan, T. & Kinlock, T. (1990). Offenders, drugs and treatment. Washington, D.C.: United States Department of Justice.

- Nurco, D.N., Hanlon, T.E., Bateman, R.W., & Kinlock, T.W. (1995). Drug abuse treatment in the context of correctional surveillance. Journal of Substance Abuse Treatment, 12(1), 19-27.
- Palmer, T. (1975). Martinson revisited. Journal of Research in Crime and Delinquency. 12:133-152.
- Palmer, T (1983). The 'effectiveness' issue today : an overview. Federal Probation, 46 : 3-10.
- Parent, D.G., Byrne,J., Tsarfaty, V. Valdae, L., & Esselman, J. (1995). Day Reporting Centers. Vol.1 and 2. Washington, DC: National Institute of Justice.
- Pearson, F. S. (1987). Research on New Jersey's intensive supervision program . Washington, D.C: U.S. Department of Justice, National Institute of Justice.
- Peters, M. (1996a). Evaluation of the impact of boot camps for juvenile offenders: Denver interim report. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Peters, M. (1996a). Evaluation of the impact of boot camps for juvenile offenders: Cleveland interim report. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Peters, M . (1996b). Evaluation of the impact of boot camps for juvenile offenders: Mobile interim report. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Petersilia, J & Greenwood, Peter W. (1978). Mandatory prison sentences: their projected effects on crime and prison populations. Journal of Criminal Law and Criminology, 69: 604-615.
- Petersilia, J., & Turner, S. (1993). Evaluating intensive supervision probation/parole: results of a nationwide experiment. Washington, DC: National Institute of Justice.
- Petersilia, J., & Turner, S. (1993). Intensive probation and parole. In Crime and justice: a review of research, Vol. 19, (pp. 281-335). Chicago, IL: University of Chicago Press.
- Peterson, M.A., Greenwood, P. W. & Lavin, M. (1977). Criminal Careers of Habitual Felons. Santa Monica, CA: Rand Corporation.
- Peterson, M.A., & Braiker, H.B. (1980). Doing crime: A survey of California prison inmates, Report R-2200-DOJ. Santa Monica, CA: Rand Corporation.
- Peterson, M.A., & Braiker, H.B., with Polich , S.M. (1981). Who Commits Crimes: A Survey of Prison Inmates. Cambridge, MA: Oelgeschlager, Gunn, and Hain.
- Peterson, M., Chaiken, J., Ebener, P. ,& Honig, P. (1982). Survey of Prison and Jail Inmates: Background and Methods. Santa Monica, CA: Rand Corporation.
- Renzema, M. (1992). Home confinement programs: development, implementation, and impact. In J.M. Byrne, A.J. Lurigio, & J. Petersilia (Eds.). Smart sentencing: the emergence of intermediate sanctions. Newbury Park, CA: Sage Publications
- Rhodes, W., Hyatt, R. & Schiman, P. (1994) /1996
- Sechrest, L., White, S., & Brown, E (1979). The rehabilitation of criminal offenders : problems and prospects. Washington, D.C.: The National Academy of Science.
- Smith, D.A. & Polsenberg, C. (1992). Specifying the relationship between arrestee drug test results and recidivism. Journal of Criminal Law & Criminology, 83, 364-377.
- Sontheimer, H., & Goodstein, L. (1993). Evaluation of juvenile intensive aftercare probation: aftercare versus system response effects. Justice Quarterly,10, 197-227.

- Smykla, J. O & Selke, W. L. (Eds.) (1995). Intermediate Sanctions: Sentencing in the 1990s. Cincinnati, OH: Anderson Publishing Co.
- Speckart, G., & Anglin, D.M. (1986). Narcotics and crime: A causal modeling approach. Journal of Quantitative Criminology, 2 : 3-28.
- Spelman, W. (1984). A sensitivity analysis of the Rand Inmate surveys. Paper presented at 1984 meeting of the American Society of Criminology, Cincinnati, Ohio. Washington, D.C: Police Executive Research Forum.
- Spelman, W. (1994). Criminal Incapacitation. New York, NY: Plenum Press.
- Stojkovic, S. (1994). The President's crime commission recommendations for corrections: the twilight of idols. In J. Conley (Ed.), The 1967 President's crime commission report: Its impact 25 years later (pp.37-55). Cincinnati, OH: Anderson.
- Taxman, F.S., & Spinner, D.L. (1996). The jail addiction services (JAS) project in Montgomery county, Maryland: Overview of results from a 24 month follow-up study. Unpublished Manuscript, University of Maryland, College Park, MD.
- Texas Department of Criminal Justice. (1991). Shock incarceration in Texas: special incarceration program. Austin, TX: Author.
- Tonry, M. (1995). Malign Neglect: Race, Crime, and Punishment in America. New York, NY: Oxford Press.
- Tonry, M., & Lynch, M. (1996). Intermediate sanctions. In M. Tonry. (Ed.). Crime and justice: a review of research, vol.20. Chicago, IL: The University of Chicago Press.
- Tonry, M. (1996). Sentencing Matters. (pp.72-99). New York, NY: Oxford University Press.
- Travis, J., Wetherington, C., Feucht, T.E., & Fisher, C. (1996). Drug involved offenders in the criminal justice system. Washington, DC: National Institute of Justice, Working Paper - 96-02.
- Turner, S., & Petersilia, J. (1996). Work release: recidivism and corrections costs in Washington state: research in brief. Washington, DC: National Institute of Justice.
- Van Dine, Stephan, Conard, John P. , & Dintz, Simon (1977). The incapacitation of dangerous offender: A statistical experiment. Journal of Research in Crime and Delinquency, 14: 22-35.
- Van Voorhis (1987). Correctional effectiveness: The high cost of ignoring success. Federal Probation, 51 (1): :56-62.
- Visher, C.A. (1987). Incapacitation and crime control: Does a 'lock'em up' strategy reduce crime? Justice Quarterly, 4(4), 513-543.
- Vito, G., & Allen, H. E. (1981). Shock probation in Ohio: a comparison of outcomes. International Journal of Offender Therapy and Comparative Criminology, 25(1), 7075.
- Vito, G. (1984). Developments in shock probation: a review of research findings and policy implications. Federal Probation, 48, 2227.
- Von Hirsch, Andrew, & Gottfredson, D. (1984). Selective incapacitation: Some queries on research design and equity. New York University Review of Law and Social Change 12 (1): 11-51.
- Walker, S. 1985. Sense and nonsense about crime: A policy guide. Monterey, CA: Brooks/Cole.
- Worzella, D. 1992. The Milwaukee Municipal Court Day-Fine Project. In D.C. McDonald, J. Green, C. Worzella (eds) Day Fines in American Courts: The Staten Island and Milwaukee Experiments. Issues and Practices in Criminal Justice, National Institute of Justice, Washington, D.C.:61-76.
- Weibush, R.G. (1993). Juvenile intensive supervision: the impact on felony offenders diverted from institutional placement.

Crime and Delinquency, 39(1), 68-89.

Wexler, H.K., Falkin, G.P., & Lipton, D.S. (1992). Outcome evaluation of a prison therapeutic community for substance abuse treatment. Criminal Justice and Behavior, 17(1), 71.

Wexler, H.K., Graham, W.F., Koronowski, R., Lowe, L. (1995). Evaluation of Amity in-prison and post-release substance abuse treatment programs. Washington, DC: National Institute of Drug Abuse.

Whitehead, J.T., & Lab, S.P. (1989). A meta-analysis of juvenile correctional treatment. Journal of Research in Crime and Delinquency, 26, 276-295.

Winterdyk, & Rask, R (1981). A wilderness experimental program as an alternative for probationers: An evaluation. Canadian Journal of Criminology, 23, 39-49.

Wolfgang, M.E., Figlio, R. M., & Sellin, T. (1972). Delinquency in a Birth Cohort. Chicago, IL: University of Chicago Press.

Zedlewski, Edwin M. (1987). Making confinement decisions. Washington, D.C.: U.S. Department of Justice.

Zimring, F. E., & Hawkins, Gordon. (1995). Incapacitation: penal confinement and the restraint of crime. New York: Oxford University Press.

Chapter Ten

CONCLUSION:

THE EFFECTIVENESS OF LOCAL CRIME PREVENTION FUNDING

by Lawrence W. Sherman

The effectiveness of most crime prevention strategies will remain unknown until the nation invests more in evaluating them. That is the central conclusion of this report. The inadequacy of that investment to date prevents a judgment for or against the effectiveness of the \$3 Billion in federal crime funds, at least to a reasonable degree of scientific certainty. Using "rigorous and scientifically recognized standards and methodologies"--the mission Congress set out for this report--the review of over 500 impact evaluations reveals only a handful of conclusions that can be generalized from those studies to similar programs around the nation. By scientific standards, there are very few "programs of proven effectiveness."

This lack of evidence is not a reflection on the DOJ programs themselves. Nor does it reflect the quality of their administration. It is a direct consequence of the legislative plan for federal funding of local crime prevention. That consequence was not by Congressional intent. For over a quarter century, the Congress has asked the Department of Justice to evaluate the effectiveness of local crime prevention funding. But as the preceding Chapters show, the Congress has never provided the tools needed to get the job done. Those tools include adequate funding for program evaluation, and a structure of federal program funding that permits controlled testing of crime prevention effectiveness.

In order for Congress to learn whether DOJ programs are effective, it must provide a more balanced approach to program funding and evaluation. The latter cannot be accomplished without some small compromise in the principle of State and local control over how most of the federal funding is spent. While this principle may have many merits for the federal support of State and local **operations**, it is a roadblock to federal production of sound **guidance** on what works to prevent crime. Exclusively local control of funding conflicts with the scientific principles of controlled field testing, preventing DOJ-funded program evaluations from using "rigorous and scientifically recognized standards and methodologies." A statutory evaluation plan can remove this obstacle by setting aside just ten percent of operational funding for federal-local partnerships to accomplish scientifically controlled field tests. This would allow DOJ to control program funding in ways that will help insure reliable evaluation results.

A secondary legislative obstacle to evaluating crime prevention is insufficient funding for employing scientifically recognized standards and methodologies. There are substantial costs of using such scientific evaluation techniques as victimization surveys,

systematic observations of program implementation, field interviews of offenders and case screening for randomized controlled trials. These techniques can make evaluations cost as much as or more than the programs being evaluated. Under-funding of DOJ evaluations is ultimately wasteful, spending substantial amounts for descriptive evaluations but not enough to answer the primary questions about program effectiveness. Congress can solve this problem by limiting the scope of required evaluations, but requiring that evaluations that are funded receive sufficient funding levels to answer the important questions. In order for this approach to be effective, Congress must also match the ten percent of program funding earmarked for field-tested programs with another ten percent to pay for the evaluations.

The third legislative obstacle to evaluating crime prevention is the structural separation of research and program funding. From an evaluation perspective, this has often put the cart before the horse, forcing evaluators to play "catch-up" or "patch-up" in evaluating programs that are implemented too quickly or not at all. Evaluator control of operational funding for field testing programs is the standard approach in private industry and has good precedents within DOJ. Congress can remove the obstacle to this approach by appropriating the ten percent for field-tested operations and ten percent for evaluating those operations to the direct control of a central evaluation office within the Office of Justice Programs. Such an office can then be held directly accountable for the amount and strength of scientific evidence it produces.

This chapter summarizes what is known about the effectiveness of local operations supported by various DOJ funding mechanisms. The specific findings are reported in detail at the end of each of the seven preceding chapters. This chapter integrates those findings into a more critical assessment of the effectiveness of DOJ programs in addressing the known risk factors for crime and delinquency, especially youth violence, in each of those settings. This analysis centers on two key questions:

1. **Using Knowledge.** How well do DOJ-funded programs correspond to what is known about causes and prevention of crime?
2. **Creating Knowledge.** How well do DOJ-funded programs help to increase what is known about the effectiveness of crime prevention?

In general, DOJ-funded programs do a better job of using than creating knowledge. The answers to the first question show increasing responsiveness to accumulating research evidence on the risk factors associated with crime, and the systematic use of evaluation results in designing prevention programs. The exceptions to that conclusion are duly noted in each section below.

The answers to the second question are much less encouraging. Despite substantial improvements in DOJ's institutional capacity for crime prevention evaluation science, the legislative obstacles to using scientifically recognized methodologies have prevented DOJ from measuring the impact of most of its programs on crime. The chapter extends this conclusion into an analysis of the scientific requirements for improving the answers to the second question, concluding with the recommendation for the statutory evaluation plan summarized at the Chapter's outset.

THE EFFECTIVENESS OF DOJ FUNDING FOR CRIME PREVENTION

The national debate over DOJ funding for crime prevention primarily concerns the relative effectiveness of investment in the different institutional settings. The current legislative outcome of that debate allocates more than half of all DOJ local assistance prevention funding to the police, and another quarter to the rest of the criminal justice system (including prisons). It would be helpful to draw upon a substantial body of evidence to assess the effectiveness of that allocation, but that evidence is unavailable. The current state of crime prevention science does not allow comparisons of crimes prevented per taxpayer dollar across different strategies in different institutional settings. A lack of comparable measures on lifetime effects of each program is compounded by problems in generalizing from local to national samples. For example, while the prevention effect of home nurse visitation is known for a sample of high-risk rural families, the national benefit of that program for all families on average is not known. Some simulations and estimates have been offered comparing early childhood to early adult prevention strategies (Greenwood, et al, 1996), but the empirical basis for such analysis is too limited to make such direct comparisons as police to infant visitation nurses, or school-based prevention programs to prison.

This report does suggest that the most money is going to settings where we have the most evidence about preventing **serious** crime. The only direct evidence showing programs that work to prevent predatory stranger violence is about police and prisons. While there are good theoretical reasons to believe that communities, families, schools, labor markets and places could be even more effective in preventing predatory stranger violence, that theory has not yet been turned into successfully tested practice. That gap may itself reflect a failure of imagination, or a bias toward testing as well as funding police and criminal justice programs. But in the current state of the evidence, it is fair to say we do not yet know how to spend a large operational investment in other institutional settings that may have profound effects on serious crime.

What we do know how to do is to create such knowledge, by investing substantial funding in rigorous tests of program innovations. The prime opportunities for that investment are clearly indicated by available research, such as universal infant visitation combined with parental-involvement preschool programs. While there is strong evidence that small pilot programs of this kind are effective in preventing child abuse and later delinquency, we do not have a tested model for operating such programs on a large scale. Creating such tests would be the next scientific step for providing the evidence appropriate to the large scale funding required. Unless new legislation is passed to authorize DOJ to pursue a "big science" program of testing universal early prevention, however, it seems likely that federal funding for crime prevention will continue to focused mostly on criminal justice and police--and perhaps miss the most effective approach to preventing serious violence.

Community-Based Prevention: OJP Discretionary Programs

The community is an institutional setting in which the Congress has given a clear mandate to DOJ for developing crime prevention strategies. Viewed from the perspective of a priority on youth violence, however, current legislation could provide more effective tools for using available knowledge, and especially for creating new knowledge, about what works in community-based prevention.

Using Knowledge. The relatively modest amounts of DOJ-funded discretionary programs focused on high-crime neighborhoods effectively use much available scientific knowledge about crime. Operation Weed and Seed, BJA's Comprehensive Communities Program, and OJJDP's Title V Incentive Grants all attempt to concentrate federally funded effort in the small number of communities where the national problems of serious youth violence are most heavily concentrated. Local grantees appear to vary in their use of serious violence as the primary criterion for selecting program neighborhoods, and the programs themselves vary in the extent to which such a focus is called for. Operation Weed and Seed is apparently the most focused on such areas, while all of them share a concern with addressing risk factors cutting across settings: families, schools, labor markets, places, police and criminal justice. While these programs are only a beginning of the long-term effort needed to learn how to combat the interdependent risk factors of hypersegregated urban poverty areas, they are clearly pointed in the direction indicated by the available science. The concentration of resources in high-risk areas makes better use of epidemiological knowledge about violence than the more costly Byrne Formula Grant population-based allocations across States and localities.

Congressional earmarks for community-based DOJ discretionary programs make less effective use of knowledge when allocating funds to programs for recreation, mentoring and crime prevention advertising. There is no strong evidence that these programs are effective in preventing serious youth violence, although Big Brothers/Big Sisters mentoring is "promising" for preventing substance abuse and recreation (Boys and Girls Clubs) is promising for reducing housing project vandalism. While it is possible that this approach is effective, there have simply been no longer term tests providing an adequate scientific basis for evaluation.

Community-based discretionary programs could be more effective in using knowledge about community risk factors if they did not define "comprehensive" programs primarily in terms of interagency collaboration. A more scientifically informed definition would be tied to effective impact on each of the institutional settings affecting community risk factors. This is particularly true of labor markets and families (see below). Finally, discretionary programs with anti-gang components could make more effective use of the available results from gang prevention and intervention evaluations, especially in cautioning grantees against programs that could increase gang cohesion.

Creating Knowledge. Community-based discretionary prevention programs are the prime example of the need for a Congressionally mandated evaluation plan. The current programs are not effective in creating knowledge about what works. Insufficient resources are available for the scientific techniques required to measure program content and impact. Insufficient federal control of the mix of local program elements prevents scientifically controlled comparisons within cities. Insufficient evaluator control of site selection prevents valid comparisons of results across cities, making the data in each site much less useful as a basis for drawing general conclusions about what works. The fact that no controlled experiment in crime prevention has ever used cities, or communities across cities, as a unit of analysis indicates the severe constraints the present legislation imposes upon the work needed to create useful knowledge about program impact.

Community-Based Prevention: OJP Formula Grants

Using Knowledge. DOJ-funded formula grants for community-based prevention may be less effective than the discretionary grants. The available, if moderately weak, scientific evidence shows that community mobilization strategies are ineffective, especially in high-crime neighborhoods. Statutory purpose areas for Byrne formula and Local Law Enforcement Block Grants include community crime prevention initiatives, funded at an estimated \$50 million in FY 1996. Programs supported by these funds are most likely to be ineffective, and the funding could be better spent on creating knowledge about more effective

approaches to community prevention.

The statutory plan for Byrne Formula Grants also fails to make effective use of epidemiological evidence on the geographic concentration of crime within States. Statutory allocation plans for Local Law Enforcement Block Grants make better use of that evidence in allocations across cities. Neither program incorporates the evidence on geographic concentrations within cities, by neighborhood and even specific places, which inform the Discretionary DOJ programs. Congressional direction of funding to high crime neighborhoods or Census tracts seems likely to be more effective than the current allocations, which may allow State and local decisions to put substantial funding in moderate to low-crime areas.

Creating Knowledge. The current formula grant legislation for community-based prevention lacks a viable statutory plan for evaluating that funding using scientifically recognized standards and methodologies. The current requirement that **all** Byrne Formula Grants include an evaluation is at best meaningless and at worst wasteful. While some States have attempted to invest more Byrne resources in scientific impact evaluations, the legislation offers no protection against the inevitable political pressures to spend as much money as possible on operational purposes. A quarter-century of State-level evaluation requirements and hundreds of millions of dollars spent for such purposes (Rubinstein, 1977a; Feeley and Sarat, 1980) has failed to produce scientifically rigorous, published impact evaluations that can increase the effectiveness of crime prevention. Uneven capacity across states in their institutional infrastructure needed for rigorous evaluation science compounds the insufficient funding and control needed to learn what works with Formula Grants for local crime prevention.

Family-Based Delinquency Prevention

The family is an institutional setting for crime prevention in which the Congressional mandate to DOJ is not clear. While the Office of Juvenile Justice and Delinquency Prevention has long worked on programs involving families in delinquency prevention, the appropriated funding emphasis has been more on criminal sanctions than family life. Requests by State and local juvenile justice officials for more prevention funding resulted in the 1992 enactment of the Title V delinquency prevention grants, but that program's mandate to work with families is enmeshed in a broader mandate for comprehensive mobilization of local youth-serving agencies. Similarly, the 1994 Crime Act's Violence Against Women grants imply a great deal about family-based prevention, but without a clear mandate for DOJ to work with families. Traditionally the domain of the Department of Health and Human Services, which has funded much of the available delinquency prevention research, the family is the new frontier of crime prevention science. The long-term effectiveness of the national effort to prevent crime may depend on both clarifying and expanding the mandate for DOJ support of family-based prevention efforts, perhaps in closer collaboration with HHS.

Using Knowledge. DOJ discretionary funding of family-based delinquency prevention appears effective in its use of available scientific knowledge. The five-year OJJDP Safe Futures Program in six cities (in collaboration with the Violence Against Women Grants Office and the Executive Office of Weed and Seed) provides much of the research results reviewed in this report to local grantees designing specific programs. The possibility that local grantees, in turn, do not make the best use of the scientific evidence is a risk that results from the current statutory framework of local control. The Operation Weed and Seed plan to replicate the Rochester University early infancy home nurse visitation plan is also consistent with the strongest scientific evidence. The Title V OJJDP support of parent training strategies for troublesome pre-adolescents is also informed by scientific evidence showing success at reducing risk factors. These pre-adolescent efforts are all the more important in light of the strong scientific evidence of the failure of massive investment in adolescent prevention for high-risk youth in high crime areas (Harrell, 1996).

These discretionary programs, however, constitute a very small part of the total DOJ funding to prevent crime. There are no corresponding large scale formula grants making use of the strong scientific evidence now available. Nor is there a legislative basis for DOJ to pursue a "big science" program of developing a universal program of delinquency prevention support of all families, from early infancy onward. The scientifically recognized evidence on developmental crime prevention is now sufficiently strong for the Congress to consider a major effort to discover cost-effective means of family-based prevention.

Creating Knowledge. Congressional attention to family-based prevention of youth violence should also recognize the current weaknesses in creating knowledge. The current structure of funding does not generally provide sufficient funding or control for scientifically recognized methodologies in evaluating family-based prevention. Family programs are often included in a mix of other treatments, making it difficult to separate the effects of each ingredient in the mix. While a commitment to comprehensive programming makes theoretical sense in the long run, it is scientifically problematic in the short run. A more explicit commitment to knowledge building in family-based prevention would allow the accumulation of strong evidence about each specific approach, both separately and in combination with other elements. The funding and statutory mandate for such a big science effort has not been available to DOJ, and the creation of new knowledge with DOJ funds has thus been limited in this area.

The most practical question emerging from the available evidence is how to deliver a universal home visitation-preschool program similar to those already found effective in reducing delinquency. Issues of implementation, such as training and recruitment of effective staff, are as important to answering that question as issues of long-term impact. Collaboration between DOJ and other agencies appears essential, especially if one model to be evaluated would be an extension of the Head Start program. But rapid advances in this direction seem unlikely to occur absent a Congressional mandate.

It is important to note that both OJJDP and NIJ have made significant contributions to basic science of family factors in delinquency causation over the last decade. The OJJDP Program of Research on the Causes and Correlates of Delinquency birth cohort studies in Denver, Rochester and Pittsburgh, and the NIJ-MacArthur Foundation partnership Program on Human Development in Chicago Neighborhoods are both likely to inform the design of delinquency prevention strategies for years to come. The success of these research programs are an indicator of the substantial capacity for rigorous science within DOJ. Applying the same standards of scientific evidence to program evaluation, however, will require more powerful statutory tools for controlled field testing.

Preventing Family Violence

Using Knowledge. The challenge of this task is that there is little knowledge to use. The Congressional mandate for DOJ to prevent family violence, especially against women, is undermined by the paucity of scientific impact evaluations (Reiss and Roth, 1993; Crowell and Burgess, 1996). Most of what is being funded under current programs is therefore necessarily of unknown effectiveness. In recognition of this problem, the Assistant Attorney General for OJP has transferred modest portions of Crime Act funding to the National Institute of Justice for research and program evaluation. At the current rate of investment in program evaluation, however, it will be many years before the development of scientifically recognized impact evaluations to guide some \$200 million in annual funding.

Creating Knowledge. The Congress has requested, and the Department of Justice has very recently supplied, a National Academy of Sciences report on a research agenda for preventing violence against women, including family violence (Crowell and Burgess, 1996). The Congress has not, however, yet had an opportunity to respond to that report, which seems likely to require authorizing DOJ to expend \$50-60 million to carry out the agenda. Congressional action on that report's recommendations in FY 1998 would therefore be the most effective federal strategy for preventing family violence.

School-Based Prevention

The Congressional mandate to DOJ for school-based crime prevention is even less clear than the mandate for family-based prevention. Despite substantial scientific evidence of the effectiveness of some school-based programs, it remains an opportunity the Congress has lost for preventing crime. The Congressional mandate in this setting for DOJ is for less than \$25 million per year, and supports some of the least effective programs available. This includes the earmarked \$1.75 million Byrne Discretionary Program funding of Drug Abuse Resistance Education (DARE), as well as the estimated \$20 million annual Byrne Formula Grants for the education purpose area (including DARE). These expenditures are small in comparison to over \$500 million in annual school-based prevention funds appropriated through DOE and DHHS, and tiny compared to \$2 billion invested in police strategies. Given the potential to integrate school-based prevention into a comprehensive strategy on youth violence, the Congress could profitably consider expanding the DOJ role in advancing this area.

Using Knowledge. Congress has not made effective use of available evidence from scientific evaluations. In choosing to support DARE, Congress has passed over other school-based prevention programs with scientific evidence of greater crime prevention effectiveness than DARE. The most widely used version of DARE has been found ineffective at preventing substance abuse. Other DOJ-supported school-based programs have been evaluated, but the evaluation methods were not scientifically adequate for drawing conclusions about program impact. The following programs are therefore of unknown effectiveness: Law-Related Education, Gang Resistance Education and Training, and Cities in Schools. In addition, Byrne funds may be supporting prevention programs that are reasonably certain to be ineffective: peer-group counseling, recreation, and programs based on fear arousal or moral appeal.

The more general conclusion about the legislation funding school-based prevention is that it takes a piecemeal approach. Scientific evidence shows this approach is less likely to be effective than comprehensive interventions in a school's capacity to teach behavioral norms and social competency skills. Stand-alone programs for preventing specific problems, from drugs to shootings, fare less well in the evaluation literature than programs changing the overall climate and order of the school. Many schools, particularly in disorganized urban areas, lack the organizational infrastructure even to provide adequate instruction in basic skills. These schools are staffed by demoralized adults whose failure to exercise control over rebellious students results in

chaos, violence, and fear. Schools' failure as agents of social control perpetuates community disorganization, poverty, and crime. Research shows that building schools' organizational capacity to conduct their basic function in society is an effective crime prevention strategy. Programs for communicating and clarifying norms, such as antibullying campaigns, are also effective elements of delinquency prevention programs in schools, as are programs for teaching selfcontrol. Yet DOJ currently lacks Congressional appropriation for investing in these programs of proven effectiveness.

Creating Knowledge. DOJ funding for school-based prevention is least effective in creating new knowledge. Appropriation levels for evaluations have been too low for scientifically recognized methods to be employed. This common problem arises from a good faith effort to support evaluation, within constraints that defeat the purpose of trying to measure program impact. A prime example is the "catch-up" evaluation (post-test only, non-equivalent treatment and control group) design of the \$16.2 million Gang Resistance Education and Training program. Funded at only \$265,000 for eleven cities with less than a year to produce a Congressionally-mandated report, the evaluators (Esbensen and Osgood, 1996) were compelled to use such a weak evaluation design (Scientific Methods Score = 2) that it has almost no value in measuring the prevention effects of the program (Cook and Campbell, 1979).¹

Similarly, the "national evaluation" of DARE commissioned by NIJ in the early 1990s was designed to be a secondary analysis of evaluations that were far too weak scientifically to merit such investment. A higher level of funding for a controlled, long-term field test still remains a high priority for evaluating DARE, especially in comparison to other programs shown to have larger preventive effects. The cost-effectiveness of such approaches is clear. DARE is a well-institutionalized program, nationally and internationally (Lindstrom, 1996). It seems likely to continue with a wide diversity of funding sources, regardless of whether Congress continues to fund it. But only Congress has the capacity to provide a sufficient investment of scientific resources to allow an objective test of the long-term effectiveness of the program at preventing substance abuse.

Evaluations of efforts to implement the elements of school life known to prevent crime also merit a high priority. Programs for increasing school order, and teaching social competency, face a wide range of obstacles in different school systems, especially in high crime neighborhoods. Learning how to overcome those obstacles could clear the way for more schools to prevent more crime. Many schools, particularly in disorganized urban areas, lack the organizational infrastructure even to provide adequate instruction in basic skills. These schools are staffed by demoralized adults whose failure to exercise control over rebellious students results in chaos, violence, and fear. Schools' failure as agents of social control perpetuates community disorganization, poverty, and crime. Research shows that building schools' organizational capacity to conduct their basic function in society is an effective crime prevention strategy. Programs for communicating and clarifying norms, such as antibullying campaigns, are also effective elements of delinquency prevention programs in schools, as are programs for teaching selfcontrol,

Labor Markets

Labor markets are the institutional setting some analysts stress the most in causing serious youth violence (Wilson, 1996). This setting also has the least DOJ history of a Congressional mandate. The available evidence suggests that including this setting in DOJ's mandate will increase the effectiveness of programs focused on high-crime areas. It also suggests that most other approaches to using labor markets to prevent crime have been ineffective.

Using Knowledge. The available evidence supports DOJ's limited involvement in labor market strategies. Employment programs aimed at older male ex-offenders no longer under court supervision appear effective at preventing crime. Such programs cannot prevent serious youth violence, but they are at least known to be a profitable investment for older males. More speculative, but theoretically supported, is the labor market component of Operation Weed and Seed, in which DOJ funding serves as seed money to attract other federal and private funds. This may enhance labor force participation rates in high crime areas, and provide more social capital for the community to encourage individuals to enhance their human capital job skills. This same rationale supports expanded DOJ participation in interagency Enterprise Zones and Empowerment Communities programs, especially to the extent that such programs serve high crime areas.

The evidence is also fairly strong that stand-alone investments in human capital--job skills--will not reduce crime. Rigorous scientific impact evaluations funded by the Department of Labor have generally found no effects of job training on crime rates for high-risk youth. The major exception is the moderately strong evaluation evidence on the Job Corps, a residential employment training program found to produce lower crime rates in program clients than similar persons not provided with Job Corps experiences. There is also mixed evidence on transitional aid programs for inmates leaving prison; while it is possible that DOJ Correctional Options funds spent in this manner are effective, the actual effects remain unknown.

Creating Knowledge. The most important mandate Congress could give DOJ on labor markets and crime risk factors is to add the issue of crime to the agenda of unemployment programs. A wide range of federal initiatives are attempting to solve problems

of unemployment. Many of these are being evaluated. Few of them are providing adequate measurement of crime prevention effects. These programs include the 1996 major reform of the welfare system, Community Development Block Grants, reverse commuting, school-to-work programs, employment bonds and targeted wage subsidies. DOJ funded evaluations of these programs from a crime prevention perspective would give the Congress critically important knowledge about the effects of these programs on crime.

Place-Based Prevention

Basic research supported by NIJ for a quarter century has shown increasing evidence that crime is highly concentrated not just in neighborhoods, but at specific premises (see Chapter Two). Extensive investment by the British government in testing place-based crime prevention strategies, as well as increasing numbers of evaluations in the US, show consistent, but scientifically weak, evidence that such programs can be effective. Cameras, cash control, guards, fences, lighting, and other preventive devices are still of unknown effectiveness, but worthy of further evaluation. The promise of the consistently positive but scientifically weak available findings must be treated with appropriate caution, especially given the differences in gun crime between Britain and the US. The growing public and private investment in such strategies, however, suggests that a clearer Congressional mandate to DOJ in this area may be warranted. Recent findings showing the effectiveness of place management strategies in combating drug dealing and alcohol-related violence

provides further evidence of the need for more DOJ attention to crime prevention at places.

Using Knowledge. The federal funds provided to New York City police under the initial COPS programs made use of this DOJ-produced knowledge to focus their resources on high-crime locations. How much if any of New York's 50 percent reduction in homicide was caused by the federal funds cannot be determined with reasonable scientific certainty. But to the extent that place-focused crime strategies are supported by Byrne Formula, Weed and Seed, and Local Law Enforcement Block Grants, there is modest evidence that the funding has some potential to be effective. NIJ support of the Drug Market Analysis Program (DMAP), a computerized crime mapping strategy, has been put to widespread use as police agencies around the country employ similar software to identify and "problem-solve" high crime places. What is still unknown is the extent to which any particular strategy of problem-solving is effective in any particular kind of place with any particular kind of crime problem.

Building Knowledge. With sufficient resources and a clear mandate, a central research arm of NIJ could build a body of scientifically rigorous impact evaluations of place-based prevention strategies. Systematic observations of high crime locations, large samples of similar places with similar problems with half randomly assigned the tested prevention systems, and other scientific techniques are necessary for creating reasonable certainty about the effectiveness of prevention at places. DOJ has been able to produce some knowledge of this kind about police efforts against places. More of it is needed about efforts by owners, managers, residents, liquor licensing boards and other branches of government to develop place-based prevention strategies.

Policing for Prevention

Current appropriations invest far more federal funds in the police than in any other crime prevention institution. The estimated \$2 billion annually for police is more than half of all federal assistance for local crime prevention. While there is growing evidence that police can be effective in preventing crime, there are still many questions about how to use the federal funding most effectively. Depending upon how each police agency elects to use its federal funding, the taxpayer investment in that strategy may be more or less effective at preventing crime.

Using Knowledge. There is reasonable scientific certainty that the following police practices prevent crime: extra police focused on high crime "hot spots," police units focused on serious repeat offenders, proactive enforcement of drunk driving laws, and arrests of employed suspects for misdemeanor domestic violence. There is also reasonable certainty that the following practices are ineffective: increased random patrols of entire beats, more rapid response time to 911 calls, neighborhood watch, arrests of some juveniles for minor offenses, arrests of unemployed suspects for domestic assault, arrest crackdowns at drug markets, and community policing programs with no clear focus on crime risk factors. There is no certainty, however, that the current federal legislation produces more police effort with the effective practices than with the practices known to be ineffective.

The accumulated body of police practice evaluations, largely funded by NIJ, provides one of the best examples of using science to identify programs of proven effectiveness. Under the principles of local control, however, there is no requirement that federal funds be used for practices proven effective, except under the Byrne Formula Grants. Even there, lack of statutory clarity about the definition of proven effectiveness makes it little different from programs without that legislative requirement.² A key

question for Congress is therefore whether to use the available scientific knowledge to limit the eligible purpose areas for federal funding of local police. This would not be possible, however, at the level of generality of the current 33 purpose areas under the Byrne and LLEBG programs. Police overtime, for example, cannot be evaluated as a crime prevention practice, but various uses of police overtime can be. Thus within each purpose area it could be possible to distinguish proven and unproven areas of effective practice.

The most basic issue of DOJ funding effectiveness at addressing crime risk factors is the formula basis for allocating police assistance, noted above. Concentrating police funding in the census tracts, and not just the cities, with the highest rates of serious crime and youth violence, would appear to be more effective than present formulas based on population size. Promising evidence on reductions in gun crime from such concentrations lends further support to the value of testing the hypothesis that putting police where crime is most serious would be the most cost-effective means of combating the national epidemic of violence.

Creating Knowledge. DOJ has been generally effective in creating new knowledge about the impact of police practices on crime. This reflects a substantial commitment of resources to several large and costly projects over the past two decades. The results are encouraging evidence that DOJ has a substantial capacity for big science in this area, including controlled evaluations using city-wide police practices (such as traffic enforcement or gun seizures) as the unit of analysis. This capacity could be put to even better use if NIJ had control over some portion of federal funding for local police overtime or extra hiring to allow it to structure controlled tests of patrol dosage and tactics in high-crime areas. Scientific evidence produced by this kind of evaluation design would directly address the key Congressional issue of how best to allocate the federal funds for police. While the COPS office has transferred 1 percent of program funds to NIJ for evaluation purposes in FY 1996, the scientific strength of those evaluations will be limited in the absence of statutory authority to allocate program funds for evaluation purposes.

Additional appropriations are needed for NIJ to replicate the growing number of strategies rated as "promising:" police traffic enforcement patrols to detect illegally carried handguns, "Chicago-style" community policing, community policing efforts for increasing police legitimacy in minority poverty areas, "zero-tolerance" enforcement of minor violations, and adding extra police to cities or areas, regardless of what they do. Untested but theoretically promising strategies such as community-based restorative justice for minor juvenile offenses are also high priorities for creating new knowledge about policing. Several police strategies for preventing serious domestic violence are ready to be evaluated if sufficient funds are available.

Criminal Justice and Crime Prevention

The Congressional mandate for DOJ to fund prisons and other criminal sanctions is clear. What remains unclear is how to spend that money most effectively. Based on the review of the available scientific evidence, the effectiveness of current legislation in funding criminal justice to prevent crime is mixed, but more remains unknown than known.

Using Knowledge. There is reasonable scientific certainty that federal funding is effective to the extent that it supports three broad strategies: prison-based therapeutic community treatment of drug-involved offenders, incapacitation of high-rate serious repeat offenders, and structured rehabilitation programs focused on individual risk factors. These strategies can be supported under DOJ funding for Drug Courts, Residential Substance Abuse Treatment for State Prison Inmates, OJJDP's Intensive Community-Based Aftercare, Byrne Formula Grants under the drug treatment purpose area, and the Violent Offender Incarceration Grant Program (prison construction). Whether the funding is actually used in the ways the scientific evidence finds effective, however, is up to the local control of the grantees.

One of the major concerns about prison construction, for example, is whether it will actually produce incapacitation of the most serious offenders. If increased capacity is eventually used to increase the incarceration of **non-violent** offenders, there may at least be a pattern of diminishing returns, and at worst a very expensive investment in locking up low-risk offenders when the money could be spent more effectively on other forms of prevention.

There is also reasonable scientific certainty that the following programs are ineffective in preventing crime: correctional boot camps using military basic training models, other "harshness" programs like "Scared Straight" and shock probation, and community-based alternative sanctions lacking treatment programs and services. The latter include Intensive Supervised Probation or Parole (ISP), home confinement, urine testing, community residential programs, and juvenile wilderness programs. (Urine testing combined with drug treatment, however, enjoys scientific evidence that is promising.) These ineffective programs can be supported by DOJ funding under the Byrne Formula Grants for the alternative sanctions and drug testing purpose areas Program, and by the prison construction grants.

Creating Knowledge. Scientific conclusions can be drawn about only a small portion of all correctional strategies and federal

funding. The effects of sanctioning on repeat offending are generally found to vary by type of offense, type and dosage of sanction, type of offender, and the characteristics of the communities to which incarcerated offenders return upon release from prison. The identification and codification of the full range of these effects is a massive task that has barely begun, but can be accomplished by a systematic long-term investment in controlled testing of sanctions.

The biggest obstacle to such a program of systematic impact evaluations may not be federal funding, but State and local cooperation with controlled testing. The widespread resistance to controlled testing of early boot camp programs is indicative of the difficulty of creating such partnerships. The major advantage DOJ could bring to creating such knowledge is conditional program funding, which would only be made available to grantees if they cooperated with a controlled field test design. Using DOJ local assistance funding in this way would be particularly helpful in producing controlled tests of programs found promising in Chapter Nine: drug courts, day fines, juvenile aftercare, and drug treatment combined with urine testing. Current evaluations of these programs without scientific controls will not be useful for creating knowledge about their effectiveness.

STRONGER PROGRAM EVALUATIONS

In the three decades of DOJ funding for local crime prevention assistance, four prior reports have made recommendations for improving program evaluation. Each report was followed by Congressional or administrative action to implement the recommendations, at least in part. Yet as the evidence reviewed in this report suggests, the Congressional mandate to evaluate has yet to be satisfactorily accomplished. This section briefly reviews the prior reports, as well as the conditions needed for effective program evaluation. The report then closes with recommendations for a statutory plan that would create those conditions, and improve the effectiveness of federal funding through stronger evidence on program effectiveness. The prime example of this approach is a comprehensive program for cooling off "hot spot" neighborhoods.

Previous Reports on DOJ Crime Prevention Evaluations

From the earliest days of the Law Enforcement Assistance Administration (LEAA), the issue of evaluation has been paramount. Lacking a large body of scientific knowledge on the effectiveness of crime prevention programs, LEAA was forced to invent new ideas under conditions of high public visibility and enormous Presidential pressure to reduce crime. The results of those programs were crucial to the public debate. By 1972, Congress amended the Safe Streets Act to require LEAA to conduct evaluations of its action grants (Feeley and Sarat, 1980: 113). It also increased the amount of money the States could spend evaluating their LEAA-funded grants. This model of giving primary responsibility for evaluating each and every grant to the State Planning Agencies (SPAs) administering the funds remains largely unchanged today.

The State-level evaluation tasks were supplemented a year later with national evaluation tasks to be performed within DOJ. In 1973 a Columbia University symposium on LEAA concluded the worst flaw in the program was the lack of useful evaluations (Rubinstein, 1977: 148). The Congress responded by amending the Crime Control Act that year to require that the National Institute of Law Enforcement and Criminal Justice (the predecessor to NIJ) "undertake, where possible, to evaluate the various programs and projects carried out under this title." A year later, two GAO reports criticized the Institute for its continued inability to conduct **outcome** evaluations of the more than 30,000 LEAA-funded grants awarded in the agency's first five years. GAO called the available evaluations inconsistent and relatively useless (Rubinstein, 1977: 148).

At that point the LEAA administrator released a new report on program evaluation policy.³ The report assigned to the National Institute the Congressional mandate to evaluate, focused in its new Office of Evaluation (OE). The Report gave that office three goals: obtain and disseminate information on the cost and effectiveness of crime prevention, ensure that the information gets used in program planning, and develop a capacity for evaluation in state and local units of the criminal justice system. As a National Academy of Sciences report later concluded about this plan, it was an enormous challenge (Rubinstein, 1977: 149):

OE found itself with limited resources confronting a field fraught with uncertainty and controversy. Evaluation of social action projects was a relatively new field; evaluation in criminal justice was in its infancy. OE's mandate was so broad as to be undelineated.

Perhaps the greatest challenge was to develop a capacity to carry out evaluations in operational agencies at a time when the capacity did not even exist in most research universities. The Institute was unable to give \$2 million to the LEAA State and Regional Planning Agencies to develop evaluation units; only 12 of the 500 eligible units even applied for the money. The program succeeded in at least spreading the definition of evaluation as a scientific assessment of effects caused by the program (Feeley and Sarat, 1980: 114), but few of the evaluations done by State agencies to comply with federal rules ever came near that definition.

By 1977, the National Academy of Sciences evaluation of the National Institute of Law Enforcement and Criminal Justice (White and Krislov, 1977) recommended that the Institute try to get away from program evaluation and focus on basic research. Describing the quality of Institute research at that point as "parochial and, overall, mediocre," the report attacked the Institute's emphasis on "immediate solution applied research" (White and Krislov, 1977: 94-95). This report moved the Institute into peer-reviewed competitions for awarding research grants, and established research programs on basic questions like deterrence. Many grants funded under these "basic" research programs, such as the domestic violence arrest experiments, were later treated as "evaluations" (Reiss and Roth, 1993: chapter 7)--thereby suggesting the limitations of the distinction. The 1977 report recommended that evaluation functions be integrated into the broader research programs of the Institute.

To a large extent, NIJ has followed the blueprint of the 1977 report for two decades. Congressional decisions to cap available funding levels and maintain structural separation of NIJ from the DOJ program funding bureaus have helped to constrain NIJ in that direction. That path was not changed despite a bipartisan 1981 Report of the Attorney General's Task Force on Violent Crime that recommended a very different role for evaluation as the centerpiece of federal crime control policy. On August 17, 1981, President Ronald Reagan's Attorney General, William French Smith, received the report of his bipartisan Task Force on Violent Crime, co-chaired by former Attorney General Griffin Bell and Illinois Governor James R. Thompson. The report said this about the federal role in evaluating crime prevention (p. 73):

Recommendation 53. The Attorney General should ensure that

a. Adequate resources are available for the research, development, demonstration, and independent evaluation of methods to prevent and reduce serious crime.... *We are in unanimous agreement that the federal government has a unique responsibility to conduct research on criminal justice issues, to develop creative programs based on research findings, to test and evaluate these programs rigorously* [italics added], and to demonstrate them in several jurisdictions with varying characteristics to be sure that the programs would be successful if implemented in other jurisdictions. At present, research directly applicable to the problems of state and local criminal justice systems is performed by the National Institute of Justice (NIJ), the National Institute of Corrections (NIC), and the National Institute of Juvenile Justice and Delinquency Prevention (NIJJD). NIJ and NIC do not have the funds needed to support the substantial testing, demonstration, and independent evaluation we believe are necessary. The Attorney General should ensure that adequate funds are available for these agencies to bring research ideas to the stage at which they become demonstrated, independently evaluated programs that can be implemented in state and local jurisdictions.

Put another way, the 1981 Task Force recommended that the federal role should be to advise local governments about proven programs of crime prevention, based on a scientific process of basic research, program development, and--most important--rigorous independent field tests of demonstration programs in several different jurisdictions. Based on our review of the scientific evidence underlying crime prevention programs in 1996, we can only conclude that this recommendation has been ignored. We are unable to find a single program for which the federal government has played the role recommended in 1981. There are numerous programs that have been developed based upon research and implemented in several jurisdictions. What has been lacking is the statutory structure and resources needed to carry out the scientifically rigorous evaluations the Attorney General's Task Force recommended.

In 1988, the passage of the Anti-Drug Abuse Act saw yet another plan for program evaluation enacted into law. The Act required that States conduct evaluations of each grant, but did not require that a certain percentage of Byrne Formula funds be used for that purpose. It also called upon NIJ and BJA to sponsor "a reasonable number of comprehensive evaluations of programs" funded under both formula and discretionary grants.⁴ **The Congress did not however, appropriate any funding for NIJ or BJA to evaluate what is now \$475 million in annual formula grants, forcing them to draw on their general appropriations for that purpose.** Of the first 5,000 Byrne Grants, NIJ and BJA were able to sponsor evaluations of 150. Once again, the federal agencies attempted to compensate for limited evaluation funding by developing an evaluation capacity in the State Planning Agencies. Just as it did in 1974, NIJ invited States to seek evaluation funding. But in 1990 when the proposals were submitted, as a recent NIJ report on the Byrne Program reported, most were methodologically weak, and as a result few were funded. Not surprisingly, this suggested that many State agencies did not have the research staff necessary to conduct evaluations (Dunworth, et al, 1997: 8).

Once again, as the Institute did in 1974, NIJ and BJA have undertaken "technical assistance programs to expand State evaluation capabilities" (Dunworth, et al, 1997: 8). Also, an annual NIJ-BJA conference on program evaluation funded by BJA brings State Planning officials to Washington to hear the most recent evaluation findings. But these steps can do little to deal with the four underlying structural factors limiting DOJ's capacity to generate satisfactory evaluations of Byrne Grant programs (Dunworth et al, 1997: 8-9): 1) state legislators often resist spending Byrne funds on evaluations, believing the money should be spent for program purposes; 2) Congress has not given NIJ or BJA any funding for Byrne evaluations; 3) insufficient evaluator control over program conditions often compromises the scientific integrity of evaluation results; 4) information on evaluation results has

not been accessible to those who need it.

The Crime Act of 1994 began to address at least one of those obstacles, lack of appropriated funding. The Act created the first set-aside directing evaluation of program funding, authorizing the Attorney General to use up to 3 percent of COPS program funds in any given year for studies or evaluations...in furtherance" of the purposes of the COPS program.⁵ The law also contained authority for evaluations to be funded from the Violence Against Women Act, the Drug Courts program, and the Corrections Title. But these steps do not address the structural issue of control over program funds that is central to the scientific standards of an evaluation. Thus despite repeated reports and legislation, the nation still lacks a satisfactory solution to the problem of achieving the Congressional mandate to evaluate--using scientific standards. The next section describes those standards and the statutory elements needed to create them.

Scientific Standards of Program Evaluation

The Omnibus Crime Control and Safe Streets Act of 1968 defines an "evaluation" as follows:

the administration and conduct of studies and analyses to determine the impact and value of a project or program in accomplishing the statutory objectives of this chapter⁶

By this definition, an evaluation cannot be only a description of the implementation process, or "monitoring" or "auditing" the expenditure of the funds. The terms "impact" and "accomplishing" require claims about cause and effect. The scientific standards for inferring causation have been clearly established in the literature on research design and methods (Cook and Campbell, 1979; Federal Judicial Center, 1981). They include, at minimum, the following:

- 1) the ability to measure the dosage, timing and content of the project or program,
- 2) the ability to gather baseline data prior to the start of the project, if necessary, and
- 3) the ability to gather comparable data from both the program group and appropriate comparison groups where the program is not operating.

These elements of science are not unrealistic for crime prevention program evaluations. They do not rise to the "gold standard" of level 5 scientific methods scores used by the Food and Drug Administration in testing new drugs. Rather, these elements constitute the requirements for a level 3 evaluation, the agreement of two of which generally satisfied this report's criteria for programs that "work"--programs of proven effectiveness.⁷ Crime prevention program evaluation would be better served by raising that scientific standard to level 4, with this additional element:

- 4) the ability to eliminate or control for most known rival hypotheses that could account for the same results other than the program or project being evaluated

It would even be better to adopt the gold standard, in which the evaluator is given this capacity:

- 5) the ability to select program and comparison groups in advance of the program by use of equal probability formulas.

But the basic task of the Congress in fulfilling the mandate to evaluate is to insure that the first three elements can be achieved with reasonable certainty whenever DOJ funds a program evaluation. That is not the case at present. The structural separation of program administration and evaluation, combined with local control over the expenditure of grant funds, makes the first three elements extraordinarily difficult to achieve. Thus despite three decades of defining evaluation in these scientific terms, the Safe Streets Act has never included a realistic statutory plan for achieving adequate impact evaluations. The next section offers such a plan, based upon "rigorous and scientifically recognized standards and methodologies."

A Statutory Evaluation Plan

Three principles for evaluating crime prevention programs emerge from the evidence reviewed for this report. One principle is that not every grant needs to be evaluated. A second is that scarce evaluation funds should generally be conserved for strong scientific evidence of program impact. The third principle is that every impact evaluation should be done at a scientific methods score of no less than level 3, and where possible at level 4 or 5.

Not every grant requires an evaluation. Since the early days of LEAA, the use of the term evaluation has been confused by the requirement that every grant be evaluated. Absent the resources and the skill needed for achieving the statutory definition of an evaluation as an impact assessment, the requirement that everything be evaluated has resulted in almost nothing being evaluated. There are enough similarities in program content across sites so that the Attorney General's Task Force on Violent Crime recommendation is a reasonable one. Testing a program in several different sites under different conditions provides an adequate basis for recommending that the program can be used generally, if the results are consistently favorable. Spending large amounts of money for strong evaluations in a few sites is far more cost-effective than spending little amounts of money for weak evaluations in thousands of sites.

Evaluation Funds Should be Conserved for Impact Assessments. Inadequate funding levels have forced DOJ to choose between many descriptive evaluations or a few impact evaluations. In general, the choice has been to appropriate \$200,000-\$300,000 for a national evaluation of each major program, regardless of how much or little can be learned for that amount. Very little can be learned about the impact of JUMP (Juvenile Mentoring Program) for the less than \$200,000 that was available for its evaluation. Even less can be learned about the HIDTA (High Intensity Drug Trafficking Area) program for the \$200,000 budgeted for a national evaluation of a \$100 million program operating in six sites. That funding level limits an evaluation to only the most superficial description of what the program is doing, and cannot say anything about its impact. While funding for basic research must be preserved, and while methods for tracking field innovations should be included, studies of specific federal funding programs do not provide Congress with the information it requires unless there is enough funding for a scientifically valid impact assessment. Such studies routinely cost \$15 million or more in other agencies, but there is no precedent for such "big science" at DOJ.⁸ Since there was no precedent for a \$30 Billion Crime Bill either, there is clearly room for adopting a new approach to evaluation.

Impact Evaluations Should Be Conducted at a Level Three Scientific Methods Score or Higher. If the Congress needs to know the effectiveness of a program, it needs to know that answer to a reasonable degree of scientific certainty. Just as the U.S. Supreme Court has asked Federal Judges to be the gatekeepers of valid science to be placed in the hands of a jury,⁹ Congress can ask that independent peer review panels serve the same function for Congressional evidence. The panels can be asked to certify that impact evaluations recommended for funding by DOJ are at least designed with a Scientific Methods Score of 3 or more. The criteria employed by this report for assigning that score are sufficiently broad as to correspond to the "flexible inquiry" the court requested of the federal bench into the validity of scientific evidence. But they are also sufficiently clear as to change the current pattern of funding descriptive studies and calling them "evaluations." Imposing this standard will force the issue back to its proper decision point: the Congress. The issue of evaluation funding levels will become much clearer in light of a bright line between impact evaluations and all other ways of studying federal programs.

All three principles should be firmly established by their enactment in a legislative plan for program evaluation. But in order to make the third principle possible, the statutory plan must restructure the entire evaluation process as a central purpose of the federal role in crime prevention. That restructuring can meet the scientific requirements for achieving that goal with a ten percent set aside of program funding for evaluated programs, a ten percent set-aside for program evaluations, and a structural location of both set-asides in a central research office within OJP. This plan closely tracks the 1981 recommendation of the Attorney General's Task Force on Violent Crime, as well as modern business practices in large corporations.

The Business Precedent: Beta Sites. The Attorney General's Task Force recommendation reflects a pattern of new product development widely used by large American corporations, called "beta sites." This pattern employs test sites as a means to determine the potential success of a new product, and possible conditions in local markets that could predictably affect sales. For example, in recent years the McDonalds' restaurant chain developed a new low-fat hamburger, then tested its customer appeal in a limited number of cities. These tests apparently found some demographic correlates for the success of the product. The product was subsequently offered in many, but not all, local markets nationwide, with selections made on the basis of local market demographic factors revealed by the beta site testing. Similar variations in the effectiveness of crime prevention programs could be revealed by the use of such a strategy, but only if the program "beta sites" are selected for the explicit purpose of conducting a test, rather than just supporting local operations.

This model can be achieved by Congressional enactment of the following recommendations:

1. Set aside ten percent of all DOJ funding of local assistance for crime prevention (as defined in this report) for operational program funds to be controlled by a central research office within OJP. This recommendation solves the inadequate evaluator control over program conditions for inferring cause and effect. A wide variety of strong scientific research designs become possible when program funding is available as an incentive for local agency evaluation partnerships. Police overtime, prison treatment programs, school-based prevention strategies could all be implemented in ways that may be less than optimally convenient for the local operational units, but which greatly increase the strength of the scientific evidence.

2. Authorize the research office to distribute the ten percent "evaluated program" funds on the sole criteria of producing rigorous scientific impact evaluations, the results of which can be generalized to other locations nationwide. Allocating these funds for research purposes simply adds to the total funding for which any local jurisdiction is eligible. Thus the "evaluated program" funding becomes an additional incentive to cooperate with the research plan on a totally voluntary basis.

3. Set aside an additional ten percent of all DOJ local assistance appropriations for crime prevention as defined in this report to fund the scientific evaluation costs. This recommendation makes clear the true expense of using rigorous scientific methods to evaluate program impact. The imperfections of most indicators of crime and justice require multiple measurement, already reflected in the statutory language authorizing COPS program evaluations. Victimization interviews, offender self-reported offending, systematic observation of high crime locations, observations of citizen-police interaction, and other methods can all cost as much or more than the program being evaluated. The costs can also be amortized over the many years of use to which strong scientific evidence can be put in guiding effective crime prevention.

A prime example of the value of this approach is implied by the central hypothesis that emerges from this report: that serious youth crime in America can be reduced most substantially by a simultaneous investment in all seven institutional settings for crime prevention, focused on the small number of neighborhoods in the nation where serious youth violence is concentrated. The results of the Children at Risk evaluation (Harrell, 1996) suggests that programs focused only on individual adolescents at risk may be unable to succeed because the neighborhood around them does not change. It may be that the best results would come from an expanded version of Weed and Seed, in which a systematic effort to build community social capital includes

- o helping families to establish clear and consistent discipline and emotional bonding, using home visits and preschool involvement from early infancy

- o helping schools to establish a capacity for self-regulation of student conduct with clear norms and expectations, as well as adequate physical security

- o helping labor markets to raise labor force participation rates in the neighborhood from 20% to 80%,

- o using physical and other place-based prevention to reduce opportunities for crime,

- o using massive increases in neighborhood police patrols (and respectful interactions with youth) to get guns off the streets and maintain high standards of civil conduct in public places, and

- o using courts and corrections to provide highest priorities to cases arising from these neighborhoods for effective treatment and control of convicted offenders.

This "hot spots" hypothesis has substantial support from theoretical models and the indirect evidence supporting those models. It can only be tested in practice, however, by the kind of statutory evaluation plan recommended above. Only a large number of neighborhoods with and without such a program can provide an adequate sample for using scientifically recognized standards and methodologies. And if only such a program can make a long-term difference in serious youth violence, the Congress has a clear opportunity to consider. For if the hypothesis is correct, a comprehensive program to cool off the nation's hot spots of youth violence could not only lower the national crime rate. It may also create a tipping point against an epidemic of youth violence, and make the rest of the nation safer as well.

NOTES

¹Here again, legislative requirements cause poor science. The Treasury Department bill funding GREAT contained the following clause: "The Committee further instructs ATF to provide semi-annual reports evaluating the programs and identifying the affect [sic] GREAT has had on deterring gang violence." This requirement included no appropriation for evaluations. But even with massive appropriations for evaluation, the concept of semi-annual evaluations of program effects has no precedent under scientifically recognized standards and methodologies.

²The 1988 Anti-Drug Abuse Act's statutory definition of "proven effectiveness" is as follows: "a program, project, approach, or practice has been shown by analysis of performance and results to make a significant contribution to the accomplishment of the objectives for which it was undertaken.." 42 U.S.C. 3782 Sec. 801 (b) (19).

³U.S. Department of Justice (1974), LEAA Evaluation Policy Task Force, LEAA EVALUATION POLICY TASK FORCE REPORT. Washington, D.C.: USDOJ.

⁴2 U.S.C. S 3766 (a)(2); 3782 (b).

⁵42 U.S.C. Section 3793 (a)(11)(B).

⁶42 U.S.C. Section 3791 (10)

⁷It was also necessary that the preponderance of the other evidence be in accord with the results of the two level 3 or higher evaluations.

⁸For example, several of the Department of Labor job training experiments have cost in excess of \$15 million.

⁹Daubert v. Merrell Dow, 113 S. Ct. 2786 125 L. Ed. 2d 469 (1993).

REFERENCES

Cook, Thomas D. and Donald T. Campbell

1979 Quasi-Experimentation: Design and Analysis Issues for Field Settings. Chicago: Rand-McNally.

Crowell, Nancy A. and Ann W. Burgess, eds.

1996 Understanding Violence Against Women. Washington, DC: National Academy of Sciences.

Dunworth, Terence, Peter Haynes, and Aaron J. Saiger

1997 National Assessment of the Byrne Formula Grant Program. National Institute of Justice Research in Brief. Washington, DC: US Department of Justice.

Esbensen, Finn-Aage and Wayne Osgood

1996 GREAT Program Effectiveness: Results from the 1995 Cross-Sectional Survey of Eighth Grade Students. Unpublished Technical Report Available from the Author.

Federal Judicial Center

1981 Experimentation in the Law. Washington, DC: Federal Judicial Center.

Feeley, Malcolm and Austin Sarat

1980 The Policy Dilemma: Federal Crime Policy and the Law Enforcement Assistance Administration, 1968-78. Minneapolis, MN: University of Minnesota Press.

Greenwood, Peter, K.E. Model, C.P. Rydell & J. Chiesa.

1996 Diverting Children from a Life of Crime: Measuring Costs and Benefits. Santa Monica, CA: RAND. et al

Harrell, Adele

1996 Evaluation of the Children At Risk Program: Preliminary Findings. Paper Presented to the National Evaluation Conference, National Institute of Justice, Washington, DC.

Lindstrom, Peter

1996 Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention. Stockholm: Swedish National Police College.

Reiss, Albert J. Jr., and Jeffrey A. Roth, eds.

1993 Understanding and Preventing Violence. Washington, DC: National Academy of Sciences.

Rubinstein, Juanita L.

1977a Case Study: Office of Evaluation. In Susan O. White and Samuel Krislov, eds. Understanding Crime: An Evaluation of the National Institute of Law Enforcement and Criminal Justice. Washington, DC: National Academy of Sciences.

1977b Case Study: Impact Cities. In Susan O. White and Samuel Krislov, eds. Understanding Crime: An Evaluation of the National Institute of Law Enforcement and Criminal Justice. Washington, DC: National Academy of Sciences.

White, Susan O. and Samuel Krislov

1977 Understanding Crime: An Evaluation of the National Institute of Law Enforcement and Criminal Justice. Washington, DC: National Academy of Sciences.

Wilson, William Julius

1996 When Work Disappears: The World of the New Urban Poor. NY Alfred A. Knopf.

APPENDIX: RESEARCH METHODS

by Lawrence W. Sherman and Denise Gottfredson

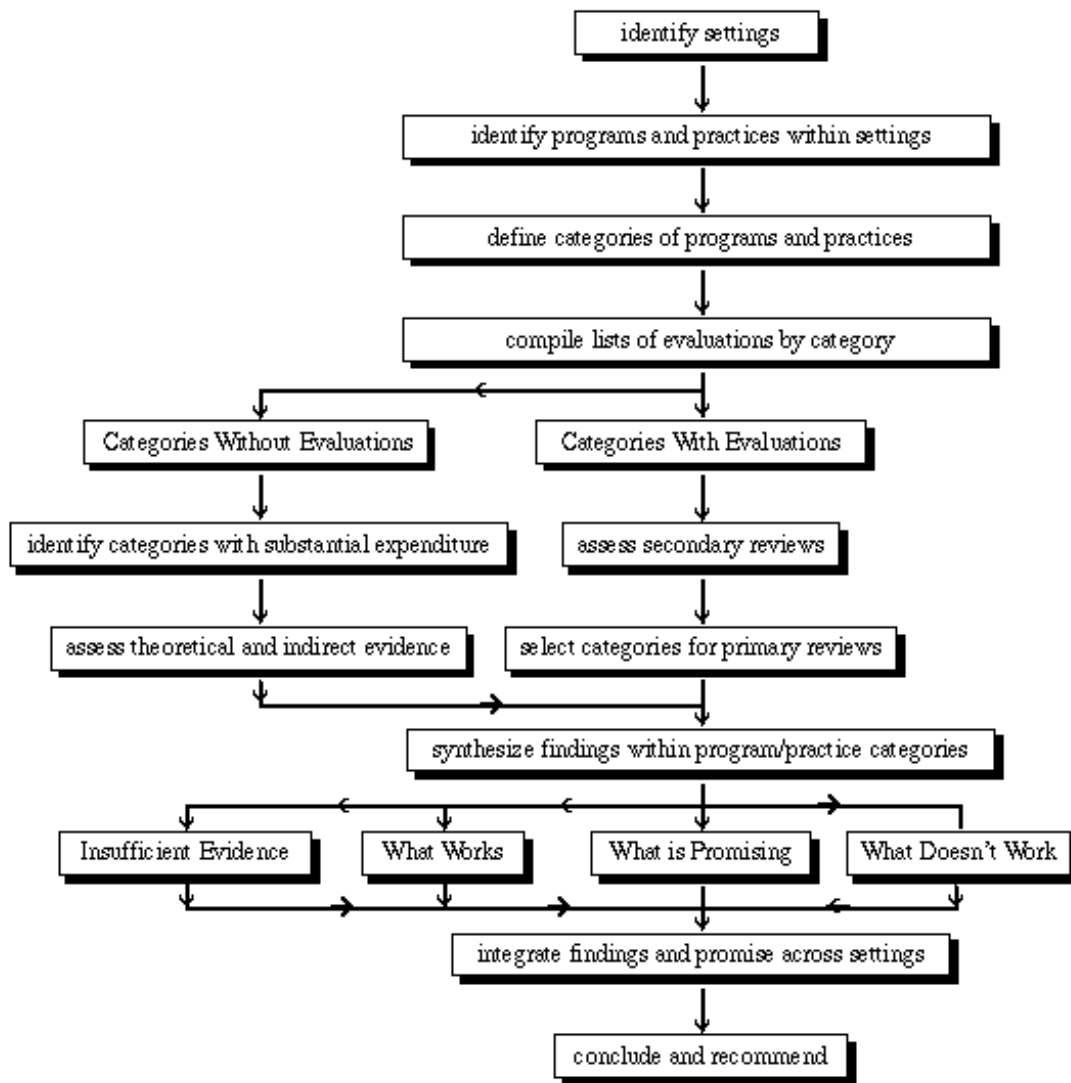
The challenge of this review is to make a substantial contribution to science in a very short time frame. The US Congress only allowed the Attorney General nine months for a comprehensive scientific review of crime prevention programs. While the time frame may be appropriate for the legislative process, it is virtually unprecedented in science. Similar reviews performed for the Congress by panels of the National Academy of Sciences typically last several years, and even those are usually much narrower in the scope of the research questions considered. Few scientists would expect a team of senior scholars and graduate students to even locate copies of all relevant evaluations of crime prevention programs in the available time frame, let alone to code them carefully and reliably for the purpose of a systematic review.

Our approach strikes a compromise between breadth and depth, without any compromise in scientific integrity. It attempts to rely as much as possible on other recently completed reviews of the literature we find generally reliable. Given the limited time to undertake intensive review of primary evaluation research, we reserve that method for only the highest priority program areas. This appendix provides a rationale for that strategy and the criteria employed for setting the priorities.

This review makes hard choices at four levels of analysis. One is the level of institutional settings, the rationale for which is described in Chapter Two. The next level is the choice of high and medium priority program areas of crime prevention within each setting. The third level, found within each high priority program area, is the kinds of evidence most worth relying on in assessing the effectiveness of that kind of program. The fourth level, found within each medium priority program, is how much to rely on secondary reviews of the literature, in which the federal government has recently invested millions of dollars. What follows next describes the process and criteria for making the last three of those choices. Figure 1 provides a flow chart illustrating the various steps in the process which lead us to our conclusions and recommendations in this review.

Figure 1

Diagram of Assessment Process



Sorting Programs and Practices

Our standard method for each chapter begins with a review of the literature, culminating in a list of all categories of crime prevention programs and practices in that institutional setting. We annotate each category on the list with definitions and illustrations. We circulate the list and its annotations among colleagues in our own department, and nationally-known experts chosen for the purpose. Based on their feedback, we revise the categories or definitions.

Unit of Analysis. Note that the basic unit of analysis we employ throughout is the **category** of program or practice that is conceptually coherent and subject to evaluation. Basic institutional "practices" such as police patrols, and innovative "programs" experimentally added to institutional practice such as home nurse visitation, can both be defined as analytic categories of factors potentially affecting crime prevention. The list of such categories need not distinguish programs and practices, since the two are often merged in actual practice (as in the COPS program). What our method attempts is a theoretically clear definition of the independent variable hypothesized to produce crime prevention consequences.

Evidence and Resources. In the process of constructing the list of program and practice categories, we develop a rough estimate of both the volume and quality of the scientific evidence on the effectiveness of that category. We also acquire some data on level of governmental and private resources, especially the Office of Justice Programs, is investing in programs in each category.

Based on these data, we sort categories according to the available evaluation evidence. If evidence is available, we retain the category for potential discussion and analysis in the chapter. For programs and practices with no available evidence, we sort on the basis of public (or in some cases private) resources expended on that category. If the resources are substantial, we retain the

category for potential discussion in the chapter. Categories with neither evidence available nor substantial resources are set aside at that point. For the categories with evidence, regardless of resource levels, we engage in one process. For programs without evidence, we engage in another.

Categories With Evidence

The first step for categories with evidence is to consult recent secondary reviews wherever possible. The reviews themselves can be evaluated on the basis of their reliability, based on such criteria as the level of detail they provide and the completeness and accuracy of the discussion of primary sources known to our review team. If a secondary review is deemed reliable, we rely on it for a determination of the strength of the evidence about the category. If there is no secondary review available for a category, we conduct a primary evidence analysis.

Primary Evidence Analysis. For the selected categories subjected to full assessment of primary evidence, the chapter research team identifies every primary evaluation it can locate from all sources. These evaluations are reviewed for a basic in-versus-out decision. The "in" decision is based solely on whether the study reports data on outcomes measuring crime or risk and protective factors in relation to the program being evaluated. Studies which contain only process measures are excluded from any data collection other than citation data and the reason for exclusion. Studies which include outcome measures are coded using an instrument (shown at the end of this appendix) adapted for this study from an instrument designed for the National Structured Evaluation of Drug Abuse Programs, which previous research has found to produce acceptable inter-rater reliability (Center For Substance Abuse, 1995). A codesheet for each study is prepared by at least one graduate student and reviewed by a faculty member. An overall rating of methodological rigor for each study is obtained from item #8 in Section II of this codesheet.

Standard Measures of Effect Size. Given the variation in the reporting of effects discussed above, our method does not impose a standard definition of effect size across all analyses. Some chapters report effects in terms of statistical significance as well as percentage differences or percentage reductions in rates of offending. Chapters for which measures of criminal offending are rare (e.g., the school chapter) attempt to translate effects for the array of possible outcomes into standardized effects sizes using, to the extent possible, Cohen's *d*, defined as treatment group mean minus control group mean, divided by the pooled groups' standard deviation. Information on the statistical significance of and the magnitude of the effects are coded for each study using Section III of the codesheet. The decision about which metric to use for reporting on the magnitude of the effect is left to the senior author of each chapter.

Integration of Evidence. The end product of the analysis of empirical evidence contains a range of findings with respect to effectiveness. In the interests of clarity of presentation for policy analysis purposes, we organize the presentation of material in each chapter by the content of the findings, rather than the priority of the program. The content is defined both the strength of the scientific evidence and the strength (and

direction) of the program effects. We ultimately report on four categories of effectiveness.

Program categories are sorted into these effectiveness categories using the following rule:

Works (1): At least two studies with methodological rigor greater than or equal to "3" reporting significance tests have found crime prevention effects for the program condition, and where effect sizes are available, the effect is at least one-tenth of one standard deviation (e.g., effect size = .1) better than the effects for the control condition, and the preponderance of the evidence supports the same conclusion.

Doesn't Work (2): At least two studies with methodological rigor greater than or equal to "3" reporting significance tests have found no effect favoring the program condition, and the preponderance of other evidence supports the same conclusion.

Promising (3): At least one study with methodological rigor greater than or equal to "3" reporting conventional significance levels has found crime prevention effects for the program condition, and where the effect size is available, the effects are at least one-tenth of one standard deviation better than the effects for the control condition OR the preponderance of evidence favors the program.

Don't Know (4): Categories with empirical evidence which do not fit one of the above are included in this residual category.

We must, of course, be extremely careful in labeling any program category as highly certain to be good or bad in its effects. Yet we must also be clear enough to make our conclusions useful, no matter how much we anticipate that science is always provisional and that our conclusions may be changed by next year. The large number of programs to be reviewed almost

guarantees that some have strong evidence of extreme effects, both positive and negative. Yet most extreme results are from single, unreplicated studies. It is just as important not to conclude too much from a single negative result as from a single positive one. A single evaluation, even with strong evidence, cannot be assumed to generalize to all or most other settings. The primary objective of identifying promising results should be to foster replications, and the more promising the results the greater the replication need. Where there is substantial consistency of evidence in one direction, the senior author of each chapter makes a judgement and defends it in the text.

The code sheet employed in primary coding is attached. In cases of secondary analysis, effect sizes have been estimated in some chapters where sufficient detail about research design has been provided in the secondary review. This method is not without some risk of error, but it is more informative given time constraints than the alternative of not ranking studies reported in detail in secondary reviews. Where the level of detail reported in secondary reviews about the primary source research design is too low, the studies are reported as scientific methods score unranked.

Categories Without Evidence

For categories without evidence, the chapter conclusions reflect some theoretically based assessments. The report makes less use of such assessments than it might, given the concern for potential bias in assessments. Where theoretical rationales are embodied in conclusions, they are usually well-supported by empirical evidence, such as the concentration of serious youth violence in urban areas of concentrated poverty.

Code Book for Methodological Rigor and Effect Size Computation

At least one code sheet is filled out for each study. This scheme assumes the existence of a database for each setting containing the identifying information for the publication and the codes for program category. The document number will be used to merge information from this codesheet with the existing information.

I. Identifying Information and Funding Source

1. Document # _____ [Note: document numbers are four-digit numbers, beginning with the setting code in #3 below]

2. First author last name: _____

3. Institutional setting (circle one):

(1) Family

(2) School

(3) Community

(4) Labor Market

(5) Place

(6) Police

(7) Courts/Corrections

4. Type of publication:(1) Peer-Reviewed Journal

(Circle one) (2) Other publication (e.g., book; book chapter; published gov't report)

(3) unpublished (e.g., technical report, convention paper)

5. Type of funding (circle all that apply -- usually found in the acknowledgment note)

- (1) OJP (Office of Justice Programs, including National Institute of Justice; Bureau of Justice Statistics; Bureau of Justice Assistance; Office of Juvenile Justice and Delinquency Prevention; Office for Victims of Crime)
- (2) Department of Education (including National Institute of Education; Office of Educational Research and Improvement; Office of Elementary and Secondary Education)
- (3) Department of Health and Human Services (including National Institute on Drug Abuse; National Institute on Alcoholism and Alcohol Abuse; National Institute of Mental Health; National Institute on Drug Abuse; Center for Substance Abuse Prevention; Center for Substance Abuse Treatment; Centers for Disease Control and Prevention; Administration for Children Youth and Families)
- (4) Other Federal (e.g., Corporation for National Service; Housing and Urban Development; U.S. Dept. Of Labor; Dept. of the Interior; Office of National Drug Control Policy)
- (5) Other
- (6) Not specified

5. Identification of MODULES for coding: Number of different "modules" included in report. _____

Some studies include sub-studies for which evaluation results are reported separately. These sub-studies often use different methodologies and must be summarized separately. A "module" is defined as a study component for which a distinct treatment group is identified and separate evaluation results are reported. If a study reports on four different trials of an intervention, each trial having a different treatment group, the study has four modules. If a study includes several different program activities but these are all applied to one group of individuals, the study has only one module. If the study identifies two different groups, one of which receives certain program components and the other of which receives other components to another group, AND the results for each of the two groups are reported separately as though they were two different programs, the program has two modules. An example of the latter is when an evaluation of a school-level intervention involving one set of interventions is reported in the same article as an evaluation of a different set of interventions targeting high-risk youths in the same schools. If more than one treatment group is involved, more than one module will generally be involved unless the study uses a factorial design.

Code remaining questions for each module.

II. Methodological Rigor

1. Sample size

Fill in the number of cases for each separate unit of analysis used in the module. Report only for those units for which separate analysis is conducted. Report the sum of the treatment and comparison units actually analyzed. If n's differ for different analyses, record the range of n's used:

individuals_____

families_____

classrooms_____

schools_____

blocks, cities, states, or other geographical units_____

communities_____

other collectivity (specify)_____

2. Presence of comparison group(s)

1=No comparison group present

2=Separate comparison group present, but non-randomly constituted and limited (e.g., only demographic variables) or no information on pre-treatment equivalence of groups

3=Separate comparison group present but non-randomly constituted; extensive information provided on pre-treatment equivalence of groups; obvious group differences on important variables

4=Separate comparison group present; extensive information provided on pre-treatment equivalence of groups; only minor group differences evident

5= Random assignment to comparison and treatment groups; differences between groups are not greater than expected by chance; units for random assignment match units for analysis

Note: Sometimes random assignment takes place at a different level than the analysis. For example, classes or schools are randomly assigned to conditions, but students are the unit of analysis. These cases should not be treated as random assignments.

3. Use of control variables to account for initial group differences

1=No use of control variables to adjust for initial group differences

3=Control variables used, but many possible relevant differences uncontrolled

5=Most relevant initial differences (e.g., differences on a pre-treatment measure of the dependent variable or variables highly associated with the dependent variable) between groups controlled statistically OR random assignment to groups resulted in no initial differences.

4. Variable measurement

1=No systematic reproducible approach to variable measurement is employed

2=No indication of how study variables were constructed or obtained

3=Some attention to constructing or obtaining high quality measures, but reliability not demonstrated

4=Variables developed or selected with some consideration of use in prior studies and reliability of measurement; reliability reported; not all measures demonstrated to be reliable

5= Careful selection of relevant variables considering their prior use and reliability demonstrated for all or most of the measures

5. Control for effects of attrition from study

1=Attrition from treatment or control group is greater than 50% and no attempt is made to determine the effects of attrition on the outcome measures.

2=No accounting given of cases that dropped out of study or attrition from treatment or control group is moderate and no attempt is made to determine the effects of attrition on the outcome measures.

3=Differences between study participants (both treatment and comparison) who were present at the pre-test and absent at the post-test are identified and discussed.

4=Differences between study participants (both treatment and comparison) who were present at the pre-test and absent at the post-test are identified and discussed; possible differential attrition between treatment and comparison groups is discussed.

5=Careful statistical controls for the effects of attrition are employed, or attrition is shown to be minimal; threat of differential

attrition for treatment and comparison groups is addressed adequately.

Note: Attrition is loss from the initial sample or population identified as the treatment group or the comparison group. Sometimes attrition occurs even before a pre-test is administered.

6. Post-treatment measurement period

Length of time from end of treatment to last follow-up (in months)_____

7. Use of statistical significance tests

0=No statistical tests or effect sizes

1=Statistical tests used or effect sizes computed

8. Overall evaluation methodology

1=No reliance or confidence should be placed on the results of this evaluation because of the number and type of serious shortcomings(s) in the methodology employed

3=Methodology rigorous in some respects, weak in others

5=Methodology rigorous in almost all respects

Note: Key elements in your rating of overall methodology should be:

Control of extraneous variables: Have the influences of independent variables extraneous to the purposed of the study been minimized (usually through random assignment to conditions, matching treatment and comparison groups carefully, or statistically controlling for extraneous variables)?

Minimization of error variance: Are the measures relatively free of error?

Sufficiency of power to detect meaningful differences

The power of a test is the probability that a false null hypothesis will be rejected in favor of a true alternative hypothesis. The smaller the anticipated effects of the intervention, the larger the sample size must be in order to decrease the sampling variation relative to the size of the effect to be detected.

III. Identification of Outcome Measures

Complete this section only if at least one comparison is available in the study (e.g., treatment vs. control or pre-post)

Check here if no comparison is available_____

1. Level of criminal involvement of targeted population (circle one):

(A) General population, unspecified criminal involvement

(B) High-risk population (but not known to be involved in criminal justice system)

(C) Known to be not yet involved in criminal justice system

(D) Known to be involved in criminal justice system

2. Measure of Problem Behavior (circle all that apply):

(A) Crime, delinquency, theft, violence, illegal acts of aggression

(1) participation (e.g., yes/no for a specific period; proportion of population arrested in a specific period)

(2) frequency (e.g., number of crimes for a specific period; number of arrests per unit population for a specific period)

(3) seriousness level of crime (e.g., a scale ranging from status offense to murder, rape, and arson)

(4) variety (e.g., number of different crimes admitted)

(B) Alcohol and other drug use

(1) participation (e.g., yes/no for a specific period; proportion of population used in a specific period)

(2) frequency (e.g., number of times used in a specific period; number of uses per unit population for a specific period)

(3) variety (number of different substances used)

(C) Victimization experience

(1) participation (e.g., yes/no experienced victimization in specific time frame; number of victims per unit population in specific time frame)

(2) frequency (e.g., number of times victimized in specific time period; number of victimizations per unit population in specific time period)

(3) seriousness (e.g., harm done)

(4) variety (number of different victimization experiences)

(D) Rebellious behavior, anti-social behavior, aggressive behavior, defiance of authority, disrespect for others (include suspension and expulsion unless it is specifically for behaviors in categories A or B)

(E) General problem behavior (combination of different behaviors above)

3. Risk or protective factors examined in study. Circle all risk/protective factors measured as outcomes of the intervention.

Individual-level:

(A) Employment

(B) School dropout

(C) Truancy or school tardiness

(D) Association with delinquent peers

(E) School academic performance (e.g., grade promotion, school grades, academic achievement test scores, schoolwork or homework completion)

(F) Educational attainment (except dropout by persons required by law to attend school)

(G) Disposition to self-control, impulsiveness, or recklessness

(H) Social competencies or skills

- (I) Conscientiousness, belief in conventional rules or moral character, dutifulness
- (J) Intentions to engage in or abstain from ATOD use, delinquent behavior, crime
- (K) Commitment to education or work
- (L) Caring about/Attachment to school, work, or prosocial others

Family:

- (M) Parental supervision
- (N) Family or parental behavior management practices

Community or School Environment:

- (O) Rules, norms, expectations for behavior
- (P) Availability of weapons or drugs
- (Q) Community or organizational capacity for self-management (e.g. morale, leadership)
- (R) Community unemployment rate
- (S) Community disorganization (e.g., divorce rate, female-headed households)

IV. Program Effects and Effect Size Computation

Choose up to three outcome measure from III.2 above for summary of program effects and effect size computation. Base your selection on the following criteria: (a) the measure is used in all or most of the studies in a category (facilitating comparison of outcomes within the category) and (b) reporting of statistics for the outcome is extensive. Fill in the numbers and letters from III.2 above as well as the exact names of the measures:

- A) _____
- B) _____
- C) _____

Outcome Measure ____ (A,B, or C):

Answer all questions for which relevant statistics are provided in the study. Fill in "NA" if statistic is not available.

1. Base rate: This is the level of the problem behavior for the treatment group prior to the treatment or for the comparison group

___ Pre-treatment for treatment group:

Mean_____

Standard deviation_____

Time period covered, in months (e.g., 12 months, 24 months)_____

___ Comparison group:

Mean_____

Standard deviation _____

Time period covered, in months (e.g., 12 months, 24 months) _____

2. Post-treatment measurement period. This is the time elapsed from pre-test or beginning of intervention to post-test measurement -- in months): _____

3. Effect size.

For pre to post comparison for the treatment group: _____

For pre to post comparison for the comparison group: _____

For post-treatment comparison of treatment and comparison group: _____

4. Means and standard deviations or proportion (for rates) for the outcome measure for the treatment and comparison groups

Treatment group mean or proportion: _____

Comparison group mean or proportion: _____

Treatment group

standard deviation: _____ or

variance: _____

Comparison group

standard deviation: _____ or

variance: _____

Pooled standard deviation _____ or

variance _____ for treatment and comparison groups

5. Means and standard deviations or proportion (for rates) for the pre- and post measures for the treatment group

Post-treatment group mean or proportion: _____

Pre-treatment group mean or proportion: _____

Post-treatment group

standard deviation: _____ or

variance: _____

Pre-treatment group

standard deviation: _____ or

variance: _____

Pooled standard deviation _____ or

variance _____ for pre- and post

6. Pearson correlation between measure of experimental status (treatment/control) and outcome measure: _____

7. Statistical test used for assessing probability that difference (between treatment and comparison groups or pre- to post) is due to chance.

(A) Chi-square statistic (with one degree of freedom, i.e. from a 2X2 table):

chi-square value _____

Total study sample size _____

Exact 2-tailed p-level: _____

Nominal significance level (2-tailed; circle one):

p<.05: Yes or No

p<.01: Yes or No

(B) t statistic (for difference between means):

t-value: _____

degrees of freedom _____

or sample size for each condition:

Treatment group or post-condition "n": _____

Comparison group or pre-condition "n": _____

Exact 2-tailed p-level: _____

Nominal significance level (2-tailed; circle one):

p<.05: Yes or No

p<.01: Yes or No

(C) ANOVA :

F-statistic: _____

degrees of freedom in the numerator: _____

degrees of freedom in the denominator: _____

eta: _____

eta squared: _____

sum of squares in the numerator: _____

sum of squares in the denominator: _____

number of cases in each condition:

treatment group or post-condition "n": _____

comparison group or pre-condition "n": _____

Exact 2-tailed p-level: _____

Nominal significance level (2-tailed; circle one):

p<.05: Yes or No

p<.01: Yes or No

(D) Other statistical test used:

Name of test: _____

Exact 2-tailed p-level: _____

Nominal significance level (2-tailed circle one):

p<.05: Yes or No

p<.01: Yes or No

8. Direction of effect:

For treatment/comparison group designs: (Check one)

Treatment group has less problem behavior at post-test than comparison group: _____

Comparison group has less problem behavior at post-test than treatment group: _____

No difference exists between groups at post-test: _____

For pre-post designs: (Check one)

Post-level of problem behavior is lower than pre-level: _____

Pre-level of problem behavior is lower than post-level: _____

No difference exists between pre- and post-measures: _____

Repeat section IV, questions 1 - 8 for Outcome Each Additional Selected Outcome Measure.School-based Programs:

Also code:

Grade level of treatment group:

(Check more than one if group is split fairly evenly across levels below)

_____ Mostly early elementary (K-3)

____ Mostly upper elementary (4-5)

____ Mostly middle school (6-8)

____ Mostly high school (9-12)

Range of grade levels included in treatment group: _____ to _____

SCHOOL-BASED CRIME PREVENTION

by Denise C. Gottfredson¹

Schools have great potential as a locus for crime prevention. They provide regular access to students throughout the developmental years, and perhaps the only consistent access to large numbers of the most crime-prone young children in the early school years; they are staffed with individuals paid to help youth develop as healthy, happy, productive citizens; and the community usually supports schools' efforts to socialize youth. Many of the precursors of delinquent behavior are school-related and therefore likely to be amenable to change through school-based intervention.

Figure 5-1 shows several school-related precursors to delinquency identified by research. These factors include characteristics of school and classroom environments as well as individual-level school-related experiences and attitudes, peer group experiences, and personal values, attitudes, and beliefs. School environment factors related to delinquency include availability of drugs, alcohol, and other criminogenic commodities such as weapons; characteristics of the classroom and school social organization such as strong academic mission and administrative leadership; and a climate of emotional support. School-related experiences and attitudes which often precede delinquency include poor school performance and attendance, low attachment to school, and low commitment to schooling. Peer-related experiences, many of which are school-centered, include rejection by peers and association with delinquent peers. And individual factors include early problem behavior, impulsiveness or low levels of self-control, rebellious attitudes, beliefs favoring law violation, and low levels of social competency skills such as identifying likely consequences of actions and alternative solutions to problems, taking the perspective of others, and correctly interpreting social cues. Several recent reviews summarize the research literature linking these factors with crime (Gottfredson, Sealock, & Koper, 1996; Hawkins, Catalano, & Miller, 1992; Howell, Krisberg, Wilson & Hawkins, 1995).

Figure 5-1: School-Related Predictors of Problem Behavior

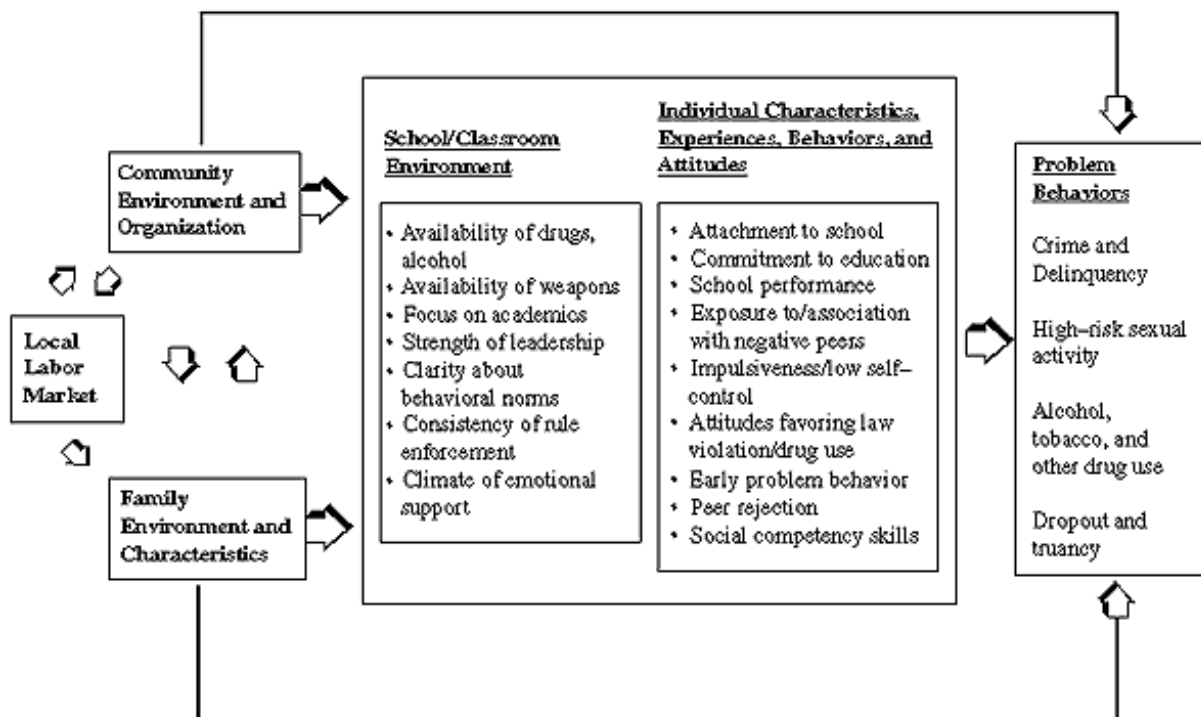


Figure 5-1 also draws attention to fact that schools operate in larger contexts which influence their functioning as well as their outcomes. By far the strongest correlates of school disorder are characteristics of the population and community contexts in which schools are located. Schools in urban, poor, disorganized communities experience more disorder than other schools (Gottfredson & Gottfredson, 1985). Research has also demonstrated that the human resources needed to implement and sustain school improvement efforts -- leadership, teacher morale, teacher mastery, school climate, and resources -- are found less often in urban than in Figure 1: Christina's Figure 5-1 other schools (Gottfredson, Fink, Skroban, and Gottfredson, in press). It is

precisely those schools whose populations are most in need of prevention and intervention services that are least able to provide those services. Although schools can not be expected to reverse their communities' problems, they can influence their own rates of disorder. Controlling on relevant characteristics of the larger community, characteristics of schools and the way they are run explain significant amounts of variation in school rates of disorderly behavior (Gottfredson & Gottfredson, 1985).

National priorities for children focus on schools as a locus for the prevention of diverse social problems including crime. The Department of Health and Human Services' Healthy People 2000 goals include increasing high school graduation rates and reducing physical fighting, weapon-carrying, substance use, and pregnancy among adolescents. National Education Goal 6 states that every school will be free of drugs, violence, and the unauthorized presence of firearms and alcohol, and will offer a disciplined environment conducive to learning by the year 2000. The 1986 Drug-Free Schools and Communities Act legislation provided substantial funds to states to develop and operate school-based drug prevention programs. In 1994 this legislation was modified to authorize expenditures on school-based violence prevention programs as well.

This substantial national interest in schools as a prevention tool is not matched by federal expenditures in this area. Table 5-1 shows that federal expenditures on school-based substance abuse and crime prevention efforts are modest,² particularly when compared with federal expenditures on control strategies such as policing and prison construction.³ Perhaps more troubling, the meager federal expenditures on school-based prevention are not well spent. The single largest federal expenditure on school-based prevention (Safe and Drug-Free Schools and Communities monies administered by the U.S. Department of Education) funds a relatively narrow range of intervention strategies, many of which have been shown either not to work

Table 5-1. Partial List of Federal Expenditures on School-based Prevention

Federal Program	Agency	Funding level	Strategies
Safe and Drug-Free programs: instruction, Schools & Communities and staff training, red-ribbon week; Program community service.	DOE	FY95: 466.98M	State and local education agency student assistance programs, teachers curriculum development and acquisition; before-after-school programs and Governor's state and local programs: (D.A.R.E.), replication of other drug high-risk youth programs
Note: Prior to Instruction 1994, this program education programs, funded drug programs in schools. The 1994 legislation authorized expenditures on violence prevention programs and curricula as well.			
High-Risk Youth programs; violence Demonstration Program	DHHS [CSAP]	FY95: 65.2M	Various. In-school and after-school and drug prevention.
Youth Violence (violence Prevention Program	DHHS [CDC]	FY95: 10.7M	Various. Projects include instruction prevention, self-control, social

competency; cognitive
recreation,
mediation and conflict
processes, parent

behavioral methods, tutoring, mentoring,
campaigns to change norms, peer
resolution, changes in school management
training)

Community Schools DHHS FY95: 10M
achievement enhancement
Youth Services and [Admin-ist
Supervision ration
Program for
Children,
Youth, &
Families]

Various. Prevention and academic
during the non-school hours.

Learn & Serve Corporatio FY95: 32M
curriculum. Attempt n for
America FY96: 32M
dropout. Character National
Program Service

Community service tied to the school
to engage youths in school to prevent
education.

D.A.R.E. (Drug DOJ/DOI FY95: 1.75M
lessons);
Abuse Resistance [BJA] FY96: 1.75M
(D.A.R.E. + PLUS; Play
Education) (To
includes and DOE D.A.R.E.
America)

Instruction (core program and booster
A recent extention of the program
and Learn under Supervision) also
after-school program.

Plus annual
funds from
Byrne Block
Grant

Plus approx.
10M annually
through Safe
and Drug
Free Schools
program

G.R.E.A.T. (Gang DOJ/
Resistance TREAS FY95: 16.2M
Education and [ATF/NIJ] Plus 265K
Training) (eval)

Instruction

C.I.S. (Cities in DOJ FY95: 592K
risk students and [OJJDP] FY96: 340K
Schools)

School-based supportive services for at-
their families

JUMP (Juvenile DOJ FY96: 15M
Mentoring Program) [OJJDP]

Mentoring

L.R.E. DOJ FY95: 2.7M
(Law-related [OJJDP] FY96: 1.2M
education)

Instruction, character education

Note: M=million; K=thousand

(e.g., counseling) or to have only small effects (e.g., drug instruction). School-based prevention monies administered by OJP also fail to capitalize on the full range of empirically-tested, effective strategies.

This chapter is intended to provide information for use in setting federal research agendas and guiding funding decisions about what works, what does not work, what is promising, and how delinquency prevention efforts can be strengthened. It begins by clarifying the outcomes sought in school-based prevention programs. It then classifies school-based prevention activities within two broad approaches -- environmental and individual-focused -- into more specific program types. Next it reviews research related to each type of activity, comments on the quality of the available information about the efficacy of each type of activity, and summarizes knowledge about what works, what does not work, and what is promising. It ends with a summary of findings and recommendations for OJP funding of school-based prevention interventions and further research.

The Nature of School-Based Prevention

Measures of effectiveness. School-based prevention programs include interventions to prevent a variety of forms of "problem behavior," including theft, violence, illegal acts of aggression, alcohol or other drug use; rebellious behavior, anti-social behavior, aggressive behavior, defiance of authority, and disrespect for others. These different forms of delinquent behavior are highly correlated and share common causes. Many of the programs considered in this chapter were not specifically designed to prevent the problem behaviors, but instead to affect presumed causal factors such as school drop-out, truancy, or other correlates which are expected to increase protection against or decrease risk towards engaging in problem behaviors at some later date. This focus on non-crime program outcomes is entirely appropriate given the young ages of many of the targeted students. Different outcomes have different salencies for different age groups. Positive program effects on reading skills for six-year-olds may be as important in terms of later crime prevented as reducing marijuana use for sixteen-year-olds. Many prevention researchers and practitioners also assume a link between less serious problem behaviors and later more serious crime. They are satisfied when their interventions demonstrate effects on the early forms of problem behavior. This developmental perspective underlies many school-based prevention efforts today and may explain the wide variety of outcome measures used to assess the effectiveness of these programs, some of which are summarized in Figure 5-2.

Studies of the effects of school-based prevention on serious violent crime are rare. Of the 149 studies examined for this review, only 9 measured program outcomes on murder, rape, robbery or aggravated assault. Only 15 measured outcomes on serious property crimes such as burglary, larceny-theft, and motor vehicle theft. More (25) measured less serious or unspecified criminal behavior. Far more common are studies assessing program effects on alcohol, tobacco, or other drug use (77 studies) and other less serious forms of rebellious, anti-social, aggressive, or defiant behaviors (79 studies). Most studies measure the risk or protective factors directly targeted by the program (e.g., academic achievement, social competency skills).

Figure 5-2: Common Outcome Measures for School-based Prevention Programs
Alcohol and other drug use: Ingestion of alcoholic beverages and ingestion of any illicit drug are considered substance abuse. Dimensions of use that are often measured distinctly in evaluations of prevention programs include age of first use (age at onset); status as having used alcohol or another drugs at least once; and current use, including frequency of use and amount typically used. Substance use is most often measured using youth self-reports in evaluations of school-based prevention programs.

Delinquent and criminal behavior: Delinquent or criminal behavior is any behavior which is against the law. Delinquency is criminal behavior committed by a young person. Laws, and therefore the precise definition of behaviors in violation of the law, vary slightly from state to state. Crime and delinquency includes the full range of acts for which individuals could be arrested. It includes crimes against persons ranging in seriousness from murder to robbery to minor assault. It includes an array of crimes against property ranging from arson to felony theft to joyriding. Crime and delinquency also includes possession, use, and selling of drugs. For juveniles, it includes status offenses such as running away. Dimensions of crime that are often measured distinctly in evaluations include age of first involvement, status as a delinquent ever in one's life, current criminal activity, and frequency of delinquent involvement. Delinquency is more often measured using youth self-reports than official records of arrest or conviction in evaluations of school-based prevention programs.

Withdrawal from school: Leaving school prior to graduation from the 12th grade and truancy are often used as measures of

success in prevention programs. The precise definition of truancy differs according to location. For practical purposes it is often measured as the number of days absent from school.

Conduct problems, low self-control, aggression: These characteristics are so highly related to delinquent behavior that they may be considered proxies for it. Studies of school-based prevention often measure these characteristics in addition to or in lieu of actual delinquent behavior because (1) the subjects are too young to have initiated delinquent behavior, (2) the questions are less controversial because they are not self-incriminating, or (3) teachers and parents are more able to rate youth on these characteristics than on actual delinquent behavior, which is often covert. Conduct problem behavior subsumes a variety of behaviors: defiance, disrespect, rebelliousness, hitting, stealing, lying, fighting, talking back to persons in authority, etc. Low self control is a disposition to behave impulsively, and aggression involves committing acts of hostility and violating the rights of others.

Risk and protective factors: As noted in the text, the effectiveness of prevention programs is often assessed by examining program effects of a variety of factors which are known to elevate or reduce risk for delinquent involvement at a later date. These factors are discussed above and shown in Figure 1.

Because Congress has asked for a review of scientific literature on crime prevention, studies including evaluations on crime, delinquency, alcohol or other drug use, or other forms of antisocial behavior are highlighted. Studies with demonstrated effects on risk and protective factors related to delinquency are also mentioned. Many substance abuse prevention programs are summarized in the chapter because substance use is one aspect of the adolescent problem behavior syndrome, is itself a form of criminal behavior for adolescents, and is highly correlated with more serious forms of criminal behavior. A distinction between substance use (including alcohol, marijuana, and harder drug use) and all other forms of delinquency is maintained throughout the report. Programs are considered to influence substance use or delinquent behavior if their evaluations demonstrate effects on any measure of each outcome, regardless of its type or seriousness level.

Categories of school-based prevention. Programs included in this chapter are located primarily in school buildings (even if outside of school hours) or are implemented by school staff or under school or school system auspices. Programs targeting all grade levels -- kindergarten, elementary, and secondary -- are included. Excluded from this chapter are school-based programs intended to alter family conditions or practices (these are covered in the family chapter), and school-based attempts to secure the school boundaries from intruders, weapons, and drugs. These are considered in the chapter on place-based strategies.

Figure 5-3 describes four categories of school-based prevention focusing on altering school or classroom environments and Figure 5-4 describes five categories of school-based prevention focusing on changing the behaviors, knowledge, skills, attitudes, or beliefs of individual students. Classifying any particular school-based prevention activity is a difficult task because most school-based prevention programs contain a mix of different types of activities. In the 149 studies examined for this review, most (94%) contained multiple components (i.e., components falling into more than one of the major categories of program activity shown in the figures). About 40% of the studies contained components in four or more different categories. Table 5-2 shows the major types of activities and the percentage of studies whose evaluated programs contained each type of activity. It shows that the school-based programs described in most studies include an instructional component and a component intended to alter classroom management strategies. These common strategies are often combined with attempts to teach students new ways of thinking and dealing with potential social problems. Other fairly common approaches in these studies are behavior modification and attempts to change the normative climate of the school.

The multi-component strategy found in most studies of school-based prevention is perfectly reasonable given the nested nature of the schooling experience and the multiple routes to problem behavior. Student behavior is most directly influenced by the attitudes, beliefs, and characteristics of the student and his or her peers. Individually-targeted interventions such as instructional or behavior modification techniques that teach students new ways of thinking and acting may be effective in changing these individual factors. But *several* of these individual factors (e.g., low self-control, academic failure experiences, and attitudes favorable to drug use) are likely causes of problem behavior and are best targeted through a set of inter-related program components rather than through a single intervention. Moreover, students interact in the context of classrooms, each of which has its own normative climate encouraging or discouraging certain behaviors. And classrooms exist in school environments which establish larger contexts for all activities in the school. An instructional program teaching students to resolve conflicts non-violently is not likely to be as effective for reducing violence in a school or classroom setting in which fights are regularly ignored as in one which immediately responds to such incidents. The interconnections among different prevention components and the interdependence of different contexts should be considered in the design of prevention programs (Elias, Weissberg, et al., 1994).

Most recent reviews of school-based prevention are organized by developmental level (e.g., elementary, junior high, senior high) rather than by program type. Despite the difficulties inherent in classifying prevention activities, it is nevertheless a useful activity because only by decomposing different sets of activities into their major parts can we (a) describe the activities; (b) describe how the mix of activities varies across location (e.g., urban, suburban, rural) and developmental level; and (c) design evaluations of specific constellations of components. Also, several evaluations of relatively narrow programs are available and can provide information about the potential of each activity as a piece of a larger, more potent, prevention strategy. Ongoing research jointly sponsored by the Bureau of Justice Assistance and National Institute of Justice will cross-classify program types by developmental level and school location to provide a more comprehensive picture of which school-based prevention activities are used in which locations for which grade levels.

Figure 5-3: Environmental Change Strategies for School-Based Prevention
Environmental Change Strategies

Building School Capacity: Interventions to change the decision-making processes or authority structures to enhance the general capacity of the school. These interventions often involve teams of staff and (sometimes) parents, students, and community members engaged in planning and carrying out activities to improve the school. They often diagnose school problems, formulate school goals and objectives, design potential solutions, monitor progress, and evaluate the efforts. Activities aimed at enhancing the administrative capability of the school by increasing communication and cooperation among members of the school community are also included.

Setting Norms for Behavior, Rule-Setting: School-wide efforts to redefine norms for behavior and signal appropriate behavior through the use of rules. It includes activities such as newsletters, posters, ceremonies during which students declare their intention to remain drug-free, and displaying symbols of appropriate behavior. Some well-known interventions in this category are "red ribbon week" sponsored through the Department of Education's Safe and Drug-Free Schools and Communities program and school-wide campaigns against bullying. The category also includes efforts to establish or clarify school rules or discipline codes and mechanisms for the enforcement of school rules.

Managing Classes: Using instructional methods designed to increase student engagement in the learning process and hence increase their academic performance and bonding to the school (e.g., cooperative learning techniques and "experiential learning" strategies); and classroom organization and management strategies. The latter include activities to establish and enforce classroom rules, uses of rewards and punishments, management of time to reduce "down-time," strategies for grouping students within the class, and use of external resources such as parent volunteers, police officers, or professional consultants as instructors or aides.

Regrouping Students: Reorganizing classes or grades to create smaller units, continuing interaction, or different mixes of students, or to provide greater flexibility in instruction. It includes changes to school schedule (e.g., block scheduling, scheduling more periods in the day, changes in the lengths of instructional periods); adoption of schools-within-schools or similar arrangements; tracking into classes by ability, achievement, effort, or conduct; formation of grade level "houses" or "teams;" and decreasing class size. Alternative schools for disruptive youths are also included in this category.

Figure 5-4: Individual-Change Strategies for School-Based Prevention

Individual-Change Strategies:

Strategies to Change Student Knowledge, Skills, Attitudes, Beliefs, or Behaviors

Instructing Students: The most common strategy used in schools. These interventions provide instruction to students to teach them factual information, increase their awareness of social influences to engage in misbehavior, expand their repertoires for recognizing and appropriately responding to risky or potentially harmful situation, increase their appreciation for diversity in society, improve their moral character, etc. Well-known examples include Drug Abuse Resistance Education (D.A.R.E.), Law-related Education (L.R.E.), and Gang Resistance Education and Training (G.R.E.A.T.).

Behavior Modification and Teaching Thinking Strategies: Behavior modification strategies focus directly on changing behaviors and involve timely tracking of specific behaviors over time, behavioral goals, and uses feedback or positive or negative reinforcement to change behavior. These strategies rely on reinforcers external to the student to shape student behavior. Larger or more robust effects on behavior might be obtained by teaching students to modify their own behavior using a range of

cognitive strategies research has found lacking in delinquent youth. Efforts to teach students "thinking strategies" (known in the scientific literature as cognitive-behavioral strategies) involve modeling or demonstrating behaviors and providing rehearsal and coaching in the display of new skills. Students are taught, for example, to recognize the physiological cues experienced in risky situations. They rehearse this skill and practice stopping rather than acting impulsively in such situations. Students are taught and rehearsed in such skills as suggesting alternative activities when friends propose engaging in a risky activity. And they are taught to use prompts or cues to remember to engage in behavior.

Peer Programs: Peer counseling, peer mediation, and programs involving peer leaders.

Other Counseling and Mentoring: Individual counseling and case management and similar group-based interventions, excluding peer counseling. Counseling is distinguished from mentoring, which is generally provided by a lay person rather than a trained counselor is not necessarily guided by a structured approach.

Providing Recreational, Enrichment, and Leisure Activities: Activities intended to provide constructive and fun alternatives to delinquent behavior. Drop-in recreation centers, after-school and week-end programs, dances, community service activities, and other events are offered in these programs as alternatives to the more dangerous activities. The popular "Midnight Basketball" is included here.

Table 5-2. Percentage Studies Including Each Intervention Strategy

Program Strategy	Percentage Studies Including
Instructing Students	78
Managing Classrooms	66
Teaching Thinking Strategies	49
Setting Norms for Behavior, Rule-Setting	33
Behavioral Modification	27
Peer Counseling, mediation, and leaders	16
Counseling	14
Providing Recreational, Enrichment, and Leisure Activities	10
Building School Capacity	10
Regrouping Students	5
Mentoring	3

Methods

Search and summary methods used in this chapter are described in more detail in the methods appendix. Briefly, a library search

was conducted to locate all published studies of school-based prevention programs. This list was augmented with additional studies cited in recent reviews of prevention programs. In all, 149 studies were located and classified into the program categories described above. Studies of multi-component programs were assigned to the category which best described the program. For categories containing a manageable number of studies, all studies were coded for methodological rigor and effect sizes were computed⁴ (when possible) for measures of delinquency and substance use. For categories containing more studies than could be coded in the short time available to produce this report, recent high-quality secondary reviews were summarized and two or three of the most rigorous studies were coded using the same procedures as for the smaller categories.

The following paragraphs discuss in more detail three issues specific to this chapter.

Effect sizes. Program effects are expressed whenever possible in this chapter as "effect sizes" (ES), a measure of change due to the treatment as a proportion of the standard deviation for each measure employed. ESs usually range from -1 (indicating that the treatment group performed one standard deviation lower than the comparison group) to +1 (indicating that the treatment group performed one standard deviation higher than the comparison group). Rosenthal and Rubin (1982) show that ESs can be translated for ease of interpretation into the equivalent of percentage differences by simply dividing the ES by 2 and multiplying by 100. The resulting figure represents the relative percentage difference in success (or failure) rates between the experimental and control groups. For example, an ES of .5 might indicate that the success rate for the treatment group is 25 percentage points above that of the comparison group. Lipsey & Wilson (1993), summarizing effect sizes from 156 reviews of 9,400 interventions in the social and behavioral sciences and education, reported an average effect size of .47 (SD=.28) for many different types of programs and many different outcomes. By comparison, Lipsey (1992) showed the average effect size in 397 studies of delinquency treatment and prevention was .17 (SD=.44). Delinquent behavior appears more difficult to change than more conventional behaviors. The practical significance of an effect size depends largely on the seriousness of the outcome for the population. Lipsey argues that even small ESs (e.g., .10) for serious crime have practical significance.

Level of analysis. Most studies of school-based prevention share a methodological shortcoming: Data that should be analyzed at the classroom or school level are instead analyzed at the individual level. School-based prevention programs are usually administered to intact classrooms or schools and these larger units are usually assigned to treatment and control conditions. But most studies, conducted with limited funding, involve relatively small numbers of classes or schools. The largest study reviewed in this chapter involved only 56 schools, and most involve fewer than 10. Investigators usually analyze their data as though individuals were assigned to treatment and comparison conditions. Resulting estimates of the effects of school-based prevention practices are imprecise. Corrections are seldom or never made for the correlated error terms that result when observations are clustered in larger units. Effect sizes are usually underestimated because they use the larger individual-level standard deviation estimates rather than the smaller standard error estimates for classrooms or schools. This shortcoming can be corrected in future studies only with increased funding for studies to allow for larger numbers of schools and classrooms.

Scientific vs. programmatic rigor. The scientific rigor of studies summarized in this chapter was classified using the coding scheme described in the methods appendix. The programmatic rigor of prevention programs is not as easily quantified because the same level of consensus does not exist about the elements of programmatic rigor. We can be reasonably certain, however, that longer-term, multi-component strategies located in natural school settings, using staff readily available to the schools, employing methods that are acceptable to regular school staff are most likely to produce the strongest and most durable effects. A conundrum for school-based prevention research is that such rigorous programs are the most difficult to study using rigorous methods. Long-term interventions are more likely to suffer from attrition problems. In natural setting it is not always possible to randomly assign subjects to treatment and control conditions, thus lowering confidence in the interpretation of any differences observed as due to the effects of the intervention. The most rigorous programs, therefore, are usually not studied with the highest level of scientific rigor.

Studies of School-based Prevention

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) launched a large-scale school-based demonstration project in the early 1980s, funding eighteen different school-based delinquency prevention models in fifteen cities. Program models ran the gamut from alternative schools employing behavior modification for high-risk youths, to counseling classes, to enhancing management processes in schools. Seventeen of the projects were included in the national evaluation of the initiative, also funded by OJJDP. Gottfredson (1987), summarizing the evaluation, concluded that the initiative was successful in demonstrating that some school-based preventive interventions reduce delinquency. Schools in the initiative became significantly safer and less disruptive over the course of the initiative. The initiative as a whole demonstrated that school-based prevention can work, but evaluations of specific program models showed great variability in their effectiveness. Reports on many of the specific program models included in the initiative have made their way into the scientific research literature and will be summarized at appropriate points later in this chapter.

Changing School and Classroom Environments

Correlational evidence suggests that the way schools are run predicts the level of disorder they experience. Schools in which the administration and faculty communicate and work together to plan for change and solve problems have higher teacher morale and less disorder. These schools can presumably absorb change. Schools in which students notice clear school rules and reward structures and unambiguous sanctions also experience less disorder. These schools are likely to signal appropriate behavior for students (Corcoran, 1985; Gottfredson, 1987; Gottfredson & Gottfredson, 1985; Gottfredson, Gottfredson, & Hybl, 1993). Schools in which students feel as though they belong and that people in the school care about them also experience less disorder (Duke, 1989). These schools are probably better at controlling behavior informally. Intervention studies have tested for a causal association between each of these factors and delinquency or substance use among students. Four major strategies for changing school and classroom environments are summarized below: (1) building school capacity to manage itself; (2) setting norms or expectations for behavior and establishing and enforcing school rules, policies, or regulations; (3) changing classroom instructional and management practices to enhance classroom climate or improve educational processes; and (4) grouping students in different ways to achieve smaller, less alienating, or otherwise more suitable micro-climates within the school.

Building School Capacity

Program Development Evaluation (PDE; G. Gottfredson, 1984a; Gottfredson, Rickert, Gottfredson, and Advani, 1984) is a structured organizational development method developed to help organizations plan, initiate, and sustain needed changes. Researchers and practitioners collaborate, using specific steps spelled out in the program materials, to develop and implement programs. A spiral of improvement is created as researchers continuously provide data feedback during the implementation phase to the practitioners and work with them to identify and overcome obstacles to strong program implementation. The method -- first developed for use with schools participating in the OJJDP alternative education initiative -- was intended to solve the problem that evaluations up until that time had found few efficacious delinquency prevention models. The developer assumed that the poor showing was due to weak evaluations, failure to inform program design with research knowledge and social science theory, and weak program implementation.

PDE was used in a comprehensive school improvement intervention -- project PATHE -- that altered the organization and management structures in seven secondary schools between 1981 and 1983 as part of OJJDP's alternative education initiative (D. Gottfredson, 1986; scientific methods score=4). District-level administrators used PDE to develop a general plan for all seven schools, and then used PDE to structure specific school-level planning interventions. These efforts increased staff and student participation in planning for and implementing school improvement efforts. Changes resulting from the planning activity included efforts to increase clarity of rules and consistency of rule enforcement and activities to increase students' success experiences and feelings of belonging. These activities targeted the entire population in each school.

The evaluation of the project compared change on an array of measures from the year prior to the treatment to one year (for four high schools)⁵ and two years (for five middle schools) into the intervention. One school at each level was a comparison school selected from among the non-participating schools to match the treatment schools as closely as possible. The students in the participating high schools reported significantly less delinquent behavior⁶ (ES=-.16) and drug use (ES=-.19), had fewer suspensions (ES=-.27), and fewer school punishments (ES=-.18) after the first year of the program. Students in the comparison high school did not change significantly on these outcomes. A similar pattern was observed for the middle schools after two years. As serious delinquency increased significantly in the comparison school, it decreased (nonsignificantly) in the program middle schools (ES=-.27). Changes in drug use (ES=-.13) and school punishments (ES=-.15) also favored the program schools. Suspensions also declined significantly in the program middle schools, but a similar decline was observed in the comparison school. Several indicators of the school climate directly targeted by the program (e.g., safety, staff morale, clarity of school rules, and effectiveness of the school administration) also increased in the program schools, with effect sizes ranging from .16 to .63.

D. Gottfredson (1987; scientific methods score=4) reported the results of a similar effort -- The Effective Schools Project -- in a difficult Baltimore City junior high school. PDE was used with a team of school and district-level educators to plan and implement changes to instructional and discipline practices. School-wide and classroom-level changes were made to the disciplinary procedures to increase the clarity and consistency of rule enforcement, and to substitute positive reinforcement strategies for strategies that relied solely on punishment. Instructional innovations including cooperative learning and frequent monitoring of class work and homework were put in place, an expanded extracurricular activities program was added, and a career exploration program which exposed youth to positive role models in the community, took them on career-related field trips, and provided instruction on career-related topics was undertaken.

The evaluation of the project involved a comparison of pre-treatment measures to post-treatment measures taken two years later

for the one treatment school and a second school which was intended to receive the program but instead chose to develop a school improvement plan with minimal assistance from the researchers (and without using the PDE method). Indicators of organizational health (e.g., staff morale, cooperation and collaboration between faculty and administration, and staff involvement in planning and action for school improvement) improved dramatically in the treatment school. Only the Planning & Action scale improved in the comparison school. Significant reductions from pre- to post-treatment on delinquency (see footnote 3, $ES=-.33$) and increases in classroom orderliness ($ES=.57$) were observed for the treatment school. A reduction in student reports of rebellious behavior in the treatment school was observed (not significant) while a significant increase was observed in the comparison school ($ES=-.22$).

Kenney & Watson (1996; scientific methods score = 3) report on an intervention to empower students to improve safety in schools. This study, funded by NIJ in 1993, involved 11th grade students (N's range from 372 to 451) in the application of a problem-solving technique to reduce problems of crime, disorder, and fear on the school campus. As part of their government and history class, students implemented a four-step problem-solving method commonly used in problem-oriented policing interventions to identify problems, analyze possible solutions, formulate and implement a strategy, and evaluate the outcomes of the intervention. The investigators anticipated that empowering students to serve as change agents in the school would produce safer schools. Among the problems selected by the students to work on were streamlining lunch-room procedures and monitoring the restrooms. These place-oriented strategies are discussed in Eck's chapter in this volume.

Baseline surveys used by the planning groups to identify school problems were used also as baseline measures for the evaluation of the project. Change over a two-year period was examined for the treatment and one comparison school. The study found that students in the treatment school reported significantly less fighting and less teacher victimization and were less fearful about being in certain places in the school at the end of the two-year period compared with their baseline. Students in the comparison school did not change on these outcomes. A few of the items measuring teacher fear and victimization experiences were significantly lower at the end of the program, but positive effects were more evident in student than on teacher reports. The positive findings for this program on measures of fighting, fear, and victimization experiences are consistent with the Gottfredson et. al. research showing that building school capacity for initiating and sustaining change reduce delinquency and drug use. All three studies were of acceptable methodological rigor, with scientific methods scores of 3 or 4. The size of the effects on delinquency and substance use ranged from small ($-.13$) to moderate ($-.33$), with larger effects (up to $.57$) observed for less serious forms of misbehavior.

Norms for Behavior and Rule-Setting

Research on the correlates of school disorder summarized earlier in this chapter suggests that a constellation of discipline management-related variables -- clarity about behavioral norms, predictability, consistency and fairness in applying consequences for behaviors -- are inversely related to rates of teacher and student victimization in schools. Several studies have attempted to intervene in schools to increase the clarity and consistency of rule enforcement. Others have deliberately involved students in the development and enforcement of the rules in an attempt to increase the perceived validity and fairness of the rules. Still others have attempted to establish or change school norms using campaigns, ceremonies, or similar techniques.

Gottfredson, Gottfredson, & Hybl (1993; scientific methods score=4) tested a discipline management intervention in six urban middle schools. This program (BASIS) included the following components:

Increasing clarity of school rules and consistency of rule enforcement through revisions to the school rules and a computerized behavior tracking system;

Improving classroom organization and management through teacher training;

Increasing the frequency of communication with the home regarding student behavior through systems to identify good student behavior and a computerized system to generate letters to the home regarding both positive and negative behavior; and

Replacing punitive disciplinary strategies with positive reinforcement of appropriate behavior through a variety of school- and classroom-level positive reinforcement strategies.

School teams of administrators, teachers, and other school personnel were responsible for implementing the program. When all six participating schools were compared with the two non-randomly selected comparison schools, significant changes in the expected direction were observed from the beginning to the end of the program on the measures most directly targeted: classroom orderliness, classroom organization, classroom rule clarity, and fairness of school rules. Student reports of rebellious behavior, a scale measuring minor delinquent acts, increased significantly over the three year time frame for students in both

treatment and comparison schools, and slightly more so in treatment schools ($ES=.27$) than in the comparison schools ($ES=.19$). This increase was probably due to the county-wide aging of the middle school student population which resulted when the implementation of higher grade-to-grade promotion standards resulted in a huge increase in grade retentions. Implementation data showed that the components of the program were implemented with high fidelity to the original design in only three of the six program schools. In these three schools, teachers reports of student attention to academic work increased significantly ($ES=.09$) and their ratings of student classroom disruption decreased significantly ($ES=-.12$). The increase in rebellious behavior was smallest ($ES=.11$) in the these schools, although the difference between these "high implementation" treatment schools and the control schools was small (difference in $ES=.08$).

In another three-year discipline management study implemented in nine schools, Mayer, Butterworth, Nafpaktitus, & Sulzer-Azaroff (1983; scientific methods score=5) demonstrated positive effects for a program that trained teams of school personnel to use behavioral strategies for reducing student vandalism and disruption. Each team also met regularly to plan and implement programs on a school-wide basis that would teach students alternative behavior to vandalism and disruption. These included lunch-room and playground management programs and classroom management programs that stressed the use of specific positive reinforcement. Graduate student consultants worked with each teacher about twice per week and conducted about two team meetings per month during the school year. The study showed that rates of student off-task behavior decreased significantly and vandalism costs plummeted in the project schools. These results replicated results from an earlier pilot study (Mayer & Butterworth, 1978; scientific methods score=4). Note that the school team approach used in this study resembles that used in the PDE method described above.

An impressive program of research on an intervention designed to limit conflict in schools undertaken in Norway (Olweus, 1991, 1992; Olweus & Alsaker, 1991; scientific methods score=3) suggests that school-wide efforts to redefine norms for behavior reduce delinquency. Olweus noted that certain adolescents -- "bullies" -- repeatedly victimized other adolescents. This harassment was usually ignored by adults who failed to actively intervene and thus provided tacit acceptance of the bullying. A program was devised to alter environmental norms regarding bullying. A campaign directed communication to redefining the behavior as wrong. A booklet was directed to school personnel, defining the problem and spelling out ways to counteract it. Parents were sent a booklet of advice. A video illustrating the problem was made available. Surveys to collect information and register the level of the problem were fielded. Information was fed back to personnel in 42 schools in Bergen, Norway. Among the recommended strategies to reduce bullying were: establishing clear class rules against bullying; contingent responses (praise and sanctions); regular class meetings to clarify norms against bullying; improved supervision of the playground; and teacher involvement in the development of a positive school climate.

The program was evaluated using data from approximately 2,500 students (aged 11 to 14) belonging to 112 classes in 42 primary and secondary schools in Bergen. The results indicated that bullying decreased by 50 percent (exact ESs can not be computed from the information provided in the published reports, but they appear to range from approximately $-.10$ to $-.50$ for different grade levels, genders, and measures of bullying). Program effects were also observed on self-reports of delinquent behavior -- including truancy, vandalism, theft. These effects on delinquency were smaller in magnitude (ESs below $-.2$ except for one of the 10 comparisons whose ES was approximately $-.42$).

Encouragement to adopt norms against drug use during adolescence has also been identified as an essential element of drug abuse prevention (Institute of Medicine [IOM], 1994). Curricula that promote norms against drug use often include portrayals of drug use as socially unacceptable, identification of short-term negative consequences of drug use, provision of evidence that drug use is less prevalent among peers than children may think, encouragement for children to make public commitments to remain drug-free, and the use of peer leaders to teach the curriculum (IOM, 1994, page 264). These activities are present in 29% of drug prevention curricula (Hansen, 1992), but always in conjunction with other components such as conveying information about risks related to drug use and resistance skills training. Norm-setting and public pledges to remain drug-free are usually elements of the most effective drug education curricula, but meta-analyses have not been able to disentangle the effects of the various components. In a study designed to do just that, Hansen & Graham (1991; scientific methods score=4) found that positive effects on marijuana use and alcohol use were attributable more to a normative education than to a resistance skills training component.

In summary, programs aimed at setting norms or expectations for behavior, either by establishing and enforcing rules or by communicating and reinforcing norms in other ways (e.g., campaigns), have been demonstrated in several studies of reasonable methodological rigor to reduce alcohol and marijuana use and to reduce delinquency. Note, however, that studies in which school rules were manipulated also used school teams to plan and implement the programs, so it is not possible to separate the specific effects of the school rule and discipline strategies from the more general effects of encouraging teams of school personnel to solve their schools' problems.

Managing Classes

Effective Instructional Practices Summarized in Brewer et al. (1995) Smaller kindergarten and first grade classrooms

Within-class and between-grade ability grouping in elementary grades

Nongraded elementary schools

Behavioral techniques for classroom management

Continuous progress instruction (e.g., instruction in which students advance through a defined hierarchy of skills after being tested for mastery at each level usually with teachers providing instruction to groups of students at the same instructional level)

Computer-assisted instruction

Tutoring

Cooperative learning

Most of students' time in school is spent in classrooms. How these micro-environments are organized and managed may influence not only the amount of disorderly behavior that occurs in the class but also important precursors of delinquency and drug use, including academic performance, attachment and commitment to school, and association with delinquent peers.

Classroom organization and management strategies are found in most school-based prevention studies. They are usually incorporated into both the school-wide interventions summarized above and (less often) into the instructional interventions described later. For example, cooperative learning strategies were used in Project PATHE (Gottfredson, 1986), the Effective Schools Project (Gottfredson, 1987), and Project STATUS (Gottfredson, 1990), all of which demonstrated reductions in delinquent behavior. Classroom management techniques were used in Project BASIS (Gottfredson, Gottfredson, & Hybl, 1993). In all of these projects, the classroom instruction and management strategies were elements of broader, school-wide organization development or discipline management projects (or in the case of STATUS, a law-related education curricular intervention), thus making it impossible to isolate the effects of the classroom strategies. Classroom management innovations constitute the major intervention in the studies summarized in this section.

The literature on effective instructional processes is vast. Most of this literature assesses effectiveness on academic outcomes rather than on behavioral outcomes. Brewer et al. (1995) summarize existing meta-analyses of instructional strategies and conclude that the strategies shown in the box on the preceding page increase academic performance, which is related to delinquency and drug use. These instructional strategies should be considered promising elements of prevention efforts at the classroom level, although their effects on delinquency and substance use have not been demonstrated.

Table 5-3 summarizes evidence from two long-term interventions intended to test the efficacy of upgrading classroom instructional and management methods on subsequent substance use and delinquent behavior. The Seattle Social Development Project (Hawkins et al., 1988; 1991; 1992; O'Donnell et al, 1995) used cooperative learning strategies, proactive classroom management, and interactive teaching. Proactive classroom management consisted of establishing expectations for classroom behavior, using methods of maintaining classroom order that minimize interruptions to instruction, and giving frequent specific contingent praise and encouragement for student progress and effort. Interactive teaching involved several instructional practices generally accepted as effective (e.g., frequent assessment, clear objectives, checking for understanding, and remediation). Cooperative learning used small heterogeneous learning groups to reinforce and practice what the teacher taught. Recognition and team rewards were provided to the teams, contingent on demonstrated improvement. Parent training in family management practices was also provided. This program was implemented with support from OJJDP continually from first through sixth grades in several elementary schools beginning in 1981. In addition, the classroom management strategies were implemented without the parent training in a one-year study of seventh graders (Hawkins, Doueck, & Lishner, 1988). Several of the project reports are summarized in Table 5-3. The evaluations demonstrated consistent significant positive effects on attachment and commitment to school, and the absence of such effects on belief in moral order and attitudes about substance use. For the long-term project including parent training, measures of alcohol and marijuana use generally favored the treatment students, but were marginally significant and sometimes significant only for girls. Measures of aggressive behavior favored the treatment group in second grade, but only for males. By fifth grade, measures of school misbehavior and minor delinquency initiation showed no significant effects for the full sample. By sixth grade, a lower delinquency initiation was observed for the treatment group, but only for low income males participating in the program. For low-achieving seventh graders who received the classroom portion of the program with no parent training, no significant effects were observed on measures of delinquency and drug use, although the treatment group had significantly fewer suspensions from school. Table 5-3. Studies of Classroom Management

Author protective factors (year)	Scientific methods score/ Number of cases	Effect size for measure of problem behavior	Effects on risk and
Hawkins, Von Cleve, & behaviors, anxiety, Catalano (1991) [NS]	3	Aggressive behavior (teacher reports)	Internalizing problem social withdrawal
[results for second graders after two years of program]	N=458 boys & girls	[favors treatment, significant for males only, ES=-.34 for males]	
		Externalizing problem behavior (teacher reports) [favors treatment, significant for males only, ES=-.29 for males	
Hawkins, Catalano, Commitment to school, Morrison, O'Donnell, Family management Abbott, & Day (1992) treatment]	2	Alcohol use [favors treatment, almost significant (p<.1), ES=-.12]	Attachment to school, Attachment to family, [significantly favors
[results for fifth scores [significantly favors graders after four years of program]	N= 853 boys & girls	Minor delinquency initiation [NS; ES=-.11]	Achievement test control]
order, Attitudes favoring		School misbehavior [NS]	Belief in moral substance use [NS]
O'Donnell, Hawkins, [significantly favors Catalano, Abbott, & Day girls, p<.10 for boys] (1995)	2	Alcohol use [favors treatment for girls only; almost significant (p<.1) for	Attachment to school treatment. p<.05 for Commitment to school
[significantly favors [results for sixth and girls]	N= 49 boys and 57 girls (analyzed separately by gender)	girls only, ES=-.40 for girls]	treatment for boys Grades [favors
graders after six years of program]		Marijuana use [favors treatment for girls only; almost	boys only]
treatment, significant for		significant (p<.1) for	Achievement test
scores [favors treatment, only]		girls only, ES=-.34 for girls]	significant for boys Belief in moral order
[NS]			

substance use [NS]		Minor delinquency initiation [favors treatment, almost significant (p<.1) for boys only, ES= -.54 for boys]	Attitudes favoring
Hawkins, Doueck, & Lishner (1988)	3 N=160	Self-reported delinquency [NS; ES's range from .04 to .14 favoring control]	Achievement test School attachment [of significantly favor
6 items, 2 [results for seventh graders after one year of program] [significantly favors	low-achieving boys and girls	Drug use [NS; ES=-.11 favoring treatment]	Commitment to school treatment]
		Times suspended [significantly favors treatment, ES=-.37]	
Battistich, Schaps, Watson, & Solomon (1996)	3 N=1479 - 1745, depending on the year	Alcohol use [significantly favors treatment, ES=-.12]	NA
[fifth and sixth graders assessed after each year of a two-year program]		Marijuana use [NS]	
		Delinquency [10 items, NS]	
Solomon, Watson, Delucchi, Shaps, & Battistich (1988)	3 N=67	Negative behaviors observed in classrooms [NS]	Supportive and [significantly favors
friendly behaviors treatment]	class-rooms		Spontaneous pro-
social behavior [Kindergarten through treatment] fourth grade classrooms assessed after each year of a five-year program]			[significantly favors

A second major classroom intervention (CDP, the Child Development Project) was conducted with several cohorts of elementary school students in 12 elementary schools for 2 consecutive years beginning in 1992 (Battistich et al, 1996). It included the following components:

"Cooperative learning" activities intended to encourage student discussion, comparison of ideas, and mutual challenging of ideas on academic and social topics;

A "values-rich" literature-based reading and language arts program intended to foster understanding of diversity;

"Developmental discipline," a positive approach to classroom management that stresses teaching appropriate behavior rather than punishment, involving students in classroom management, and helping them to learn behavior management and conflict resolution skills;

"Community-building" activities aimed at increasing appreciation for diversity or students' sense of communal involvement and responsibility; and

"Home-school" activities to foster parent involvement in their children's education.

A similar program was conducted in three elementary schools for 5 consecutive years beginning in 1982 (Solomon et al, 1988). The evidence from evaluations of these efforts is also summarized in Table 5-3. The program increased pro-social behaviors but did not decrease negative behavior among students in grades K through 4. It had no effect on delinquency or marijuana use, but alcohol use among the treatment youths in grades 5 and 6 was significantly lower than among the control students (Battistich et al, 1996; ES=-.12). In this study, supplementary analyses which take into account varying levels of implementation across schools showed that marijuana use and two of the ten delinquency items were significantly lower among treatment youths in the schools with the highest level of implementation, but these results are ambiguous because the high implementation schools also have strikingly higher levels of marijuana use and delinquency at all time-points. Regression to the mean is not ruled out as an alternative explanation for the observed pattern of results.

In all but one study, classroom management strategies were combined with family-based strategies, making it impossible to determine the unique effects of the classroom intervention. Program effects were not as positive in the one study that used only the classroom strategies. Both the CDP and Seattle projects found evidence of positive effects on substance use initiation, but the effects were sometimes only marginally significant and were not as consistent across different substances and gender groups as would be expected. Also, although these strategies appear effective for increasing positive behaviors and a number of protective factors, little promise for reducing delinquency is demonstrated. Classroom organization and management strategies should be combined with other more potent components and tested more rigorously.

Regrouping Students

Four studies have examined interventions which group students to create more supportive or challenging environments for high-risk youths. Felner, Ginter & Primavera (1982) and Felner & Adan (1988) studied the School Transitional Environment Project (STEP), a one-year program for students making the transition to high school. Incoming students were assigned to small "schools within the school" consisting of 65 to 100 students. Students remained in intact small groups for their home room period and their academic subjects, and these classrooms were physically close together. The role of the home room teacher was redefined so as to include more responsibility for meeting the administrative, counseling, and guidance needs of the students. Reyes & Jason (1991) implemented a similar program which also contained an attendance monitoring component. D. Gottfredson (1990) studied another school-within-a-school intervention -- Student Training Through Urban Strategies (STATUS), one of the programs in OJJDP's alternative education initiative. This program grouped high-risk youths to receive an integrated social studies and English program which involved a law-related education curriculum and used instructional methods emphasizing active student participation. Students stayed together for two hours each day. These studies are summarized in Table 5-4.

STEP increased protective factors (school attendance, persistence, and achievement) in the Felner studies, but its replication in Reyes & Jason was largely a failure. STATUS reduced delinquency and drug use (ESs range from -.07 to -.42) and changed in the desired direction several risk and protective factors related to delinquency. STATUS involved innovative teaching methods (many of which are reviewed in the classroom management section above), a law-related education curriculum, and the innovative school-within-a-school scheduling. It is not possible to disentangle the effects of these components. However, the major intermediate outcome through which the law-related education curriculum was expected to reduce delinquency -- belief in the validity of laws -- was the only outcome that did not favor the treatment group. We have seen above that classroom management strategies alone or in combination with family interventions do not reduce delinquency. It is unlikely, therefore, that the positive effects found in the STATUS program were due solely to the instructional and classroom management methods or to the law-related education curriculum. The study suggests that the combination of innovative grouping and scheduling with the other two components is promising.

Table 5-4. Summary of Studies using Reorganization of Grades or Classes

Author protective factors (year)	Scientific methods score/ Number of cases	Effect size for measure of problem behavior	Effects on risk and
Felner, Ginter & three years following Primavera (1982); controls vs. 21% of Felner & Adan (1988) (significant [results for ninth graders directly point-average -- following a one-year treatment at end of one program, with follow-up at end of year one and three years following program]	4 N=172 students	NA	School dropout during the program -- 43% of treatment dropped out difference) Absenteeism and grade- significantly favors year of treatment and following treatment
Gottfredson (1990) influence, grades, and - significantly favor [results at end of both schools one-year program in one junior and one senior favors treatment high school] schools, NS enrolled in school -- treatment students, high favors control students, expectations -- favors treatment school, control students in	4 N=123 junior high and 124 senior high students	Delinquency -- favors treatment group in both schools, significant for high school only [ES's -.33 and -.42] Drug Involvement -- significantly favors treatment group in both schools [ES's -.42 and -.35] Court contacts -- favors treatment group in both schools, NS [ES's -.07 and -.18]	Negative peer attachment to school - treatment group in School attendance -- students in both Number of months significantly favors school only Belief in rules -- both schools, NS Educational students in high junior high, NS.
Reyes & Jason (1991) scores -- one of three tests treatment [results for ninth graders at end of absences, and dropout -- one-year program]	4 N= 154	NA	Achievement test significantly favors Grade point average, At the end of one

year of treatment, NS

In summary, programs which group high-risk students to create smaller, more tightly-knit units for instruction show promise for reducing delinquency, drug use and drop-out. These programs are risky in light of other research that shows negative effects of grouping high-risk youths for peer counseling or other therapeutic services (to be reviewed shortly), but the studies summarized in this section suggest that it may be beneficial to group high-risk for instruction in the context of "schools-within-schools" which offer a strong academic program, use effective instruction and classroom management strategies, and supportive staff.

A note on alternative schools. Alternative schools for disruptive youths are often proposed as a solution to the problem of disorder in schools. OJJDP's alternative education initiative sponsored five such schools, all small schools for students who had not flourished in the regular school setting. After reviewing the content of these programs, G. Gottfredson (1987) concluded that they are far too variable in nature, student composition, structure, and purpose to warrant any blanket statement about their effectiveness. He reviews two of the five models -- one based on a theory that intense personal involvement of the educators with the youth would reduce delinquency through increased bonding, and the other based on the theory that rigorous discipline and behavior modification techniques would result in decreased delinquency. The evaluation of the first program found remarkable improvements in several risk factors for delinquency, including commitment to school, attachment to school, and belief in rules. It also found significantly less self-reported drug use (but not self-reported delinquency or arrest records) among alternative school students than among controls. The evaluation of the second alternative school implied that the program was effective for increasing several measures of academic persistence, but that students liked school less and reported significantly more delinquent behavior than the comparison students. The varied models employed in alternative schools suggest that the question, "are alternative schools effective?" is too simplistic. The components of the interventions involved in alternative schools must be disentangled in future evaluations.

Individual-Change Strategies

Strategies that aim to alter students' delinquent behavior or their knowledge, skills, beliefs, behaviors or attitudes directly related to delinquent behavior are summarized below. These strategies include instruction with specific content related to delinquency or drug use; methods aimed at changing thinking strategies (cognitive or cognitive-behavioral training); behavior modification; peer counseling, mediation, and leaders; other counseling; mentoring; and "alternatives" programs which provide opportunities for recreation, enrichment or leisure.

Instructing Students

The most common school-based prevention strategy is instruction. Most schools provide instruction aimed at reducing drug use or delinquency, often in the form of the programs like Drug Abuse Resistance Education (D.A.R.E.), Law-related Education (L.R.E.), and Gang Resistance Education and Training (G.R.E.A.T.), which enjoy substantial federal subsidy. The content of interventions that provide instruction to students is varied. The box at the right shows some of the topics covered in instructional programs.

Topics Covered in Instructional Programs
 General health or safety;
 Alcohol, tobacco, and other drugs: information about and consequences of use;
 Violence prevention;
 Character/moral development;
 Law;
 Recognizing and resisting social influences to engage in misbehavior and risky situations, being assertive;
 Identifying problem situations, generating alternative solutions, evaluating consequences;
 Setting personal goals, self-monitoring, self-reinforcement, self-punishment;
 Attributing the cause of events or circumstances to ones own behavior;
 Interpreting and processing social cues, understanding non-verbal communication, negotiating, managing anger, controlling stress, anticipating the perspectives or reactions of others.

The following pages summarize what is known about the effectiveness of drug education, broader social competency development curricula, violence prevention curricula, and law-related education. The first two of these curriculum types have been studied extensively and several excellent secondary reviews are available. These secondary reviews will be summarized and only the most rigorous studies will be singled out for discussion. Instructional programs funded by OJP (D.A.R.E. and Law-related education) and a gang prevention program recently evaluated with N.I.J. funding (G.R.E.A.T.) will also be summarized here.

Alcohol and other drug education. Several meta-analyses and reviews of the effectiveness of school-based drug prevention instruction have been conducted (Botvin, 1990; Botvin et al, 1995; Dryfoos, 1990; Durlak, 1995; Hansen, 1992; Hawkins, Arthur, & Catalano, 1995; Institute of Medicine, 1994; Tobler, 1986, 1992). Botvin (1990) traces the historical development of these programs. He shows that "information dissemination" approaches which teach primarily about drugs and their effects, "fear arousal" approaches that emphasize the risks associated with tobacco, alcohol, or drug use, "moral appeal" approaches which teach students about the evils of use, and "affective education" programs which focus on building self-esteem, responsible decision-making, and interpersonal growth are *largely ineffective* for reducing substance use. On the contrary, approaches which include resistance-skills training to teach students about social influences to engage in substance use and specific skills for effectively resisting these pressures alone or in combination with broader-based life-skills training do reduce substance use. The box to the right shows the typical content of these instructional programs. Curricula which focus on general life-skills are typically longer than those which focus only on social resistance skills.

Typical Content of Social Influence and Life-Skills Instruction Components of Social Resistance Skills Instruction:

Increasing student awareness of the social influences promoting substance use
Teaching skills for resisting social influences from peers and the media
Correcting normative expectations concerning the use of substances

Additional Skills Targeted in Life-Skills Instruction:

Problem-solving and decision-making
Self-control or self-esteem
Adaptive coping strategies for relieving stress or anxiety
Interpersonal skills
Assertiveness

This section summarizes substance abuse curricula having an emphasis on social competency skill development. Two such school-based instructional prevention programs which have been scrutinized using rigorous methods are ALERT (Ellickson & Bell, 1990, Ellickson, Bell, & McGuigan, 1993) and Life Skills Training (L.S.T., Botvin & Eng, 1982; Botvin, Baker, Botvin et al, 1984; Botvin, Baker, Renick et al, 1984; Botvin, Batson et al, 1989). ALERT is essentially a social resistance-skill curriculum consisting of eight lessons taught a week apart in the seventh grade, followed by three eighth grade "booster" lessons. L.S.T. is a more comprehensive program focusing on resistance skills training as well as the general life skills mentioned above. This program consists of 16-sessions delivered to seventh grade students followed by eight session "boosters" in grades eight and nine. This section ends with a discussion of D.A.R.E., an OJP-funded substance abuse prevention program whose content is not as focused on social competency development as the other programs summarized.

The ALERT study (scientific methods score=5) was a multi-site experiment involving the entire seventh grade cohort of 30 junior high schools drawn from eight urban, suburban, and rural communities in California and Oregon. These 30 schools were randomly assigned to treatment and control conditions. Results are reported using individuals as the unit of analysis, although the investigators reported that results from school-level analyses supported the same conclusions with more positive results. Program effects were assessed directly after the seventh grade programs as well as before and directly after the eighth grade booster. Students were followed up again when they were in 9th, 10th, and 12th grades. The program had positive effects for both low- and high-risk students and was equally effective in schools with high and low minority enrollment. The program's most consistent effects were found for marijuana use. It reduced the use of marijuana among students at each risk level, with the strongest effects for the lowest risk group: those students who had not initiated either cigarette or marijuana use at the time of the baseline measurement. In this group, 8.3% of the ALERT students compared with 12.1% of the control students (ES=-.08) had initiated marijuana use by the end of the eighth grade booster. Small but statistically significant positive effects on the amount of marijuana used were observed for the other risk groups directly after the seventh grade sessions, but these effects were no longer statistically significant (and were not practically meaningful) by the end of the booster session. For all groups, small positive program effects were initially observed for alcohol use, but they too eroded by grade 8. The follow-up studies

showed that once the lessons stop, so did the program's effects on drug use. Although some effects on cognitive risk factors persisted through grade 10, they were not sufficient to produce reductions in drug or alcohol use.

L.S.T. has also undergone rigorous test in an ongoing series of studies first published in 1980, conducted by Botvin and his colleagues. The more recent studies examined the effect of the program on alcohol and marijuana use (in addition to cigarette use) and tracked long-term program effects. Botvin, Baker, Renick, Filazzola & Botvin (1984; scientific methods score=3) examined the effectiveness of a 20-session course delivered to 7th graders from 10 suburban New York junior high schools. The subjects were primarily white, from middle-class families. Schools were randomly assigned to receive the program as implemented by older students, by regular classroom teachers, or to serve as controls. All analyses were reported using individuals as the unit of analysis. Results measured immediately after the program showed that program students compared with control students were significantly less likely to report using marijuana (ES=-.10) and engage in excessive drinking, but these positive effects were found only for the peer-led condition. Botvin, Baker, Filazzola & Botvin (1990; scientific methods score=4) reported on the one-year follow-up of this study. This study contrasts not only the teacher- and peer-led conditions, but also the presence or absence of a 10-session booster course delivered during eighth grade. As with the ALERT study, the results showed that the effects of the program diminished without the booster. In the peer-led condition with the booster session, significant effects were maintained at the end of the eighth grade on the amount of alcohol used and marijuana use (ESs ranged from .04 for used in last day to .16 for used in last month). Again, positive effects were found only for the peer-led condition.

In a larger study involving 56 public schools, the same 20-session 7th grade program, 10-session booster session in eighth grade, and an additional 5-session booster in the ninth grade was studied for long term effects on substance use at 12th grade (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995; scientific methods score=5). In this study, the 56 schools (serving mainly white, middle-class populations) were stratified according to baseline levels of cigarette smoking and geographic location and randomly assigned to experimental conditions. All results were reported using individual students as the level of analysis. This study involved only teacher-led classrooms. The 12th grade results for the full sample of 3,597 subjects revealed significant positive effects on the prevalence of drunkenness (ESs range from -.08 to -.10), but not for other measures of alcohol use. Significant effects were not reported for marijuana use, although the effect size for the prevalence of weekly marijuana use is as large (-.09) as the effects sizes for the significant effects on excessive drinking. The lower base rate for marijuana use reduces the likelihood of finding statistically significant results for this outcome. When only subjects who received a reasonably complete version of the program were examined, the results were more positive. Additional research (Botvin, Batson, Witts-Vitale, Bess, Baker, & Dusenbury, 1989; Botvin, Dusenbury, James-Ortiz, & Kerner, 1989) showed that the positive effects generalize to African American and Hispanic American populations.

D.A.R.E., developed in 1983 by the Los Angeles Police Department and the Los Angeles Unified School District, is the most frequently used substance abuse education curriculum in the United States. According to D.A.R.E. America (Law Enforcement News, 1996), the program is now used by seventy percent of the nation's school districts and will reach 25 million students in 1996. About 25,000 police officers are trained to teach D.A.R.E. It is also popular in other countries, forty-four of which have D.A.R.E. programs. The complete array of D.A.R.E. activities currently on the market includes "visitation" lessons in which police officers visit students in kindergarten through fourth grade for brief lessons on topics such as obeying laws, personal safety, and the helpful and harmful uses of medicines and drugs; a 17-week core curriculum for fifth or sixth graders (to be described shortly); a 10-week junior high school program focusing on resisting peer pressure, making choices, managing feelings of anger and aggression, and resolving conflicts; and a 10-week senior high program (co-taught with the teacher) on making choices and managing anger. In addition, D.A.R.E. offers an after-school program for middle-school-aged students, called D.A.R.E. + PLUS (Play and Learn Under Supervision). This provides a variety of fun activities for students during the after-school hours. Programs for parents and special education populations are also available.

The core 17-lesson curriculum delivered to students in grades 5 or 6 has always been the most frequently used form of the program. The great majority (81%) of school districts with D.A.R.E. implement the core curriculum, while 33% use the visitations, 22% the junior high, 6% the senior high, and 5% the parent curriculum (Ringwalt et al, 1994). The core curriculum is the only part of the program that had undergone rigorous outcome evaluation.

The core D.A.R.E. program is taught by a uniformed law enforcement officer. The original 17-lesson core curriculum focuses on teaching pupils the skills needed to recognize and resist social pressures to use drugs. It also contains lessons about drugs and their consequences, decision-making skills, self-esteem, and alternatives to drugs. Teaching techniques include lectures, group discussions, question and answer sessions, audiovisual materials, workbook exercises, and role-playing. The curriculum was revised in 1993 to substitute a lesson on conflict resolution and anger management skills for one on building support systems.

Several evaluations of the original 17-lesson core have been conducted.⁷ Many of these are summarized in a meta-analysis of D.A.R.E.'s short-term effects (Ringwalt et al, 1994), sponsored by NIJ. This study located 18 evaluations of D.A.R.E.'s core curriculum, of which 8 met the methodological criterion standards for inclusion in the study. The study found:

1. Short-term effects on drug use are, except for tobacco use, nonsignificant.
2. The sizes of the effects on drug use are slight. Effect sizes average .06 for drug use and never exceed .11 in any study. The effects on known risk factors for substance use targeted by the program are also small: .11 for attitudes about drug use and .19 for social skills.
3. Certain other programs targeting the same age group as D.A.R.E. -- upper elementary pupils -- are more effective than D.A.R.E. "Interactive" programs which emphasize social skill development and social competencies and use interactive teaching strategies have effect sizes for increasing social skills, reducing attitudes favorable to use, and reducing drug use at least three times as large as D.A.R.E. Other programs which emphasize knowledge about drugs and affective outcomes (such as self-esteem) and are primarily delivered by an expert are no more effective than D.A.R.E. Note, however, that even the more effective programs show only small effect sizes (ES=.18) for reducing drug use.

Four more recent reports, three of them longitudinal, have also failed to find positive effects for D.A.R.E. Lindstrom (1996), in a reasonably rigorous study (scientific methods score= 3) of approximately 1,800 students in Sweden, found no significant differences on measures of delinquency, substance use, or attitudes favoring substance use between students who did and did not receive the D.A.R.E. program. Sigler & Talley (1995) (scientific methods score= 2) found no difference in the substance use of seventh grade students in Los Alamos, New Mexico who had and had not received the D.A.R.E. program 11 months before. Rosenbaum, Flewelling, Bailey, Ringwalt, & Wilkinson (1994; scientific methods score= 4) report on a study in which twelve pairs of schools (involving nearly 1,600 students) were randomly assigned to receive or not receive D.A.R.E. Although some positive effects of the program were observed immediately following the program, by the next school year no statistically significant differences between the D.A.R.E. and non-D.A.R.E. students were evident on measures of the use of cigarettes or alcohol. Also, only one of thirteen intervening variables targeted by the program showed a positive effect. Clayton, Cattarello, and Johnstone (1996; scientific methods score= 4) reported on long-term effects for D.A.R.E. Thirty-one schools were randomly assigned to receive or not receive D.A.R.E. All students in the sixth grades in these schools were pre-tested prior to the program, post-tested shortly after the program, and resurveyed each subsequent year through the 10th grade. Although positive effects were observed during the seventh grade on some risk factors for substance use, no significant differences were observed between the D.A.R.E. and control schools on measures of cigarette, alcohol, or marijuana use either during seventh grade or at any later point. These studies and recent media reports have criticized D.A.R.E. for (a) focusing too little on social competency skill development and too much on affective outcomes and drug knowledge; (b) relying on lecture and discussion format rather than more interactive teaching methods; and (c) using uniformed police officers who are relatively inexperienced teachers and may have less rapport with the students.

To the untrained eye, the content and methods used in D.A.R.E. are not strikingly different from those used in the more effective programs such as Life Skills Training (summarized above) and Social Problem Solving (summarized below). But more subtle differences exist: L.S.T. and S.P.S. provide broader and deeper coverage of and more practice for students in the development of social competency skills. For example, while all three programs contain lessons on identifying social influences to use drugs and problem-solving, the non-D.A.R.E. programs provide more lessons on these topics and also include lessons on communication skills or emotional perspective taking. Weissberg's S.P.S. program is able to address self-control skills in greater depth because it completely omits lessons on self-esteem and factual information about drugs. The instructional methods are also different: L.S.T. and S.P.S. were carefully designed to make use of cognitive-behavioral methods including *frequent* role-playing, rehearsal of skills, and behavioral modeling. These methods are main features of the programs. D.A.R.E., even with the addition of more "interactive" techniques, lacks a major emphasis on the use of these carefully developed, research-based teaching techniques.

Although the content and method differences described above probably account for some of the discrepancy between the effects found for the different types of instructional programs, the largest difference among the programs is D.A.R.E.'s use of uniformed officers to deliver the program, a feature that remains in the revised D.A.R.E. and whose effects on the efficacy of the program are unknown.

D.A.R.E. proponents challenge the results of the scientific D.A.R.E. evaluations. Officials of D.A.R.E. America are often quoted as saying that the ample public support for the program is a better indicator of its utility than scientific studies. They criticize D.A.R.E. studies for (a) looking only at the original D.A.R.E. model; (b) focusing on the absence of effects on alcohol and drug use among fifth and sixth graders when the base rates are so low that effects would naturally be difficult to detect; and (c) failing to study the longer term effects of D.A.R.E. which are expected to be more substantial. Each of these points is addressed below.

In 1993, D.A.R.E. added more coverage of social competency skills and more interactive teaching techniques to its core curriculum (Ringwalt et al, 1994). These changes were expected to bring the program more in line with the competition. No

outcome evaluation of this revised curriculum has been reported, but it appears unlikely that the revision will change the results much because the largest difference between the earlier and revised program is the substitution of a single lesson on reducing violence for one on building support systems. Ringwalt et al. (1994) show that even in the revised core curriculum for D.A.R.E., only 9 of the 17 lessons cover social skill development.

D.A.R.E. is indeed atypical in its focus on elementary school-aged youths. As Hansen (1992) demonstrated, the percentage of fifth graders estimated to have used tobacco, alcohol or marijuana in the past month ranges between about 1 and 8 percent nationally. While lifetime use estimates (the outcome measure often used in D.A.R.E. evaluations) are certainly higher, the relatively low prevalence rates mean that larger samples may be required in studies of D.A.R.E. than in studies of programs targeting slightly older students. But D.A.R.E. evaluations can not be summarily dismissed on the basis of these criticisms because some have involved samples whose base rates for substance use are much higher than the national average and others have involved samples with sufficient power to detect meaningful differences even in low-base-rate populations. For example, the Rosenbaum et al. (1994) study involved nearly 1,600 students in a sample whose base rate for lifetime alcohol use was 55%. Half of the studies summarized in the Ringwalt et al. (1994) study had sample sizes larger than 1,000, and none could be described as small-sample research. Also, the Ringwalt et al. (1994) meta-analysis relied not only on statistical significance tests, which are misleading when the number of cases is not sufficiently large to detect the expected effect, but also on effect sizes to assess the magnitude of the effects regardless of statistical significance. Inferences based on effect sizes are not as prone to misinterpretation as those based on significance levels.

D.A.R.E. proponents also argue that D.A.R.E.'s effects are delayed -- i.e., that effects appear when students reach higher grades. The three recent longer-term evaluations of D.A.R.E. (Clayton, Cattarello, & Johnstone, 1996; Sigler & Talley, 1995; Rosenbaum, Flewelling, Bailey, Ringwalt, & Wilkinson, 1994; summarized above) do not support this contention. The absence of long-term effects is not surprising given the more general finding that effects for instructional substance use prevention programs decay rather than increase over time in the absence of continued instruction.

In summary, using the criteria adopted for this report, D.A.R.E. does not work to reduce substance use. The programs's content, teaching methods, and use of uniformed police officers rather than teachers might each explain its weak evaluations. No scientific evidence suggests that the D.A.R.E. core curriculum, as originally designed or revised in 1993, will reduce substance use in the absence of continued instruction more focused on social competency development. Any consideration of the D.A.R.E.'s potential as a drug prevention strategy should place D.A.R.E. in the context of instructional strategies in general. No instructional program is likely to have a dramatic effect on substance use. Estimates of the effect sizes of even the strongest of these programs are typically in the mid- to high-teens. D.A.R.E.'s meager effects place it at the bottom of the distribution of effect sizes, but none of the effects are large enough to justify their use as the centerpiece of a drug prevention strategy. Rather, such programs should be embedded within more comprehensive programs using the additional strategies identified elsewhere in this chapter.

Broader social competency development curricula. Other curricula focus specifically on social competency development, without an emphasis on substance abuse prevention per se. Weissberg's social competence promotion program, for example, covers the entire array of social competency skills without tying them directly to any specific problem behavior. Problem-specific modules aimed at preventing anti-social and aggressive behavior, substance use, and high-risk sexual behavior are available. The program ranges in length from 16- to 29-sessions, depending on the version.

Caplan, Weissberg, Grober, Sivo, Grady, & Jacoby (1992; scientific methods score=4) studied the effect of a 20-session version of Weissberg's social competence promotion program aimed at stress management, self-esteem, problem-solving, substances and health information, assertiveness and social networks on 282 sixth and seventh graders in an inner-city and a suburban middle school in Connecticut. Classrooms were randomly assigned to receive the program or not. Results were reported using individuals as the unit of analysis. Students in program classes improved relative to students in the control classrooms on measures of problem-solving ability and stress management. Teacher ratings of the participating students improved relative to the controls on measures of conflict resolution with peers and impulse control, both important protective factors for later delinquency, and popularity. Students' self-reports of their behavioral conduct were not affected by the program, and effects on self-reports of intentions to drink alcohol and use drugs were mixed. No significant difference was found for a self-report measure of frequency of cigarette, alcohol, and marijuana use, but program students reported significantly less excessive drinking than controls (ESs range from .26 to .32). The program was as effective for students in the inner-city and the suburban schools. The sample size in this study was likely too small to detect as statistically significant any small differences between the treatment and comparison students.

In another study involving 447 students from 20 classes in four urban, multi-ethnic schools, Weissberg & Caplan (1994; scientific methods score=4) evaluated a similar 16-session social competence promotion program for students in grades five through eight. This version of the program did not include lessons on substance use. It focused on teaching students:

impulse-control and stress-management skills,

thinking skills for identifying problem situations and associated feelings,

establishing positive pro-social goals,

generating alternative solutions to social problems, anticipating the likely consequences of different actions, choosing the best course of action, and successfully enacting the solution.

Random assignment to treatment and control conditions was not accomplished in this study. Program students improved more than controls on problem-solving abilities and pro-social attitudes towards conflict resolution. Teacher ratings indicated that the training improved impulse control, problem-solving, and academic motivation and decreased teasing of peers, important risk and protective factors for later delinquency. Self-reported delinquency of a relatively minor form (stealing, starting fights, vandalism, skipping school, etc.) also increased less for the program participants (2.8% increase) than for comparison students (36.8% increase) between the beginning and the end of the program. No significant effects were observed for self-reports of substance abuse in this study. Weissberg & Greenberg (in press) summarize another study which shows that the positive effects of the program are maintained in the year after the program only when the training is continued into the second year

Greenberg, Kusche, Cook & Quamma (1995; scientific methods score = 4) report on the PATHS (Promoting Alternative Thinking Strategies) curriculum on emotional competence for elementary school-aged children. This project used a 60-lesson version of the curriculum composed of units on self-control, emotions, and problem-solving. Lessons were sequenced according to increasing developmental difficulty and included didactic instruction, role-playing, class discussion, modeling by teachers and peers, social and self-reinforcement, and worksheets. Extensive generalization techniques were included to assist teachers in applying skills to other aspects of the school day. Specifically, the curriculum included:

A Feelings and Relationships Unit -- 35 lessons on emotional and interpersonal understanding. The lessons cover approximately 35 different affective states and were taught in a developmental hierarchy beginning with basic emotions (e.g., happy, sad, angry) and proceeding to more complex emotional states (e.g., jealous, guilty, proud).

Self-control and initial problem-solving -- The development of self-control, affective awareness and communication, and beginning problem-solving skills were integrated during the Feelings Unit with the introduction of the Control Signals Poster (CSP), which had a red light to signal "Stop - Calm Down," a yellow light for "Go Slow - Think," a green light to signal "Go - Try My Plan," and at the bottom, the words "Evaluate - How Did My Plan Work?" In a series of lessons, the children were taught skills to use with the different signals of the poster. For purposes of generalization, a copy of the CSP was placed in the classroom and teachers were coached on how to use this model for active problem-solving during the classroom day.

Interpersonal Cognitive Problem-Solving -- 20 to 30 lessons sequentially covering eleven problem-solving steps, similar to those discussed above as part of Weissberg's program above.

Generalization procedures -- A variety of generalization techniques were included throughout the curriculum to foster transfer of the skills and ideas taught.

The intervention teachers attended a 3-day training workshop and received weekly consultation and observation from project staff. The PATHS lessons were taught approximately

3 times per week, with each lesson lasting 20-30 minutes. The weekly consultations were intended to enhance the quality of implementation through modeling, coaching, and providing ongoing feedback regarding program delivery.

The social competency promotion intervention was field-tested in Washington state using random assignment of schools serving "regular education" students to treatment and control conditions as well as random assignment of classrooms of "special needs" children (in different school than the regular education students) to treatment and control conditions. In all, 286 students participated in the study. Students were in the first and second grades at the time of the pre-test, and in the 2nd and 3rd grades at the time of the first post-test, which occurred approximately one month after the end of the intervention. Two additional follow-up assessments were conducted to examine maintenance of effects one and two years after the intervention.

Immediate positive effects of the program were observed for both regular and special education students on measures of the specific social competency skills targeted. Greenberg (1996) reports on the longer-term effects of the program. At the final follow-up, significant differences favoring the regular education treatment students emerged on teacher ratings of externalizing behaviors, a measure of serious conduct problems highly related to later delinquent behavior. Intervention students in both groups also self-reported significantly lower rates of conduct problems at the later follow-up points.

Violence-prevention instruction. Brewer, Hawkins, Catalano, & Neckerman (1995) provide a comprehensive summary of conflict resolution and violence prevention curricula. These instructional programs are designed to improve students' social, problem-solving, and anger management skills, promote beliefs favorable to nonviolence, and increase knowledge about conflict and violence. Brewer et al. (1995) summarize evaluations of eight violence prevention curricula. Target populations for these programs range from pre-K through grade 10. The quality of the evaluations of these programs is uniformly poor. No study used random assignment of subjects to treatment and comparison conditions. Only four of the studies assessed program effects on aggressive or violent behavior, and two of these studies suffered from serious methodological flaws. The other two studies reported positive results on measures of aggressive behavior, but no corresponding positive changes on attitudes towards violence.

Perhaps the most rigorous evaluation is for the Washington (DC) Community Violence Prevention Program (Gainer, Webster, & Champion, 1993; scientific methods score=3), a 15-session curriculum focusing on social information processing deficits and belief systems associated with aggressive behavior, modeled after the *Viewpoints* program that had received positive evaluations in a correctional institutional setting (Guerra & Slaby, 1990). The program was evaluated with 5th and 7th graders in three inner-city schools. Students receiving the course were compared with students from the same schools and grade levels during the following year. Program effects on violent behavior were not assessed, and effects on social problem solving skills and attitudes about violence were mixed. Some measures showed significantly positive effects, some significantly negative effects, and some no difference.

Gang Resistance Education And Training (G.R.E.A.T.) was developed in 1991 by the Phoenix Police Department to reduce adolescent involvement in criminal behavior and gangs. Although not specifically designed as a violence prevention program, its emphasis on gang membership, a major correlate of violent crime, justifies its inclusion here. The Bureau of Alcohol, Tobacco, and Firearms has funded officer training for this program, and as of July, 1996, more than 2,000 officers from 47 states and the District of Columbia had completed training. In 1994, NIJ began funding an evaluation of G.R.E.A.T.. It currently supports a three-year study to assess the short- and long-term effects of the program on students in six sites. A less rigorous preliminary assessment of effects one-year following the program in 11 cities was also recently completed with NIJ funding. Results from this preliminary study are summarized below.

G.R.E.A.T. is a brief (9-week) instructional program taught to middle school students by trained, uniformed law enforcement officers. The program teaches students about the impact of crime on its victims and the community; cultural differences; conflict resolution skills; how to meet basic needs without joining a gang; and responsibility to the school and neighborhood. The program ends with a lesson in which students are taught the importance of goal-setting. The G.R.E.A.T. program differs from instructional programs known to be effective for reducing drug use or delinquency by being (a) less intensive; (b) almost entirely devoid of content and methods focusing on teaching students social competency skills; and (c) lacking follow-up sessions. It is taught by uniformed law enforcement officers -- a feature whose costs and benefits as a crime prevention strategy are unknown.

The preliminary evaluation of the program (Esbensen & Osgood, 1996) compared the survey responses of approximately 2,600 eighth grade students who said they had completed G.R.E.A.T. with those of approximately 3,200 eighth students who said they had not. The investigators attempted to shore up the weak evaluation design (post-test only for non-equivalent treatment and comparison groups) by statistically controlling for differences between schools and demographic characteristics of participants and non-participants, but the scientific methods score of the study remains only a 2 on our 5-point-scale. The study found several statistically reliable differences favoring the G.R.E.A.T. participants, including less delinquency (ES=-.07) and drug use (ES=-.04). Nineteen of the thirty-one outcomes examined significantly favored the G.R.E.A.T. participants, and none significantly favored the non-participants. The investigators cautioned that the magnitudes of the effects were very small and the design of this preliminary study is too weak to warrant confident conclusions about the effects of the program. The effect sizes for the significant delinquency and drug use outcomes are all less than .10 (e.g., the difference between the participants and non-participants on outcome measures is less than one-tenth of one standard deviation), suggesting that even if the effects could be safely attributed to the program they are small. Such small differences between groups are often detected as statistically significant in large studies. For this reason, the effect size is a more meaningful indicator of program effects.

Law-related education (L.R.E.). Schools have implemented law-related education curricula for nearly three decades. These curricula are designed to familiarize youths with the country's laws, develop appreciation of the legal process, encourage

responsible political participation, develop moral and ethical values, and develop analytical skills. Lack of knowledge about the law, citizenship skills, and positive attitudes about the law and the role of the government are cited in L.R.E. materials as causes of juvenile crime.

In 1979, the justice department's National Institute for Juvenile Justice and Delinquency Prevention (NIJJP, OJJDP's research arm) funded five organizations to develop and demonstrate L.R.E. methods. An evaluation of these efforts, also funded by NIJJP, examined the effects of the program on delinquency and factors related to delinquency. Most of the results of this evaluation are summarized in Johnson & Hunter (1985). The evaluation included 61 L.R.E. elementary, junior, and senior high classrooms and 44 comparison classrooms in 32 schools in 6 states. The results for 1981, the first year of the evaluation, were regarded as formative. It showed that L.R.E. did not always produce positive effects, and that the quality of implementation was correlated with the amount of positive change from pre- to post-test on many measures. Results for the second year of the evaluation (1982) were more positive, but the effects were, according to the authors, "severely diminished" except in one site in Colorado in which generally positive outcomes were observed. The strongest program implementation occurred in 1983. Johnson & Hunter (1985) summarize the results comparing outcomes, separately by teacher, for students in 21 L.R.E. classes and 14 comparison classes (most of which were non-randomly assigned). Out of 132 effects reported for the 11 delinquency items, 15 showed a significant effect (13 would have been expected by chance using the one-tailed test of significance reported). Nine of these differences favored the L.R.E. students, and six favored the comparison students. Significant program effects on attitudes towards deviance and violence favored the comparison students. Many positive effects were found for outcomes measuring knowledge about the law and legal practices and other outcomes that might be expected from improved classroom management techniques (such as reduced "clock watching").

Johnson (1984) focused on the nine L.R.E. classes in the site for which randomization to treatment and control conditions was obtained. He showed that the nine L.R.E. classes fared significantly better than the two control classes on more than half of the forty-one possible measures. Three of the eleven items measuring delinquency were reported as significantly favoring the L.R.E. group. The effect sizes for all eleven items ranged from 0 (for violence against other students) to .66 (for school rule infractions such as cheating on tests and skipping school). The average effects size for the eleven delinquency items was .22.

In summary, these evaluation activities from the early 1980s showed clear program effects on law-related factual knowledge. Effects on other outcomes were minimal. In one particularly strong site, consistent positive effects were observed on certain risk factors for delinquency (e.g. attachment to school and attitudes towards violence and deviance), but not others (e.g., association with delinquent peers) and small positive effects were found on certain measures of delinquency but not others.

This extensive national evaluation produced no bottom line. The part of the evaluation focusing on the entire national sample was the weakest methodologically (scientific methods score= 3) and showed no reason for optimism about L.R.E.'s effect on delinquency. The "sub-study" of Colorado sites was stronger methodologically, and more positive outcomes were observed. What is not clear, however, is the extent to which results for these "well-implemented" schools can be generalized to other schools implementing L.R.E. programs. Because the L.R.E. intervention at this site included a large dose of general instructional and classroom management training for teachers in addition to law-related activities it is not possible to rule out the possibility that any positive effects of the program are due to these general techniques rather than to the law-related content of the curriculum. Because L.R.E. programs are not necessarily augmented with these additional strategies, it is not clear that the positive evaluations are relevant to understanding the effects of typical L.R.E. programs.⁸

Law-related education curricula, like other forms of instruction, will probably not reduce delinquency significantly when used in isolation. The L.R.E. program evaluators found that when the program is embedded in a more comprehensive program of improved classroom organization and management processes, the outcomes are better. Gottfredson (1990) also found that when an L.R.E. curriculum was enriched with state-of-the-art classroom instructional and organization methods *and* implemented in the context of a school-within-a-school model, it reduced delinquency. More work is now required to isolate the working parts of these multi-component programs involving L.R.E..

Statements found in materials published by the organizations that continue to develop and disseminate L.R.E. using OJJDP funding -- "Research indicates that properly implemented law-related education changes attitudes and reduces crime" (National Institute for Citizenship Education in the Law, 1988) -- are at best misleading because they ignore the results obtained for most of the sites in the national study. More rigorous evaluation is needed.

Summary. Certain instructional programs to reduce drug use have produced consistent evidence of positive effects on substance use in rigorous studies, and others have consistently shown no effects. "Information dissemination" instructional programs which teach primarily about drugs and their effects, "fear arousal" approaches that emphasize the risks associated with tobacco, alcohol, or drug use, "moral appeal" approaches which teach students about the evils of use, and "affective education" programs

which focus on building self-esteem, responsible decision-making, and interpersonal growth are *largely ineffective* for reducing substance use. D.A.R.E. as it is most commonly implemented is largely ineffective for reducing substance use. Approaches which include resistance-skills training to teach students about social influences to engage in substance use and specific skills for effectively resisting these pressures alone or in combination with broader-based life-skills training do reduce substance use. But the effects of even these programs are small and short-lived in the absence of continued instruction. Hansen and O'Malley (1996) report average effect sizes for social influence training programs such as ALERT ranging from .14 to .27 (on alcohol, marijuana, and cigarette use), but Gorman (1995) shows these programs have little or no effect on drinking behavior. More comprehensive programs such as L.S.T. and Weissberg's Social-Problem Solving have effect sizes ranging from .08 to .37.

More comprehensive social competency promotion programs work better than programs which do not focus on social competencies and those that focus more narrowly on resistance skill training. Also, the more extensive the reliance on cognitive-behavioral training methods such as feedback, reinforcement, and behavioral rehearsal (as in the Greenberg and Weissberg programs) rather than traditional lecture and discussion, the more effective the program. The Weissberg and Greenberg works are also important because they demonstrate that social competency promotion programs works for reducing delinquency or early conduct disorder leading to delinquency as well as drug use.

Some violence prevention programs teach interpersonal skills and behaviors such as communicating, making eye-contact, cooperating, and sharing. Others use the same cognitive-behavioral strategies used in the most effective social competency promotion programs summarized above. These programs *seem* plausible, but until they are rigorously evaluated they should be used with caution. Just as the first-generation substance abuse prevention programs were found to increase rather than decrease drug use (Botvin, 1990), so might these early violence prevention efforts increase violence. Although described by some as "promising," the G.R.E.A.T. program does not meet the criteria necessary to earn this descriptor in our review. Until the outcome of the more rigorous evaluation now underway is complete, the effects of the program remain unknown.

The effects of law-related education curricula as typically implemented also remain unknown. Evaluations have supported their effectiveness when implemented as part of a more comprehensive program, but it is not clear to what extent the law-related curriculum contributes to the effectiveness, if at all. Rigorous research is needed.

Modifying Behavior and Teaching Thinking Skills

Behavior modification interventions focus directly on changing behaviors by rewarding desired behavior and punishing undesired behavior. Several well-known programs for delinquent youths (e.g., Achievement Place) rely on these methods, as do many educational programs -- especially those serving special education populations. Many programs for delinquent and "at-risk" populations also attempt to alter thinking skills. These "cognitive-behavioral training" interventions are based on a substantial body of research indicating that delinquents are deficient in a number of thinking skills necessary for social adaptation. Delinquents often do not think before they act, believe that what happens to them is due to fate or chance rather than to their own actions, misinterpret social cues, fail to consider alternative solutions to problems, and lack interpersonal skills necessary for effective communication. Programs often combine behavioral and cognitive methods in an attempt to alter immediate behavior and promote the generalization of behavior change to other settings.

As indicated above, instructional programs that teach social competency skills and rely on cognitive-behavioral methods such as feedback, reinforcement, and behavioral rehearsal are the most effective for reducing substance use in general populations. Meta-analyses (Garrett, 1985; Izzo & Ross, 1990; Lipsey, 1992) have also concluded that the most effective delinquency prevention and treatment programs incorporate strategies aimed at developing social skills and using cognitive-behavioral strategies. Forman (1980; scientific methods score=4) showed that both cognitive training and behavioral interventions decrease aggressive behavior in elementary school children, although the behavioral intervention decreased disruptive behavior to a somewhat greater extent.

The programs reviewed below incorporate many of the same principles found in the more effective instructional programs. These programs differ in that they are often targeted at students identified as at especially high-risk for engaging in delinquent activities, are delivered in small groups or individually, and provide more intensive intervention than is possible with classroom-based instructional programs. Only three of the many high-quality studies of interventions using behavioral and cognitive-behavioral methods are reviewed here.

Elements of Lochman's Anger-Coping Intervention Establishing group rules and contingent reinforcements;
Using self-statements to inhibit impulsive behavior;

Identifying problems and social perspective-taking;

Generating alternative solutions and considering the consequences to social problems;

Modeling videotapes of children becoming aware of physiological arousal when angry, using self-statements, and using a set of problem-solving skills to solve social problems;

Having the boys plan and make their own videotape of inhibitory self-statements and social problems solving;

Dialoging, discussion, and role-playing to implement social problem solving skills with children's current anger arousal problems.

Lochman's work with highly

aggressive boys is reported in a series of research articles beginning in the mid-80's. Lochman's anger-coping intervention is based on research that shows that aggressive children tend to attribute hostility to other people's intentions and to mis-perceive their own aggressiveness and responsibility for conflict. In addition to targeting specific cognitive skills (shown in the box), the intervention uses behavioral techniques (operant conditioning) to reward compliance with group rules. The program is targeted at boys in grades four through six who are identified as aggressive and disruptive by their teachers. A school counselor and a mental health professional from a Community Guidance Clinic co-lead groups of aggressive boys for 12 - 18 group sessions, each 45 minutes to an hour. Importantly, this cognitive training is augmented with teacher consultation in which the mental health professional running the children's group assists the children's regular teachers in classroom management in general and in helping the targeted youths generalize new skills to the regular classroom.

The effectiveness of this "anger coping" intervention was investigated in a series of studies which systematically varied features of the program to learn more about its essential elements. In one study (Lochman, Burch, Curry, & Lampron, 1984; scientific methods score=4), 76 boys from eight elementary schools ranging in age from 9 to 12 were studied. They were not randomly assigned to experimental conditions, but pre-treatment measures showed the groups to be equivalent on the outcomes measures of interest. In comparison to aggressive boys receiving no treatment or minimal treatment, aggressive treatment group boys reduced their disruptive-aggressive off-task behavior in school ($ES=-.55$) and their aggressive behavior as rated by their parents ($ES=-.61$) directly after the intervention. A three-year follow-up study was conducted when these and some boys from other earlier studies were 15-years old (Lochman, 1992; scientific methods score=4). The study found that the intervention had a significant effect on self-reported alcohol and substance abuse ($ES=-.38$) but no significant effect on self-reported criminal behavior ($ES=-.11$). It can be argued that a reduction in delinquency of this magnitude (approximately equivalent to a 5 percentage point difference in crime rate between the treatment and control group) in a highly delinquent population is practically meaningful even if it is not statistically significant. Also, the treatment group in this follow-up study was significantly younger than the comparison group, which worked against finding program effects as younger age was associated with higher rates of delinquency.

Rotheram also demonstrated the efficacy of cognitive behavioral training in a primary prevention program for upper elementary school youths. In one study (Rotheram, 1982; scientific methods score=4) eight 4th through 6th grade classes were randomly assigned to participate in a social skills training intervention or to serve as control classes. Students in each class were randomly assigned to small training groups led by graduate and undergraduate students. A drama situation game was conducted in each group for a one-hour session twice a week for twelve weeks. Each "game" involved teaching a specific assertiveness concept to help children think, act, or feel assertive; presentation of specific problem situations; group problem solving in which the students generated alternative solutions to the problem and evaluated the solutions; and behavioral rehearsal and feedback. Although all students in the treatment classes were included in the intervention, only the 101 subjects identified (prior to the intervention) as being disruptive, under-achieving or exceptionally high in terms of comportment and achievement were included in the evaluation. Students in the social skills training condition generated significantly more assertive and significantly fewer passive and aggressive problem-solving responses than did the control group directly after treatment, and had larger increases in their grade-point-averages over pre-treatment one year after the treatment. Teacher ratings of comportment also improved significantly more from pre-treatment to immediately following the treatment ($ES=.42$) as well as one year after the treatment ($ES=.40$).

Interventions relying solely on behavior modification strategies have also been successful. Brewer et al. (1995) summarize two highly effective programs that monitored school attendance and provided contingent rewards for good attendance. Both studies used rigorous evaluation methods and produced positive outcomes on attendance. These results are important because truancy is an important risk factor for delinquency.

Bry's work also used behavioral monitoring and reinforcement with high risk youths. Students were randomly assigned to the treatment and control conditions in this study. Students' tardiness, class preparedness, class performance, classroom behavior,

school attendance, and disciplinary referrals were monitored weekly for two years. Students met with program staff weekly and earned points contingent on their behavior which could be used for a class trip of the students' choosing. Frequent parent notification was used. Experimental students had significantly better grades and attendance at the end of the program than did controls, but the positive effects did not appear until the students had been in the program for two years (Bry & George, 1979; scientific methods score=5; Bry & George, 1980; scientific methods score=4). Bry (1982; scientific methods score=4) reports that in the year after the intervention ended, experimental students displayed significantly fewer problem behaviors at school than did controls and in the 18 months following the intervention, experimental students reported significantly less substance abuse (ES=-.44) and criminal behavior (ES=-.30). Five years after the program ended, experimental youth were 66% less likely to have a juvenile record than were controls (ES=-.50)

These rigorous studies of targeted behavior modification and cognitive skill-training demonstrate clear positive effects on drug use and aggressive, anti-social behavior. Effect sizes are among the highest observed for any school-based strategy. Only Bry's work demonstrated a statistically significant reduction in actual criminal behavior (other than drug use), but the direction and size of the effect in the Lochman work provide additional support for a positive effect on criminal activity.

Peer Counseling, Peer Mediation, and Peer Leaders

Peer group counseling is popular in schools and is often used in prevention programs for at-risk youths and adjudicated delinquents. This type of counseling usually involves an adult leader guiding group discussions in which participants are encouraged to recognize problems with their own behavior, attitudes, and values. Peer pressure to adopt pro-social attitudes is expected to occur. G. Gottfredson (1987) reviewed these approaches to delinquency prevention and evaluated a large-scale school-based program which was one of several programs included in OJJDP's alternative education initiative in the 1980s. This study (scientific methods score=3, involving random assignment of subjects to experimental conditions) "lends no support to any claim of benefit of treatment, with the possible exception that the treatment may enhance internal control for elementary school students. For the high school students, the effects appear preponderantly harmful." (G. Gottfredson, 1987, p 708). Specifically, high school treatment youths reported significantly **more** delinquent behavior, more tardiness to school, less attachment to their parents, and more "waywardness," a scale measuring a constellation of anti-social attitudes, beliefs, and behaviors including rebelliousness, lack of attachment to school, low beliefs in rules, delinquency, and association with delinquent peers. The effect sizes for these differences were small (less than .05). Presumably, these interventions backfire when students are brought into closer association with negative peers during the peer counseling sessions. Gottfredson also notes that frequent discussions of parent/home issues in the groups may have led to a weakening of parental bonding and a subsequent increase in delinquency.

Peer mediation programs rose in popularity in the 1980s. These programs use students to assist in dispute resolution when conflicts arise among students. Trained peer mediators assist in developing alternative solutions to fighting and provide an alternative to traditional interventions by a school administrator (e.g., warnings, suspensions, or demerits). Lam (1989, cited in Brewer et al, 1995) reviewed 14 evaluations of peer mediation programs. The methodological rigor of all but three of the programs was too weak to justify any conclusions about the effect of the programs. According to Brewer, none of the three studies in the Lam review employing quasi-experimental designs showed significant effects on observable student behavior (e.g., fighting, disciplinary referrals). One additional study of peer mediation published after Lam's review (Tolson, McDonald, and Moriarty, 1992; scientific methods score=3) suggested that students assigned to receive peer mediation have fewer interpersonal conflicts in the 2.5 months following the program, but the study was small and the outcome measure (referrals to the office for interpersonal conflict) was weak.

Students have also been used as peer leaders in substance use prevention programs. The rationale for this approach is that anti-drug messages will be more credible when delivered by a peer than an adult. Although some studies (e.g., Botvin, Baker, Renick, Fillazzola & Botvin, 1984; Perry, Grant, et al, 1989) have found that substance abuse prevention programs focusing on skill development are more effective when led by peers than by teachers, other studies (e.g., Ellickson & Bell, 1990) find no such advantage for peer-led programs. Tobler's (1992) meta-analysis also found no evidence that programs with peer leaders produce better outcomes than programs of similar content led by adults.

The overall patterns of results for programs involving peers in the delivery of services is not promising. Peer mediation programs are not promising, although they have not been sufficiently evaluated. These programs are likely to be ineffective interventions when implemented as stand-alone programs rather than as part of broader attempts to improve disciplinary practices. Peer counseling interventions for high-risk youths are contraindicated, and studies using peer leaders to lead substance abuse prevention programs have produced mixed results.

Counseling and Mentoring

Many studies have examined the effect of counseling interventions on delinquency. Lipsey's (1992) meta-analysis of juvenile delinquency treatment effects shows that, for juvenile justice and non-juvenile justice interventions alike, counseling interventions are among the least effective for reducing delinquency. Twenty-four studies of individual counseling in non-juvenile justice settings yielded an effect size of -.01 on measures of recidivism.

A popular form of school-based counseling is the Student Assistance Program (SAP). These programs are among the most common programs found in schools, accounting for approximately half of the expenditures of Drug-free Schools and Communities funds (Hansen & O'Malley, 1996, citing GAO, 1993) administered through the U.S. Department of Education. These programs involve group counseling for students with alcoholic parents, counseling for students who are using drugs or alcohol or whose poor academic performance place them at risk for substance abuse, and work with parent and community groups to develop ways of dealing with substance abuse problems. Often the peers of student clients are involved as crisis managers, group facilitators, and referral agents. SAP counselor's are school-based but employed by mental health departments or other outside agencies. After surveying the scant literature on the effectiveness of SAP programs, Hansen & O'Malley (1996) concluded that evaluations are "universally absent." These programs must be evaluated if federal funding for them is to be continued.

Gottfredson (1986; scientific methods score=5), in a study sponsored as part of OJJDP's alternative education initiative, examined effects on delinquent behavior of a program of services provided to high risk secondary school students. Students' behavioral and academic problems were diagnosed, and individual plans were developed by school specialists (either teachers or counselors assigned to work individually with the high risk students for this project). Counseling and tutoring services were provided consistent with the individual plans, and the specialists also acted as advocates for the students, worked with the students' parents, and tried to involve the students in extracurricular activities to increase bonding to the school. On average, school specialists met twice per month directly with the target students and the students also participated in peer counseling and "rap" sessions with other students. Random assignment of 869 eligible high-risk youths to treatment and control conditions yielded equivalent groups. After two year of treatment, the targeted youths were significantly better off than the control students on several measures of academic achievement and educational persistence. Students were promoted to the next grade at a higher rate after the first year in the program (ES=.15), drop-out rates were significantly lower for students in some of the schools (ES=.09 overall), graduation rates were higher (ES=.68), and the percentage of students scoring in the bottom quartile of a standardized achievement tests scores was lower (ES=-.19). However, the services did not result in a reduction in delinquency. Gottfredson (1986) examined six indicators of delinquent behavior, including self-reports, school records, and police records. For only one of the measures were significant differences observed. Treatment students reported significantly **more** drug use (ES=.23). In all, two measures showed no difference, two favored the treatment group (ES's=-.08 and -.14) and two favored the control students (ES's=.02 and .23). The study suggests that even relatively small doses of tutoring lead to improvements in academic outcomes. It is probable that the poor showing on the delinquency measures was due to the counseling intervention which brought high-risk youths together to discuss (and therefore make more salient to others) their poor behavior.

Mentoring -- one-on-one interaction with an older, more experienced person to provide advice or assistance -- is an increasingly popular delinquency prevention strategy. OJJDP has invested \$19 million in juvenile mentoring programs, as mandated by Congress. Our review uncovered four studies of school-based mentoring (See Table 5-5). Chapter 2 reviews additional studies of community-based mentoring. The results of the studies can be summarized as follows: (1) The methodological rigor of the studies is generally poor. Only one study received a scientific methods score of three or more, and this study did not assess the programs' effect on crime outcomes. (2) School-based mentoring programs appear promising for increasing school attendance. (3) The effectiveness of school-based mentoring for reducing delinquency and drug use is not known. See Chapter 2 for a summary of one rigorous study of a particularly well-implemented community-based mentoring program which found positive effects on substance use, bearing in mind that the results from that study may not generalize to mentoring programs run in or by schools.

In summary, counseling interventions for high-risk youths are contraindicated, and school-based mentoring programs appear promising for reducing nonattendance but have not been studied with sufficient rigor to justify confident conclusions about its effectiveness for reducing delinquency or substance use. Table 5-5. Summary of Mentoring Studies

Author protective factors (year)	Scientific methods score/ Number of cases	Effect size for measure of problem behavior	Effects on risk and
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Higgins (1978) NS	2	Offenses, weighted by severity -- not significantly different [ES=.25 males; .23 females, favoring mentored group]	School persistence -- School performance -- for mentored, males
[results for high school students returning from correctional institution after approximately one year of program]	N=106		
McPartland & Nettles (1991)	3.5	NA	Absences -- [ES=-.18]
[results for middle school students directly after two years of program]	N=334 (approx.)		English grades -- [ES=.14]
[results for middle school students directly after two years of program]			GPA and grade
Slicker & Palmer (1993) NS	2	NA	Drop-out and GPA--
[results for 10th grade "at-risk" students directly after six months of program]	N=64		
LoSciuto, Rajala, Townsend, & Taylor (1996)	2	Frequency of substance use in past 2 months -- almost significantly lower (p=.056) among mentored students [ES=-.22]	Days absent -- mentoring group
[results for sixth graders directly after one school year of program]	N=562		

Recreational, Enrichment, and Leisure Activities

Some programs offer recreational, enrichment or leisure activities as a delinquency prevention strategy. These programs historically have been based on one of the following assumptions: (1) "idle hands are the devil's workshop;" (2) children -- especially those who do not fit the academic mold -- will suffer from low self-esteem if they are not able to display their other competencies; or (3) students need to vent their energy. With the rise in violent crime, the typical rationale for alternative activities programs is that occupying youth's time will keep them out of harm's way -- the "safe haven" theory. Drop-in recreation centers, after-school and week-end programs, dances, community service activities, and other events are offered as alternatives to the more dangerous activities. After-school programs have enjoyed a recent boost in popularity in light of evidence that 22% of violent juvenile crime occurs between 2 p.m. and 6 p.m. on school days (Snyder, Sickmund, & Poe-Yamagata, 1996). This is more than would be expected if juvenile crime were uniformly distributed across the waking hours.

Relevant research on alternative activities is found both in basic research on the causes and correlates of delinquency and in evaluations of prevention programs involving these activities. Basic research has examined the plausibility of the "idle hands is the devil's workshop" rationale for explaining delinquency and found it lacking. Several studies have found that time spent in leisure activities is unrelated to the commission of delinquent acts (Gottfredson, 1984b; Hirschi, 1969). Time spent on activities which reflect an underlying commitment to conventional pursuits (e.g., hours spent on homework) is related to the commission of fewer delinquent acts, while time spent on activities which reflect a (premature) orientation to adult activities (e.g., time spent riding around in cars) is related to the commission of more delinquent acts. But the myriad activities of adolescents that have no apparent connection to these poles (e.g., clubs, volunteer and service activities, youth organizations, sports, hobbies, television, etc.) are unrelated to the commission of delinquent acts. Simply spending time in a these activities is unlikely to reduce delinquency unless they provide direct supervision when it would otherwise be lacking.

Alternative activities programs have been found to *not* prevent or reduce alcohol, tobacco, and other drug use in several reviews of the effectiveness of drug prevention (Botvin, 1990; Hansen, 1992; Schaps, Bartolo, Moskowitz, Palley, and Churgin, 1981; Schinke, Botvin, and Orliandi, 1991). More recent evidence of the impotence of alternative activities programs comes from the National Structured Evaluation (NSE; Stoil, Hill, and Brounstein, 1994), a major study of the effectiveness of prevention activities initiated in 1991 by the Center for Substance Abuse Prevention (CSAP), which examined hundreds of different program models in operation during or after 1986. The NSE found that alternative activities alone do not reduce alcohol and other drug use, alcohol and other drug -related knowledge and attitudes, or other risk and protective factors related to alcohol and other drug use. However, when these drug-free activities appeared as secondary components in programs primarily aimed at psycho-social skill development, they were effective for reducing alcohol and other drug use and related risk and protective factors. Note that the reviews and the NSE summarize evidence related to broadly-defined alternative activities programs operating in both school and community contexts. They do not tell us whether the null

Table 5-6. Summary of Recreation, Enrichment, and Leisure Activities Studies

Author (year)	Scientific methods score/ Number of cases	Effect size for measure of problem behavior	Effects on risk and protective factors
Thompson & Jason (1988) favors experimental, [results for eighth grade students at-risk for gang membership directly after one school year of program]	2 N=117	NA	Gang membership -- p=.06; [ES=-.16]
Ross, Saavedra, Shur, scores -- no significant Winters, & Felner (1992) significantly favors control [results for low-income elementary school children directly after significantly favors control 144 days of program]	4 N=667	NA	Achievement test difference overall Risk-taking -- group Impulsiveness -- group
Cronin (1996) Attachment to school, Belief, Attitudes [results for at-risk	4 N=508	Rebellious Behavior -- NS	Grade-point average, Commitment to school, favoring drug use,

Attendance -- NS
 sixth grade students
 directly after one
 school year of program]

Drug Use in Last Year
 -- significantly favors
 control group (ES=.47)

Drug Use in Last Month
 -- NS

findings apply equally to programs in these different settings. Few evaluations of the effect of these recreation, leisure, and enrichment activities on delinquency other than substance use are available. They are summarized in Table 5-6. These studies all combine an emphasis on alternative activities with other components such as instruction in skills related to the alternative activity. One program (Ross et al, 1992) involved instruction and supervised homework and self-esteem building exercises in a school-based after-school program. The study did not assess program effects on actual delinquent behavior due to the young age of the children, but it did measure low self-control, a potent risk factor for later delinquency. The Thompson and Jason (1988) study reported on a gang prevention program involving instruction plus an after school program involving a sports clinic, social and recreational activities, job-skills and educational assistance. Cronin (1996) reported on a community service program which also involved reflection/discussion sessions for "processing" the service experience. As Table 5-6 shows, the results are unfavorable to alternative programs, except for one study which shows a marginally significant ($p=.06$; $ES=-.16$) positive effect on a risk factor for delinquent behavior, gang membership. The other studies suggest that these alternative activities programs may actually increase the risk for delinquent behavior.

These studies of alternative activities do not specifically address the crime prevention potential of recreational strategies such as "midnight basketball" which are designed to keep the most crime-prone segment of the population off the streets during peak crime hours (i.e., to provide a "playground for ... idle hands") and to enhance positive youth development through mandatory attendance at workshops covering topics such as job development, drug and alcohol use, safe sex, GED preparation and college preparation, and conflict resolution. These programs have received media attention and public support in recent years. Midnight Basketball was praised in 1991 by President George Bush as one of his "thousand points of light." The "Crime Bill" signed into law by President Clinton in 1994 featured alternative activities prominently among its various crime prevention strategies. Early versions of the bill included a line item for Midnight Basketball, and although the line item was eventually eliminated when it became the symbol of pork-barrel spending among conservatives in and out of Congress, alternative activities strategies still figure prominently among its prevention strategies. Midnight Basketball is mentioned explicitly as one of the preferred Local Crime Prevention Block Grant Program strategies, along with other supervised sports and recreation programs; non-school recreation strategies are included in the Ounce of Prevention Grant Program; supervised sports and extracurricular programs including arts and crafts and dancing during non-school hours are included in the Community Schools Youth Services and Supervision Grant Program; and park and recreation programs in high risk areas are called for in the Urban Recreation and At-Risk Youth Grants to local governments (Youth Today, Nov/Dec, 1994).

Midnight basketball programs are not likely to reduce crime. The evidence from meta-analyses of drug prevention programs suggests no behavioral effect of such programs, and the few studies that have examined effects on delinquency or anti-social behavior suggest no effect. The only compelling argument for continuing to consider this approach is that they may be able to provide adult supervision when it would otherwise be lacking. But research (Ross et al, 1992, summarized in Table 5-6) indicates that programs *intending* to provide such supervision for unsupervised youth in the after-school hours may actually increase risk for delinquency. These investigators found that (1) the students most in need of after-school supervision chose not to participate in the program, (2) the program *increased* risk-taking and impulsiveness, and (3) the program worked no better for latch-key children than for children who had access to other supervision during the after school hours. These unfortunate outcomes make sense in light of other evidence (e.g., G. Gottfredson, 1987) demonstrating that interventions that group high-risk youths with lower-risk youths in the absence of a strong intervention to establish pro-social group norms often backfire.

In summary, research clearly supports the crime-prevention potential of providing direct adult supervision of high-risk juveniles when they would otherwise be unsupervised, but designing such interventions so that they will reach the intended population and counteract potential negative effects of grouping high-risk youths remains a challenge. The chapter on community programs finds reason for guarded optimism about the crime prevention potential of after-school recreation programs operating in high-crime areas by community-based organizations such as Boys and Girls Clubs. It is possible that such programs are more effective than the more broadly defined alternative activities programs summarized here. It is also possible that features of the implementing organization and the community context within which the programs operate moderate the programs' effectiveness.

Better research is clearly needed to isolate these characteristics of programs and contexts. At this point in time, expectations for these programs far exceed their empirical record. Because some studies have found backfire effects, it is particularly important to proceed with due caution.

A Comprehensive OJP-Funded Program: Cities in Schools (C.I.S.)

C.I.S. is a comprehensive dropout prevention program which combines several individual-level prevention strategies within a broader effort to alter the school environment to facilitate the delivery of services to high-risk youths. Its breadth defies the program categorization adopted for this report. C.I.S. operates in 665 sites in 197 communities nationwide (OJJDP, 1995). It is operated by Cities in Schools, Inc., a nonprofit organization headquartered in Alexandria, VA. Regional and state-level offices bridge the gap between the national office and local programs. Regional staff are the primary providers of technical assistance and training to new and existing programs. State office functions parallel those of the regional offices.

The C.I.S. model utilizes the school as a site for service coordination and integration. It is more a strategy for service delivery than a program. It is based on the belief that the "existing human services delivery system is fragmented, categorical and uncoordinated, and that the clients of the system have multiple problems that extend beyond the relatively narrow agendas of particular agencies (Rossman and Morley, 1995)." Several different strategies are used to address the problems of youth at risk for drop out. The central feature of C.I.S. is the assignment of caseworkers to groups of problem students at inner city schools. Common strategies include: 1) case management (often focusing on obtaining needed services such as health and dental screening, bus tickets, clothing, etc.), 2) individual or group counseling, 3) assistance with academic subjects, 4) attendance monitoring, and 5) activities to promote self-esteem and team building. A "C.I.S. class", although not required, is recommended by the national organization. No standard curriculum exists for the C.I.S. classes, but many focus on life-skills education and contain an emphasis on building students' self esteem and encouraging prosocial attitudes and behaviors. The activities are loosely structured. Tutoring and mentoring are among the most commonly provided services, but individual sites are encouraged to develop special services and arrangements according to their local needs, resources, and constraints.

Two evaluations of the C.I.S. program have been conducted. The first (Murray, Bourque & Mileff, 1981) reviews program outcomes from 1978-1980, the second (Rossman and Morley, 1995) outcomes from 1989-1991. The methodological rigor of both studies (2 and 1, respectively) falls below the cut-point established in this report for scientific credibility. Conclusions regarding program efficacy cannot be drawn based on either evaluation.

Murray et al. (1981) showed that the services delivered were not as strong as anticipated by the C.I.S. model. Rossman and Morley (1995) were unable to quantify the level of program implementation because the systematic records were not kept by the program. Analysis of drop out and absences included in the first evaluation suggested that C.I.S. did not have the desired effect on students. Analysis of absences included in the second evaluation generally showed that C.I.S. students with the most severe problems demonstrated improvement over time. Whether this is attributable to the program or to regression to the mean is not known. Analysis of drop out in the second evaluation suggested that the dropout rate for C.I.S. students compared favorably to other at-risk populations in the nation but offered no evidence about the comparability of these other populations to the C.I.S. population on other variables that would place students at risk for dropping out. An examination of the effect of the C.I.S. program on a variety of problem behaviors was included in the second evaluation. C.I.S. students are asked to report how big of a problem a behavior used to be and whether or not this has changed. Results indicated that students were more likely to experience improvement or no change as opposed to getting worse. The design (lack of comparison group, retrospective self-report) tells us nothing about the effects of C.I.S. on these behavioral outcomes.

In summary, although several aspects of the C.I.S. strategy resemble components shown in other work to have promise for reducing delinquency and substance use, the effects of C.I.S. on these behaviors is unknown because its evaluations have lacked the rigor necessary to justify any conclusions about its effectiveness. Mentoring and the "school-within-a-school" structure used in some of the C.I.S. sites are promising for reducing delinquency or substance use. On the other hand, counseling, unstructured life skills classes, and community service activities have been shown to be ineffective for reducing these problem behaviors, and grouping high-risk students together in the absence of a structured program appears to increase delinquency. C.I.S. has been successful in accessing a large number of at risk students, establishing a service delivery mechanism for them, and generating funds (both federal and other) to initiate and sustain interventions. The programs needs to be rigorously evaluated.

Scientific Conclusions

What Works? Strategies for which at least two different studies have found positive effects on measures of problem behavior and for which the preponderance of evidence is positive are:

Crime and delinquency:

- (1) Programs aimed at building school capacity to initiate and sustain innovation.
- (2) Programs aimed at clarifying and communicating norms about behaviors -- by establishing school rules, improving the consistency of their enforcement (particularly when they emphasize positive reinforcement of appropriate behavior), or communicating norms through school-wide campaigns (e.g., anti-bullying campaigns) or ceremonies; and
- (3) Comprehensive instructional programs that focus on a range of social competency skills (e.g, developing self-control, stress-management, responsible decision-making, social problem-solving, and communication skills) and that are delivered over a long period of time to continually reinforce skills.

Substance use:

- (1) Programs aimed at clarifying and communicating norms about behaviors;
- (2) Comprehensive instructional programs that focus on a range of social competency skills (e.g, developing self-control, stress-management, responsible decision-making, social problem-solving, and communication skills) and that are delivered over a long period of time to continually reinforce skills; and
- (3) Behavior modification programs and programs that teach "thinking skills" to high-risk youths.

What does not work? Strategies for which at least two different studies have found no positive effects on measures of problem behavior and for which the preponderance of evidence is not positive are:

- (1) Counseling students, particularly in a peer-group context, does not reduce delinquency or substance use.
- (2) Offering youths alternative activities such as recreation and community service activities in the absence of more potent prevention programming does not reduce substance use. This conclusion is based on reviews of broadly-defined alternative activities in school- and community settings. Effects of these programs on other forms of delinquency are not known.
- (3) Instructional programs focusing on information dissemination, fear arousal, moral appeal, and affective education are ineffective for reducing substance use.

What is promising? Several strategies have been shown in only one rigorous study to reduce delinquency or substance use. If the preponderance of evidence for these strategies is positive, they are regarded as "promising" until replication confirms the effect. These strategies are:

Crime and delinquency:

- (1) Programs that group youths into smaller "schools-within-schools" to create smaller units, more supportive interactions, or greater flexibility in instruction; and
- (2) Behavior modification programs and programs that teach "thinking skills" to high-risk youths.

Substance use:

- (1) Programs aimed at building school capacity to initiate and sustain innovation; (2) Programs that group youths into smaller "schools-within-schools" to create smaller units, more supportive interactions, or greater flexibility in instruction; and
- (3) Programs that improve classroom management and that use effective instructional techniques.

Effectiveness of DOJ Programs

With the notable exception of D.A.R.E. evaluations, the evaluations of school-based prevention programs funded by OJP are generally too weak to justify conclusions about the effectiveness of the programs.

D.A.R.E. Evaluations show that as it is most commonly implemented, D.A.R.E. does not reduce substance use appreciably. But the revised D.A.R.E. curriculum with its follow-up sessions in later grades has not been evaluated. Given the more general finding that instructional drug prevention programs are most effective when delivered over extended periods of time, a reasonable course of action would be to conduct a rigorous study to compare the revised D.A.R.E. program including its follow-up sessions with other plausible, long-term drug prevention curricula containing more social competency content. This study should randomly assign fifth or sixth grade classrooms to receive either D.A.R.E. with its booster sessions or a non-D.A.R.E. program of equal length and intensity and its booster sessions. Long-term effects should be assessed in a longitudinal study and care should be taken to ensure sufficient statistical power to detect small differences in effectiveness.

L.R.E. The national evaluation of L.R.E. was inconclusive. As detailed above, L.R.E. has theoretical promise only when the law-related curriculum is embedded in a more comprehensive program of improved classroom organization and management. A stand-alone law-related education curriculum is no more likely to reduce delinquency than a stand-alone drug education program is to reduce substance use. More rigorous evaluation is needed to evaluate L.R.E. as it is typically implemented, and to isolate the effective ingredients in the multi-component L.R.E. interventions that have resulted in positive evaluations.

C.I.S. Evaluations of C.I.S. have not been of sufficient methodological rigor to justify conclusions about its crime prevention potential. C.I.S. represents a vehicle through which a variety of prevention services could be effectively delivered. But as currently implemented, the mix of services provided is as likely to contain ineffective as effective ones. If Congress is to continue to mandate these programs, rigorous tests of evaluations should now be conducted.

Several additional categories of school-based programs are supported from time-to-time by OJP. These include "Midnight basketball" and other recreational activities intended to reduce crime, peer mediation programs; and violence prevention curricula. A variety of after-school program models are also being developed. None of these program types have been studied with sufficient rigor to justify conclusions about their effectiveness, but some evaluations have produced disappointing results. Rigorous evaluation of the OJP-funded programs is required.

Byrne Funds. Little is known about the specific school-based programs supported by Byrne Block Grant Funding. One of the purpose areas for this funding is education, however, and \$74.7 million was spent between 1989 and 1994 for these education programs. Some of this funding is known to support local D.A.R.E. programs, known to be ineffective as most commonly implemented. The block grant program as it is currently organized might be strengthened through federal efforts to disseminate information to state and local agencies about what school-based strategies work to reduce delinquency.

Improving Effectiveness Through Evaluation and Research

The studies reviewed in this chapter have demonstrated that school-based prevention can work. With few exceptions, the different categories of prevention activities have been shown to reduce delinquency or substance abuse in at least one rigorous study. The magnitude of the effects of these strategies ranges from small (e.g., for instructional drug prevention programs and classroom management interventions) to moderate (e.g., for a behavior modification intervention and some of the more comprehensive programs such as STATUS, that combined a school-within-a-school structure with an innovative curriculum and effective instructional methods). Yet the magnitude and durability of effects of school-based prevention efforts, although at least comparable to those of delinquency prevention and treatment efforts in other settings, are low relative to the theoretical promise and anticipated potential of these programs. More important than the question of which individual strategies "work" is the question of how the promising strategies can be strengthened to improve their yield. These efforts should focus on two broad areas: Specifying theories underlying school-based prevention and improving the level of implementation of prevention programs.

Specifying theories of school-based prevention. Much school-based prevention is guided by the following general notions about the nature and causes of problem behaviors: (1) Different problem behaviors are highly related; (2) different problem behaviors share common antecedents; (3) the common antecedents are the risk and protective factors identified in research as correlates of problem behavior (e.g., as summarized in reviews such as Hawkins, Catalano, & Miller, 1992 and Loeber & Dishion, 1983); and (4) prevention efforts aimed directly at these risk and protective factors will reduce problem behavior. Specific school-based delinquency prevention practices are often justified on the basis of demonstrated effect on one or more known risk or protective factors for delinquency.

The prevention focus on risk and protective factors is enormously popular among practitioners and has succeeded in pushing practice away from strategies with no basis in research and towards strategies with plausibility. At the same time, accumulated evidence has raised questions about the relative potency of different risk and protective factors and their possible differential effects on various problem behaviors. Some risk-based strategies show promise for reducing substance use but not other forms

of delinquency (e.g., mentoring programs and the classroom organization and management strategies summarized earlier). Other programs have clear effects on aggressive behavior and school conduct problems, but the evidence for an effect on measures of criminal activity is less convincing (e.g., cognitive training strategies and social competency instruction). Many programs have large effects on academic achievement, commitment to school, or attachment to school, but no effect (Hawkins, Catalano, et al., 1992; Hawkins, Doueck & Lishner, 1988) or even negative effects (D. Gottfredson, 1986) on delinquency and substance use. Clearly, enhancing protective factors or reducing risk factors does not ensure a large reduction in delinquency. The focus on risk and protective factors has been and no doubt will continue to be a valuable contribution to the prevention field. But more productive theory-building and testing is now required to make significant progress. School-based prevention efforts would benefit from the development and testing of multi-level theories that specify how environmental features of schools interact with individual-level processes generating delinquent behavior. Efforts to clarify the causal processes linking school characteristics and schooling experiences to delinquency can be expected to lead to refined program designs which target the most potent theoretical variables.

Improving implementation of school-based prevention programs. Researchers have recently turned their attention to better understanding the conditions which may impede the implementation of prevention programs and therefore limit their effectiveness. Elias, Weissberg, et al. (1994) recommend comprehensive, multi-year, multi-component approaches over more traditional single-intervention ones. This idea is also supported by meta-analysis results showing that programs using multiple interventions work better than those using a single intervention strategy (Tobler, 1986) and by results summarized above. Some of the more comprehensive programs reviewed above (e.g., Olweus' bullying intervention in Norway schools; Gottfredson's school-capacity building interventions) are among the more potent programs for reducing delinquency. Given that the single largest federal expenditure on school-based prevention (Safe and Drug-Free Schools and Communities monies administered by the U.S. Department of Education) funds primarily narrower strategies such as student assistance programs (a form of counseling) and drug instruction, this recommendation alone, if heeded, can be expected to boost the effectiveness of school-based prevention activities.

Elias, Weissberg et al. (1994) also advocate strategies to strengthen the "host environment." These strategies include working with staffs in the schools to ensure goal consensus and fluency in the theory underlying the prevention approach, and using an action research model to clarify expectations, monitor progress, and identify and resolve problems which present obstacles to implementation as they arise. Support for these capacity-building strategies is summarized above.

Gottfredson, Fink, Skroban & Gottfredson (1996) summarize literature on factors related to successful educational reform in general. The capacity of schools to initiate and sustain reform, and consequently the strength and fidelity of those reforms, varies considerably across geographic areas, with schools in urban areas most likely to lack the infrastructure necessary to support change. Many features of school organizations shown to be related to successful reform -- quality leadership, teacher morale, teacher mastery, school climate, and resources -- are lower on average in urban than in other schools. The literature on school reform suggests that the strength and durability of school-based prevention programs can be increased by embedding specific program components within a broader capacity-building effort that attends to these larger organizational issues.

The recommended direction for school-based prevention -- towards multi-faceted, longer-term, and broader-reaching programs embedded in school capacity-building activities-- presents a challenge to researchers and policy-makers alike because the "user-friendliness" of programs is related to the fidelity of their implementation. More complex programs are more likely to be watered down or "reinvented" by school staff. Indeed, experience working with a troubled urban middle school to implement a multi-component prevention program over a four-year period (Gottfredson, Gottfredson, & Skroban, 1996) illustrated the challenge. The program included several components aimed at increasing social competency skills as well as components aimed at increasing social bonding and school success. Most pieces had been demonstrated in prior "single intervention" research to reduce problem behavior or factors leading to it, and are included among the program strategies that "work," summarized above. The five-year study tested the transportability of these intervention strategies into a more comprehensive program that could be implemented in a natural school setting as part of a multi-year school-based prevention demonstration. The evaluation of the five-year effort showed that the program never reached its expected level of implementation and no reliable effects on youth behaviors or attitudes were observed. The organization proved incapable of absorbing this ambitious program.

The question of what it will take to initiate and sustain meaningful change in schools is the highest priority question for researchers and policy makers at this time. We know from research summarized in this chapter that a variety of strategies can reduce delinquency or substance use. But the conditions under which much of the research -- particularly the research on individually-focused interventions -- was conducted do not resemble real-world conditions in schools where programs are most needed. Tobler (1992) shows, for example, that among the top ten most effective drug prevention programs identified in the literature, only one was implemented by classroom teachers, and even that intervention was unusual because extraordinary amounts of training and consultation was provided for the teachers. When school-based programs are implemented under less than ideal conditions results have not been as positive. In a study of Hispanic students in eight urban schools in the New York

area, Botvin, Dusenbury, Baker, James-Ortiz, & Kerner (1989), reported that the amount of the L.S.T. program material covered by teachers ranged from 44% to 83%. When the experimental sample was divided into high implementation (with a mean completion rate of 78%) and low implementation (mean of 56%), positive effects of the program were found only in high implementation group. This accords with more general findings from Lipsey's (1992) extensive meta-analysis of prevention and treatment programs which found that programs delivered by researchers were more effective than those delivered by the typical practitioner, presumably because researchers attended more to issues of strength and integrity of program implementation.

These facts must be understood if we are to strengthen prevention programming. Several of the studies summarized above (e.g., Botvin et al, 1995; Gottfredson, Gottfredson, & Hybl, 1993; Johnson, 1984) reported effects separately for groups of schools or teachers that differed on the strength and fidelity of program implementation. The evidence always suggests that more delinquency is prevented when strategies are implemented with greater fidelity over prolonged periods and that these conditions are met more easily in some schools than in others. Additional research is now needed to increase our understanding of how the potential of strategies we already know about can be realized in real-world settings.

An example of a comprehensive, theory-based, well-implemented school-based intervention. A recent example of a school-based intervention to reduce conduct disorder that addresses the shortcomings of prevention programming summarized earlier is the FAST Track (Families and Schools Together; Conduct Problems Prevention Research Group, 1992) Program, currently being tested in four cities with support from the National Institute of Mental Health. The program was developed by a consortium of social scientists on the basis of developmental theory about the causes of conduct disorder in children and previous evaluations of specific, theory-based program components. It integrates five intervention components designed to promote competence in the family, child, and school and thus prevent conduct problems, poor social relations, and school failure -- all precursors of subsequent criminal behavior -- during the elementary school years. The program involves training for parents in family management practices; frequent home visits by program staff to reinforce skills learned in the training, promote parental feelings of efficacy, and enhance family organization; social skills coaching for children delivered by program staff and based on effective models described earlier; academic tutoring for children three times per week; and a classroom instructional program focusing on social competency skills coupled with classroom management strategies for the teacher. The program therefore includes several of the most effective school-based strategies summarized earlier as well as the most effective strategies from the family domain.

The participating schools and families work closely with the research team to implement the program in a strong fashion and support its evaluation. Only preliminary data are available from the rigorous evaluation of this ongoing project. Dodge (1993) reported that after one year of this intensive program, clear positive effects were evident on several of the intermediate behaviors targeted by the program (e.g., parent involvement in the child's education and child social-cognitive skills) and significantly less problem behavior ($ES = -.25$) was recorded by trained observers for the treatment than for the comparison children. These positive results for such a difficult population are encouraging and attest to the need for more comprehensive, theory-based, preventive interventions implemented with careful attention to strength and fidelity. The cost of such high-quality program development is high compared with typical expenditures on program development and evaluation for OJP programs: FAST Track's budget exceeds \$1 million per year for each of the four program sites.

These comments are intended to stimulate thinking about what Congress and OJP can do to contribute to the development of stronger school-based delinquency prevention efforts. Specific recommendations for strengthening programs are:

1. Increase Congressional appropriations for school-based prevention activities. OJP funding for school-based crime prevention is meager compared with its expenditures in other domains within OJP and compared with expenditures by other agencies on school-based prevention. Total expenditures on school-based prevention (partially summarized in Table 5-1) are less than \$25 million per year,⁹ compared with \$1.4 billion for the extra police programs and \$617 million for prison construction. This limited investment in school-based crime prevention, in light of its promise demonstrated in this chapter, represents a lost opportunity for preventing crime.
2. Support multi-year prevention efforts (e.g., programs that span the elementary school years, the middle school years, and the high school years rather than single-year programs);
3. Support multi-component prevention efforts that include the environmental-change and individual strategies that have been shown to work in some settings under some conditions and whose positive results have been replicated:
 - (a) Programs aimed at building school capacity to initiate and sustain innovation;
 - (b) Programs aimed at clarifying and communicating norms about behaviors;

(c) Comprehensive instructional programs that focus on a range of social competency skills (e.g. developing self-control, stress-management, responsible decision-making, social problem-solving, and communication skills) and that are delivered over a long period of time to continually reinforce skills; and

(d) Behavior modification programs and programs that teach "thinking skills" to high-risk youths.

4. Reduce funding for program categories (counseling students for delinquency prevention, alternative activities such as recreation and community service activities in the absence of more potent prevention programming for drug prevention, and instructional drug prevention programs focusing on information dissemination, fear arousal, moral appeal, and affective education) known to be ineffective.

5. Support activity to disseminate information about effective and ineffective school-based strategies to practitioners and to local- and state-level program managers and policy-makers.

Additional recommendations for evaluation and research needed to improve the effectiveness of school-based prevention include:

1. Require (and provide the substantial financial investment to enable) rigorous evaluation of the long-term multi-component models recommended above, insisting that studies of the effectiveness of strategies aimed at altering school and classroom environments be conducted using schools or classrooms as the unit of analysis, and testing the generalizability of effects across different types of communities.

2. Support replication studies of the promising strategies identified in the summary section above;

3. Support theory-building and testing efforts which seek to clarify the causal models relating school experiences and delinquency;

4. Support research to investigate school conditions conducive to high-quality implementation of prevention programs; and

5. Support the development and rigorous testing, especially in urban areas, of strategies designed specifically to improve the level of implementation of prevention programs.

NOTES

¹The editorial assistance of Roger Weissberg and the research assistance of Todd Armstrong, Veronica Puryear, John Ridgely, Stacy Skroban, and Shannon Womer are gratefully acknowledged.

²Of course, more money is spent on maintaining basic educational services. The largest proportion of spending for children and youth in all states is tied to schools (Holmes, Gottfredson, & Miller, 1992) -- mostly to maintain basic education processes. An argument can be made for counting these large basic education expenditures as prevention expenditures because they are directed at improving the social capital of the citizenry (e.g., education and proper conduct) which protects youths from later involvement in a variety of problem behaviors. Because the evidence for a connection between basic education programs and practices and crime is largely indirect, such basic education functions will be given short shrift in this chapter. Researchers and policy-makers should devote more attention, however, to understanding the crime prevention potential of large federal entitlement programs such as Chapter I of Title I of the Elementary and Secondary Education Act, which distributes approximately \$6.7 billion in federal funds to local school districts to enhance basic educational processes.

³OJP spends approximately \$1.4 billion on extra policing programs and \$617 million on prison construction projects per year.

⁴Code sheets used to code methodological rigor and gather information for the computation of effect sizes are show in the methods appendix. All coding was done by two trained graduate students. All discrepancies were discussed and resolved. Seven aspects of the methods used in each study were rated to arrive at an overall rating of methodological rigor ranging from "1" (for studies having no controls for plausible alternative explanations for observed effects, insufficient power to detect program effects, or inadequate measurement of key outcome variables) to "5" (for studies employing random assignment to treatment and control conditions, sufficient power, and reliable and valid measurement).

⁵A district consolidation of high schools prevented continued evaluation at the high school level.

⁶Effect sizes reported here are the effect sizes for treatment school change from pre-intervention to post-intervention reported in the original report minus the same effect sizes reported for the comparison schools.

⁷Evaluations of D.A.R.E. are too numerous for detailed summary of each. The Bureau of Justice Assistance has identified 23 D.A.R.E. evaluations conducted between 1991 and 1996, several of which are included in the summary below. Others are not included because they are primarily descriptive evaluations of state-level efforts which have not appeared in the scientific literature. An assessment of this fugitive literature seems unnecessary given the consistency of findings in the published literature. At any rate, such an effort is beyond the scope of this review.

⁸The researchers who conducted the national evaluation for OJJDP have continued to develop and write about the program. Later reports contain the same ambiguity as the earlier study of the Colorado sites.

⁹This figure does not include Byrne Block Grant monies, some of which fund local D.A.R.E. programs. But even with the Byrne funds, expenditures on school-based prevention are meager.

References

Battistich, V., Schaps, E., Watson, M., and Solomon, D.

1996 Prevention effects of the child development project: Early findings from an ongoing multi-site demonstration trial. *Journal of Adolescent Research* 11:12-35.

Botvin, G. J.

1990 Substance abuse prevention: Theory, practice, and effectiveness. In M. Tonry and J. Q. Wilson (eds.), *Drugs and Crime*. Chicago: The University of Chicago Press.

Botvin, G. J., Baker, E., Botvin, E. M., Filazzola, A. D., and Millman, R. B.

1984 Prevention of alcohol misuse through the development of personal and social competence: A pilot study. *Journal of Studies on Alcohol* 550-552.

Botvin, G. J., Baker, E., Dusenbury, L., Botvin, E. M., and Diaz, T.

1995 Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. *Journal of the American Medical Association* 273:1106-1112.

Botvin, G. J., Baker, E., Filazzola, A. D., and Botvin, E. M.

1990 A cognitive-behavioral approach to substance abuse prevention: One-year follow-up. *Addictive Behaviors* 15:47-63.

Botvin, G. J., Baker, E., Renick, N. L., Filazzola, A. D., and Botvin, E. M.

1984 A cognitive behavioral approach to substance abuse prevention. *Addictive Behaviors* 9:137-147.

Botvin, G. J., Batson, H. W., Witss-Vitale, S., Bess, V., Baker, E., and Dunesbury, L.

1989 A psychosocial approach to smoking prevention for urban black youth. *Public Health Reports* 12:279-296.

Botvin, G. J., Dusenbury, L., James-Ortiz, S., and Kerner, J.

1989 A skills training approach to smoking prevention among Hispanic youth. *Journal of Behavioral Medicine* 12:279-296.

Botvin, G. J., and Eng, A.

1982 The efficacy of a multicomponent approach to the prevention of cigarette smoking. *Preventive Medicine* 11:199-211.

Brewer, D. D., Hawkins, J. D., Catalano, R. F., and Neckerman, H. J.

1995 Preventing serious, violent, and chronic juvenile offending: A review of evaluations of selected strategies in childhood, adolescence, and the community. In J. C. Howell, B. Krisberg, J. J. Wilson, and J. D. Hawkins (eds.), *A Sourcebook on Serious, Violent, and Chronic Juvenile Offenders*. Newbury Park, CA: Sage Publications.

Bry, B. H.

1982 Reducing the incidence of adolescent problems through preventive intervention: One- and five-year follow-up. *American Journal of Community Psychology* 10:265-276.

Bry, B. H., and George, F. E.

1979 Evaluating and improving prevention programs: A strategy from drug abuse. *Evaluation and Program Planning* 2:127-136.

Bry, B. H., and George, F. E.

1980 The preventative effects of early intervention on the attendance and grades of urban adolescents. *Professional Psychology* 11:252-260.

Caplan, M., Weissberg, R. P., Grober, J. S., Sivo, P. J., Grady, K., and Jacoby, C.

1992 Social competence promotion with inner-city and suburban young adolescents: Effects on social adjustment and alcohol use. *Journal of Consulting and Clinical Psychology* 60:56-63.

Clayton, R. R., Cattarello, A. M., and Johnstone, B. M.

1996 The effectiveness of Drug Abuse Resistance Education (Project DARE): Five-year follow-up results. *Preventive Medicine* 25:307-318.

Conduct Problems Prevention Research Group

1992 A developmental and clinical model for the prevention of conduct disorder: The FAST Track Program. *Development and Psychopathology* 4:509-527.

Corcoran, T. B.

1985 Effective secondary schools. In R. M. J. Kyle (ed.), *Reaching for Excellence: An Effective Schools Sourcebook*. Washington, D.C.: U.S. Government Printing Office.

Cronin, J.

1996 An Evaluation of a School-based Community Service Program: The Effects of Magic Me. Technical report available from Gottfredson Associates, Inc., Ellicott City, MD.

Dicken, C., Bryson, R., and Kass, N.

1977 Companionship therapy: A replication in experimental community psychology. *Journal of Consulting and Clinical Psychology* 45:637-646.

Dodge, K. A.

1993 Effects of intervention on children at high risk for conduct problems. Paper presented at the biennial meeting of the Society for Research in Child Development, New Orleans, March.

Dryfoos, J. G.

1990 *Adolescents at Risk: Prevalence and Prevention*. New York: Oxford University Press.

Duke, D. L.

1989 School organization, leadership, and student behavior. In O. C. Moles (ed.), *Strategies to Reduce Student Misbehavior*. Washington, D.C.: U.S. Department of Education.

Durlak, J. A.

1995 *School-based Prevention Programs for Children and Adolescents*. Thousand Oaks, CA: Sage.

Elias, M. J., Weissberg, R. P., Hawkins, J. D., Perry, C. A., Zins, J. E., Dodge, K. C., Kendall, P. C., Gottfredson, D. C., Rotheram-Borus, M., Jason, L. A., and Wilson-Brewer, R.

1994 The school-based promotion of social competence: Theory, practice, and policy. In R. J. Haggerty, N. Garmezy, M. Rutter, and L. Sherrod (eds.), *Risk and Resilience in Children: Developmental Approaches*. Cambridge: University of Cambridge Press.

Ellickson, P. L., and Bell, R. M.

1990 Drug prevention in junior high: A multi-site longitudinal test. *Science* 247:1299-1305.

Ellickson, P. L., Bell, R. M., and McGuigan, K.

1993 Preventing adolescent drug use: Long-term results of a junior high program. *American Journal of Public Health* 83:856-861.

Esbensen, F. A. & Osgood, D. W.

1996 GREAT Program Effectiveness: Results from the 1995 Cross-Sectional Survey of Eighth-Grade Students. Unpublished technical reprint available from author.

Felner, R. D., and Adan, A. M.

1988 The school transitional environment project: An ecological intervention and evaluation. In R. H. Price, E. L. Cowen, R. P. Lorion, and J. Ramos-McKay (eds.), *14 Ounces of Prevention: A Casebook for Practitioners*. Washington, D.C.: American Psychological Association.

Felner, R. D., Ginter, M., and Primavera, J.

1982 Primary prevention during school transitions: Social support and environmental structure. *American Journal of Community Psychology* 10:277-290.

Forman, S. G.

1980 A comparison of cognitive training and response cost procedures in modifying aggressive behavior of elementary school children. *Behavior Therapy* 11:594-600.

Gainer, P. S., Webster, D. W., and Champion, H. R. .

1993 A youth violence prevention program: Description and preliminary evaluation. *Archives of Surgery* 128:303-308.

Garrett, C. J.

1985 Effects of residential treatment on adjudicated delinquents: A meta-analysis. *The Journal of Research in Crime and Delinquency* 22:287-308.

General Accounting Office

1993 Drug Education: Limited Progress in Program Evaluation. Statement of Eleanor Chemlinshy before the Subcommittee on Select Education and Civil Rights, Committee on Education and Labor, House of Representatives, GAO/T-PEMD-93-2.

Gorman, D. M.

1995 Are school-based resistance skills training programs effective in preventing alcohol misuse? *Journal of Alcohol and Drug Education* 41(1):74-98.

Gottfredson, D. C.

1986 An empirical test of school-based environmental and individual interventions to reduce the risk of delinquent behavior. *Criminology* 24:705-731.

1987 An evaluation of an organization development approach to reducing school disorder. *Evaluation Review* 11:739-763.

1990 Changing school structures to benefit high-risk youths. In P. E. Leone (ed.), *Understanding Troubled and Troubling Youth*. Newbury Park, CA: Sage Publications.

Gottfredson, D. C., Fink, C. M., Skroban, S., and Gottfredson, G. D.

In press Making prevention work. In R. P. Weissberg (ed.), *Issues in Children's and Families' Lives (Volume 4): Healthy Children 2010: School- and Community-based Strategies to Enhance Social, Emotional, and Physical Wellness*.

Gottfredson, D. C., Gottfredson, G. D., and Hybl, L. G.

1993 Managing adolescent behavior: A multiyear, multischool study. *American Educational Research Journal* 30:179-215.

Gottfredson, D. C., Gottfredson, G. D., and Skroban, S.

1996 A multimodal school-based prevention demonstration. *Journal of Adolescent Research* 11:97-115.

Gottfredson, D. C., Sealock, M. D., and Koper, C. S.

1996 Delinquency. In R. DiClemente, W. Hansen, and L. Ponton (eds.), *Handbook of Adolescent Health Risk Behavior*. New York: Plenum Publishing Corp.

Gottfredson, G. D.

1984a A theory-ridden approach to program evaluation: A method for stimulating researcher-implementer collaboration. *American Psychologist* 39:1101-1112.

1984b *The Effective School Battery: User's Manual*. Odessa, FL: Psychological Assessment Resources, Inc.

1987 Peer group interventions to reduce the risk of delinquent behavior: A selective review and a new evaluation. *Criminology* 25:671-714.

Gottfredson, G. D., and Gottfredson, D. C.

1985 *Victimization in Schools*. New York: Plenum.

Gottfredson, G. D., Rickert, D. E., Advani, N., and Gottfredson, D. C.

1985 Standards for program development evaluation. *Psychological Documents* 14:31 (ms. No. 2668).

Greenberg, M. T.

1996 *The PATHS Project: Preventive Intervention for Children*. Final Report to NIMH (Grant Number R01MH42131).

Greenberg, M. T., Kusche, C. A., Cook, E. T., and Quamma, J. P.

1995 Promoting emotional competence in school-aged children: The effects of the PATHS curriculum. *Development and Psychopathology* 7:117-136.

Guerra, N. G., and Slaby, R. G.

1990 Cognitive mediators of violence in adolescent offenders. *Developmental Psychology* 26:269-270.

Hansen, W. B.

1992 School-based substance abuse prevention: A review of the state of the art of curriculum: 1980-1990. *Health Education Research* 7:403-430.

Hansen, W. B., and Graham, J. W.

1991 Preventing alcohol, marijuana, and cigarette use among adolescents: Peer pressure resistance training versus establishing conservative norms. *Preventive Medicine* 20:414-430.

Hansen, W. B., and O'Malley, P. M.

1996 Drug use. In R. J. DiClemente, W. B. Hansen, and E. L. Ponton (eds.), *Handbook of Adolescent Health Behavior*. New York: Plenum Press.

Hawkins, J. D., Arthur, M. W., and Catalano, R. F.

1995 Preventing substance abuse. In M. Tonry and D. Farrington (eds.), *Building a Safer Society: Strategic Approaches to Crime Prevention*. Chicago: Univ. of Chicago Press.

Hawkins, J. D., Catalano, R. F., and Associates.

1992 *Communities That Care: Action for Drug Abuse Prevention*. San Francisco: Jossey-Bass.

Hawkins, J. D., Catalano, R. F., and Miller, J. L.

1992 Risk and protective factors for alcohol and other drug problems in early adulthood: Implications for substance abuse prevention. *Psychological Bulletin* 112:64-105.

Hawkins, J. D., Catalano, R. F., Morrison, D. M., O'Donnell, J., Abbott, R. D., and Day, L. E.

1992 The Seattle Social Developmental Project: Effects of the first four years on protective factors and problem behaviors. In J. McCord and R. E. Tremblay (eds.), *Preventing Antisocial Behavior: Interventions from Birth Through Adolescence*. New York: The Guilford Press.

Hawkins, J. D., Doueck, H. J., and Lishner, D. M.

1988 Changing teaching practices in mainstream classrooms to improve bonding and behavior of low achievers. *American Educational Research Journal* 25:31-50.

Hawkins, J. D., Von Cleve, E., and Catalano, R. F.

1991 Reducing early childhood aggression: Results of a primary prevention program. *Journal of the American Academy of Child and Adolescent Psychiatry* 30:208-217.

Higgins, P. S.

1978 Evaluation and case study of a school-based delinquency prevention program: The Minnesota Youth Advocate Program. *Evaluation Quarterly* 2:215-234.

Hirschi, T.

1969 *Causes of Delinquency*. Berkeley, CA: University of California Press.

Holmes, A. B., Gottfredson, G. D., and Miller, J.

1992 Resources and strategies for findings. In G. D. Hawkins and R. F. Catalano (eds.), *Communities That Care*. San Francisco, CA: Jossey Bass.

Howell, J. C., Krisberg, B., Wilson, J. J., and Hawkins, J. D.

1995 *A Sourcebook on Serious, Violent, and Chronic Juvenile Offenders*. Newbury Park, CA: Sage Publications.

Institute of Medicine

1994 *Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research*. Washington, D.C.: National Academy Press.

Izzo, R. L., and Ross, R. R.

1990 Meta-analysis of rehabilitation programs for juvenile delinquents. *Criminal Justice and Behavior* 17:134-142.

Johnson, G.

1984 When law-related education is a deterrent to delinquency: Evaluation methods and findings. Paper presented at Rocky Mountain Regional Conference of the National Council for the Social Studies.

Johnson, G., and Hunter, R.

1985 Law-related education as a delinquency prevention strategy: A three-year evaluation of the impact of LRE on students. Paper adapted from a report submitted to the National Institute for Juvenile Justice and Delinquency Prevention on June 6, 1984.

Kenney, D. J., and Watson, T. S.

1996 Reducing fear in the schools: Managing conflict through student problem solving. *Education and Urban Society* 28:436-455.

Lam, J. A.

1989 *The Impact of Conflict Resolution Programs on Schools: A Review and Synthesis of the Evidence*. Amherst, MA: National Association for Mediation in Education.

Law Enforcement News

1996 Truth and DARE: Washington cities shelve anti-drug curriculum. NY: John Jay College of Criminal Justice.

Lindstrom, P.

1996 Partnership in crime prevention: Police-school cooperation. Paper presented at the annual meeting of the American Society of Criminology, Chicago.

Lipsey, M. W.

1992 Juvenile delinquency treatment: A meta-analytic inquiry into the variability of effects. In T. D. Cook, H. Cooper, D. S. Cordray, H. Hartman, L. V. Hedges, R. V. Light, T. A. Louis, and F. Mosteller (eds.), *Meta-Analysis for Explanation*. Beverly Hills, CA: Sage.

Lipsey, M. W., and Wilson, D. B.

1993 The efficacy of psychological, educational, and behavioral treatment: Confirmation from meta-analysis. *American Psychologist* 48:1181-1209.

Lochman, J. E.

1992 Cognitive-behavioral intervention with aggressive boys: Three-year follow-up and preventive effects. *Journal of Consulting and Clinical Psychology* 60:426-432.

Lochman, J. E., Burch, P. R., Curry, J. F., and Lampron, L. B.

1984 Treatment and generalization effects of cognitive-behavioral and goal-setting interventions with aggressive boys. *Journal of Consulting and Clinical Psychology* 52:915-916.

Loeber, R. T., and Dishion, T.

1983 Early predictors of male delinquency: A review. *Psychological Bulletin* 93:68-99.

LoSciuto, L., Rajala, A. K., Townsend, T. N., and Taylor, A. S.

1996 An outcome evaluation of Across Ages: An intergenerational mentoring approach to drug prevention. *Journal of Adolescent Research* 11:116-129.

Malvin, J. H., Moskowitz, J. L., Schaps, E., and Schaeffer, G. A.

1982 Evaluation of Two School-based Alternative Programs. The Napa Project, Napa, CA: Pacific Institute for Research and Evaluation.

Malvin, J., Moskowitz, J., Schaps, E., and Schaeffer, G.

1985 Evaluation of two school-based alternatives programs. *Journal of Alcohol and Drug Education* 30:98-108.

Mayer, G. R., and Butterworth T. W.

1979 A preventive approach to school violence and vandalism: An experimental study. *Personnel and Guidance Journal* 57:436-441.

Mayer, G. R., Butterworth, T. W., Nafpaktitis, M., and Sulzer-Azaroff, B.

1983 Preventing school vandalism and improving discipline: A three-year study. *Journal of Applied Behavior Analysis* 16:355-369.

McPartland, J. M., and Nettles, S. M.

1991 Using community adults as advocates or mentors for at-risk middle school students: A two-year evaluation of Project RAISE. *American Journal of Education* 568-586.

Murray, C. A., Bourque, B. B., and Mileff, S. J.

1981 The National Evaluation of the Cities in Schools Program. Report No. 4: Final Report (Contract No. 400-77-0107). Washington, D.C.: National Institute of Education.

National Institute for Citizen Education in the Law

1988 Annual Report 1987-1988: Expanding Programs to Reduce Crime and Promote Citizenship. Washington, D.C.: NICEL.

O'Donnell, J., Hawkins, J. D., Catalano, R. F., Abbott, R. D., and Day, L. E.

1995 Preventing school failure, drug use, and delinquency among low-income children: Long-term intervention in elementary schools. *American Journal of Orthopsychiatry* 65:87-100.

Office of Juvenile Justice and Delinquency Prevention

1995 Delinquency Prevention Works: Program Summary. Washington, D.C.: OJJDP.

Olweus, D.

1991 Bully/victim problems among schoolchildren: Basic facts and effects of a school based intervention program. In D. J. Pepler and K. H. Rubin (eds.), *The Development and Treatment of Childhood Aggression*. Hillsdale, NJ: Lawrence Erlbaum.

1992 Bullying among schoolchildren: Intervention and prevention. In R. D. Peters, R. J. McMahon, and V. L. Quinsey (eds.), *Aggression and Violence Throughout the Life Span*. Newbury Park, CA: Sage Publications.

Olweus, D., and Alsaker, F. D.

1991 Assessing change in a cohort-longitudinal study with hierarchical data. In D. Magnusson, L. R. Bergman, G. Rudinger, and B. Torestad (eds.), *Problems and Methods in Longitudinal Research: Stability and Change*. Cambridge: Cambridge University Press.

Perry, C. D., Grant, M., Ernberg, G., Florenzano, R. U., Langdon, M. C., Myeni, A. D., Waahlberg, R., Berg, S., Andersson, K., Fisher, J., Blaze-Temple, D., Cross, D., Saunders, B., Jacobs, D. R., and Schmid, T.

1989 WHO collaborative study on alcohol education and young people: Outcomes of a four-country pilot study. *The International Journal of the Addictions* 24:1145-1171.

Reyes, O., and Jason, L. A.

1991 An evaluation of a high school dropout prevention program. *Journal of Community Psychology* 19:221-230.

Ringwalt, C., Greene, J., Ennett, S., Iachan, R., Clayton, R. R., and Leukefeld, C. G.

1994 Past and Future Directions of the DARE Program: An Evaluation Review: Draft Final Report (Award # 91-DD-CX-K053). Washington, D.C.: National Institute of Justice.

Rosenbaum, D. P., Flewelling, R. L., Bailey, S. L., Ringwalt, C. L., and Wilkinson, D. L.

1994 Cops in the classroom: A longitudinal evaluation of drug abuse resistance education (DARE). *Journal of Research in Crime and Delinquency* 31:3-31.

Rosenthal, R., and Rubin, D. B.

1982 A simple, general purpose display of magnitude of experimental effect. *Journal of Educational Psychology* 74:166-169.

Ross, J. G., Saavedra, P. J., Shur, G. H., Winters, F., and Felner, R. D.

1992 The effectiveness of an after-school program for primary grade latchkey students on precursors of substance abuse. *Journal of Community Psychology*, OSAP Special Issue 22-38.

Rossmann, S. B., and Morley, E.

1995 *The National Evaluation of Cities in Schools: Executive Summary (Cooperative Agreement #91-JN-CX-K001)*. Office of Justice and Delinquency Prevention. Washington, D.C.: U.S. Department of Justice.

Rotheram, M. J.

1982 Social skills training with underachievers, disruptive, and exceptional children. *Psychology in the Schools* 19:532-539.

Schaps, E., Bartolo, R. D., Moskowitz, J., Palley, C. S., and Churgin, S.

1981 A review of 127 drug abuse prevention evaluations. *Journal of Drug Issues* 11(1):17-43.

Schinke, S. P., Botvin, G. J., and Orliandi, M. A.

1991 *Substance Abuse in Children and Adolescents: Evaluation and Interventions*. Newbury Park, CA: Sage Publications.

Slicker, E. K., and Palmer, D. J.

1993 Mentoring at-risk high school students: Evaluation of a school-based program. *The School Counselor* 40:327-334.

Snyder, H. N., Sickmund, M., and Poe-Yamagata, E.

1996 *Juvenile Offenders and Victims: 1996 Update on Violence*. Washington, D.C.: Office of Juvenile Justice and Delinquency Prevention.

Solomon, D., Watson, M. S., Delucchi, K. L., Schaps, E., and Battistich, V.

1988 Enhancing children's prosocial behavior in the classroom. *American Educational Research Journal* 25:527-554.

Stoil, M., Hill, G., and Brounstein, P. J.

1994 The seven core strategies for ATOD prevention: Findings of the National Structured Evaluation of What is Working Well Where. Paper presented at the 12th annual meeting of the American Public Health Association, Washington, D.C.

Thompson, D. W., and Jason, L. A.

1988 Street gangs and preventive interventions. *Criminal Justice and Behavior* 15:323-333.

Tierney, J. P., Grossman, J. B., and Resch, N. L.

1995 *Making a Difference: An Impact Study of Big Brothers/Big Sisters*. Philadelphia, PA: Public/Private Ventures.

Tobler, N. A.

1992 Drug prevention programs can work: Research findings. *Journal of Addictive Diseases* 11(3):1-28.

Tobler, N. S.

1986 Meta-analysis of 143 adolescent drug prevention programs: Quantitative outcome results of program participants compared to a control or comparison group. *The Journal of Drug Issues* 16:537-367.

Tolson, E. R., McDonald, S., and Moriarty, A. R.

1992 Peer mediation among high school students: A test of effectiveness. *Social Work in Education* 14:86-93.

Weissberg, R. P., and Caplan, M.

1994 Promoting social competence and preventing antisocial behavior in young urban adolescents. Manuscript submitted for publication.

Weissburg, R. P., Caplan, M. Z., and Sivo, P. J.

1989 A new conceptual framework for establishing school-based social competence promotion programs. In L. A. Bond and B. E. Compas (eds.), *Primary Prevention and Promotion in the Schools*. New York: Sage.

Weissberg, R. P., and Greenberg, M. T.

In press School and community competence-enhancement and prevention programs. In W. Damon (Series ed.) and I. E. Sigel and K. A. Renniger (Vol. eds.), *Handbook of Child Psychology: Vol. 5. Child Psychology in Practice* (5th ed.). New York: John Wiley and Sons.

Youth Today

1994 Youth crime prevention. *Youth Today* 3(6):6-7.

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PREVENTING CRIME: WHAT WORKS, WHAT DOESN'T, WHAT'S PROMISING¹

A REPORT TO THE UNITED STATES CONGRESS

Prepared for the National Institute of Justice

by

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PREVENTING CRIME: AN OVERVIEW

by Lawrence W. Sherman

Mandate. In 1996 Congress required the Attorney General to provide a "comprehensive evaluation of the effectiveness" of over \$3 Billion annually in Department of Justice grants to assist State and local law enforcement and communities in preventing crime. Congress required that the research for the evaluation be "independent in nature," and "employ rigorous and scientifically recognized standards and methodologies." It also called for the evaluation to give special emphasis to "factors that relate to juvenile crime and the effect of these programs on youth violence," including "risk factors in the community, schools, and family environments that contribute to juvenile violence." The Assistant Attorney General for the Office of Justice Programs asked the National Institute of Justice to commission an independent review of the relevant scientific literature, which exceeds 500 program impact evaluations.

Primary Conclusion. This Report found that some prevention programs work, some do not, some are promising, and some have not been tested adequately. Given the evidence of promising and effective programs, the Report finds that **the effectiveness of Department of Justice funding depends heavily on whether it is directed to the urban neighborhoods where youth violence is highly concentrated.** Substantial reductions in national rates of serious crime can only be achieved by prevention in areas of concentrated poverty, where the majority of all homicides in the nation occur, and where homicide rates are 20 times the national average.

Primary Recommendation. Because the specific methods for preventing crime in areas of concentrated poverty are not well-developed and tested, the Congress can make most effective use of DOJ local assistance funding by providing better guidance about what works. A much larger part of the national crime prevention portfolio must be invested in rigorous testing of innovative programs, in order to identify the active ingredients of locally successful programs that can be recommended for adoption in similar high-crime urban settings nation-wide.

SECONDARY CONCLUSIONS. The Report also reaches several secondary conclusions:

o Institutional Settings. Most crime prevention results from informal and formal practices and programs located in seven institutional settings. These institutions appear to be "interdependent" at the local level, in that events in one of these institution can affect events in others that in turn can affect the local crime rate. These are the seven institutions identified in Chapter Two:

* Communities

* Families

* Schools

- * Labor Markets

- * Places (specific premises)

- * Police

- * Criminal Justice

o Effective Crime Prevention in High-Violence Neighborhoods May Require Interventions in Many Local Institutions Simultaneously. The interdependency of these local institutions suggests a great need for rigorous testing of programs that simultaneously invest in communities, families, schools, labor markets, place security, police and criminal justice. Operation Weed and Seed provides the best current example of that approach, but receives a tiny fraction of DOJ funding.

o Crime Prevention Defined. Crime prevention is defined not by intentions or methods, but by results. There is scientific evidence, for example, that both schools and prisons can help prevent crime. Crime prevention programs are neither "hard" nor "soft" by definition; the central question is whether any program or institutional practice results in fewer criminal events than would otherwise occur. Chapter Two presents this analysis.

o The Effectiveness of Federal Funding Programs. The likely impact of federal funding on crime and its risk factors, especially youth violence, can only be assessed using scientifically recognized standards in the context of what is known about each of the seven institutions. Chapter One presents the scientific basis for this conclusion. Each of the chapters on the seven institutional settings concludes with an analysis of the implications of the scientific findings for the likely effectiveness of the Department of Justice Programs.

o What Works in Each Institution. The available evidence does support some conclusions about what works, what doesn't, and what's promising in each of the seven institutional settings for crime prevention. These conclusions are reported at the end of each of Chapters 3-9. In order to reach these conclusions, however, the Report uses a relatively low threshold of the strength of scientific evidence. This threshold is **far lower than ideal** for informing Congressional decisions about billions of dollars in annual appropriations, and reflect the limitations of the available evidence.

o Stronger Evaluations. The number and strength of available evaluations is insufficient for providing adequate guidance to the national effort to reduce serious crime. This knowledge gap can only be filled by Congressional restructuring of the DOJ programs to provide adequate scientific controls for careful testing of program effectiveness. DOJ officials currently lack the authority and funding for strong evaluations of efforts to reduce serious violence.

o Statutory Evaluation Plan. In order to provide the Department of Justice with the necessary

scientific tools for program evaluations, the statutory plan for evaluating crime prevention requires substantial revision. Scientifically recognized standards for program evaluations require strong controls over the allocation of program funding, in close coordination with the collection of relevant data on the content and outcomes of the programs. The current statutory plan does not permit the necessary level of either scientific controls on program operations or coordination with data collection. Funds available for data collection have also been grossly inadequate in relation to scientific standards for measurement of program impact.

Chapter Ten presents a statutory plan for accomplishing the Congressional mandate to evaluate with these elements:

- 1. Earmark ten percent of all DOJ funding of local assistance for crime prevention (as defined in this Report) for operational program funds to be controlled by a central evaluation office within OJP.**
- 2. Authorize the central evaluation office to distribute the ten percent "evaluated program" funds on the sole criteria of producing rigorous scientific impact evaluations, the results of which can be generalized to other locations nationwide.** Allocating these funds for field testing purposes simply adds to the total funding for which any local jurisdiction is eligible. Thus the "evaluated program" funding becomes an additional incentive to cooperate with the scientific evaluation plan on a totally voluntary basis.
- 3. Set aside an additional ten percent of all DOJ funding of local assistance for crime prevention to support the conduct of scientific evaluations by the central evaluation office.** This recommendation makes clear the true expense of using rigorous scientific methods to evaluate program impact. Victimization interviews, offender self-reported offending, systematic observation of high crime locations, observations of citizen-police interaction, and other methods can all cost as much or more than the program being evaluated.

DEPARTMENT OF JUSTICE FUNDING FOR LOCAL CRIME PREVENTION

Chapter One describes the basic structure and mechanisms for Department of Justice FY 1996 funding of State and local governments and communities for assistance in crime prevention. The two major categories are \$1.4 billion in funding of local police by the Office for Community-Oriented Policing Services (COPS), and \$1.8 billion in local crime prevention assistance funding of a wide range of institutions by the Office for Justice Programs (OJP).¹ This review examines both the relatively small funding for **discretionary** grants by DOJ, many of which are determined by Congressional "earmarks" to particular grantees and programs, and **formula** grants, which are distributed to State or local governments based on statutory criteria such as population size or violent crimes.

These are the principal OJP offices administering both types of grants: the Bureau of Justice Assistance administers the \$503 million Local Law Enforcement Block Grants, the \$475 million Byrne Formula Grants, and the \$32 Million in Byrne Discretionary Grants; the Office

of Juvenile Justice and Delinquency Prevention administers the \$70 Million Juvenile Justice Formula Grants, and the \$69 Million Competitive Grants; the Violence Against Women Grants Office administers the \$130 Million STOP Violence Against Women Formula Grants and \$28 Million in Discretionary Grants To Encourage Arrests; Corrections Program Office administers a \$405 Million Formula Grants for prison construction and a \$27 Million Grants Program for substance abuse treatment of prison inmates; the Drug Courts Program Office funds \$15 Million (from LLEBG) to local drug courts. The Executive Office of Weed and Seed administers the \$28 Million (from Byrne) Federal component of the Weed and Seed Program in selected high-crime inner-city areas.

SCIENTIFIC STANDARDS FOR PROGRAM EVALUATIONS

The Omnibus Crime Control and Safe Streets Act of 1968 defines an "evaluation" as "the administration and conduct of studies and analyses to determine the impact and value of a project or program in accomplishing the statutory objectives of this chapter."² By this definition, an evaluation cannot be only a description of the implementation process, or "monitoring" or "auditing" the expenditure of the funds. Such studies can be very useful for many purposes, including learning how to implement programs. But they cannot show whether a program has succeeded in causing less crime, and if so by what magnitude. Nor can the results be easily generalized.

The scientific standards for inferring causation have been clearly established and have been used in other Reports to the Congress to evaluate the strength of evidence included in each program evaluation. With some variations in each setting, the authors of the present Report use an adapted version of scoring system employed in the 1995 National Structured Evaluation by the Center for Substance Abuse Prevention. The system is used to rate available evaluations on a "scientific methods score" of 1 through 5. The scores generally reflect the level of confidence we can place in the evaluation's conclusions about cause and effect. Chapter Two describes the specific procedures followed in the application of this 1-5 rating system, as well as its limitations.

Deciding What Works

The scientific methods scores reflect only the strength of **evidence** about program effects on crime, and not the strength of the **effects** themselves. Due to the general weakness of the available evidence, the Report does not employ a standard method of rating programs according to the magnitude of their effect size. It focuses on the prior question of whether there is reasonable certainty that a program has any beneficial effect at all in preventing crime. The limitations of the available evidence for making this classification are discussed in Chapter Two. We note these limitations as we respond to the mandate for this Report and classify major local crime prevention practices in each institutional setting as follows:

What Works. These are programs that we are reasonably certain prevent crime or reduce risk factors for crime in the kinds of social contexts in which they have been evaluated, and for

which the findings should be generalizable to similar settings in other places and times. Programs coded as "working" by this definition must have at least two level 3 evaluations with statistical significance tests **and** the preponderance of all available evidence showing effectiveness.

What Doesn't Work. These are programs that we are reasonably certain **fail** to prevent crime or reduce risk factors for crime, using the identical scientific criteria used for deciding what works.

What's Promising. These are programs for which the level of certainty from available evidence is too low to support generalizable conclusions, but for which there is some empirical basis for predicting that further research could support such conclusions. Programs are coded as "promising" if they found effective in at least one level 3 evaluation **and** the preponderance of the evidence.

What's Unknown. Any program not classified in one of the three above categories is defined as having unknown effects.

EFFECTIVENESS OF LOCAL CRIME PREVENTION PRACTICES

The scientific evidence reviewed focuses on the local crime prevention practices that are supported by both federal and local, public and private resources. Conclusions about the scientifically tested effectiveness of these practices are organized by the seven local institutional settings in which these practices operate.

Chapter 3: Community-Based Crime Prevention reviews evaluations of such practices as community organizing and mobilization against crime, gang violence prevention, community-based mentoring, and after-school recreation programs.

Chapter 4: Family-Based Crime Prevention reviews evaluations of such practices as home visitation of families with infants, preschool education programs involving parents, parent training for managing troublesome children, and programs for preventing family violence, including battered women's shelters and criminal justice programs.

Chapter 5: School-Based Prevention reviews evaluations of such practices as DARE, peer-group counseling, gang resistance education, anti-bullying campaigns, law-related education, and programs to improve school discipline and improve social problem-solving skills.

Chapter 6: Labor Markets and Crime Risk Factors reviews evaluations of the crime prevention effects of training and placement programs for unemployed people, including Job Corps, vocational training for prison inmates, diversion from court to employment placements, and transportation of inner-city residents to suburban jobs.

Chapter 7: Preventing Crime At Places reviews the available evidence on the effectiveness of

practices to block opportunities for crime at specific locations like stores, apartment buildings and parking lots, including such measures as cameras, lighting, guards and alarms.

Chapter 8: Policing For Crime Prevention reviews evaluations of such police practices as directed patrol in crime hot spots, rapid response time, foot patrol, neighborhood watch, drug raids, and domestic violence crackdowns.

Chapter 9: Criminal Justice and Crime Prevention reviews the evidence on such practices as prisoner rehabilitation, mandatory drug treatment for convicts, boot camps, shock incarceration, intensively supervised parole and probation, home confinement and electronic monitoring.

EFFECTIVENESS OF DEPARTMENT OF JUSTICE FUNDING PROGRAMS

DOJ funding supports a wide range of practices in all seven institutional settings, although much more so in some than in others. Congress has invested DOJ funding most heavily in police and prisons, with very little support for the other institutions. The empirical and theoretical evidence shows that other settings for crime prevention are also important, especially in the small number of urban neighborhoods with high rates of youth violence. Thus the statutory allocation of investments in the crime prevention "portfolio" is lop-sided, and may be missing out on some major dividends.

The effectiveness of existing DOJ funding mechanisms is assessed at the end of each chapter on local crime prevention practices. The following list of major funding programs provides an index to the Chapters in which specific practices funded by each of them is discussed:

Community Policing: Chapters 8 and 10.

Local Law Enforcement Block Grant Program: Chapters 3, 7, 8 and 10.

Byrne Memorial Formula & Discretionary Grants Program: Chapters 3, 4, 5, 6, 8, 10.

Juvenile Justice Formula and Competitive Programs: Chapters 3, 4, 5, 8, 9 and 10.

Operation Weed and Seed: Chapters 3, 4, 8 and 10.

STOP Violence Against Women Grants: Chapters 3, 8, and 10.

Grants to Encourage Arrest Policies: Chapters 3, 8 and 10.

Violent Offender Prison Construction: Chapters 9 and 10.

Drug Courts Competitive Grants: Chapters 9 and 10.

CONCLUSION

The great strength of federal funding of local crime prevention is the innovative strategies it can prompt in cities like New York, Boston, and Kansas City (MO) where substantial reductions have recently occurred in homicide and youth violence. The current limitation of that funding, however, is that it does not allow the nation to learn **why** some innovations work, exactly **what** was done, and **how** they can be successfully adapted in other cities. In short, the current statutory plan does not allow DOJ to provide effective guidance to the nation about what works to prevent crime.

Yet despite the current limitations, DOJ has clearly demonstrated the contribution it can make by increasing such knowledge. The Department has already provided far better guidance to State and local governments on the effectiveness of all local crime prevention efforts than was available even a decade ago. Based on the record to date, only DOJ agencies, and not the State and local governments, have the available resources and expertise to produce the kind of generalizable conclusions Congress asked for in this report. The statutory plan this report recommends would enhance that role, and allow DOJ to accomplish the longstanding Congressional mandate to find generally effective programs to combat serious youth violence. By focusing that effort in the concentrated poverty areas where most serious crime occurs, the Congress may enable DOJ to reverse the epidemic of violent crime that has plagued the nation for three decades.

NOTES

¹Total FY 1996 funding for the Office of Justice Programs was \$2.7 billion, including \$228 Million in collections for the Office for Victims of Crime.

²42 U.S.C. Section 3791 (10)

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INTRODUCTION: THE CONGRESSIONAL MANDATE TO EVALUATE

by Lawrence W. Sherman

For over three decades, the federal government has provided assistance for local crime prevention. Most of that assistance has been used to **fund** operational services, such as extra police patrols. A small part of that assistance has been used to **evaluate** operational services, to learn what works--and what doesn't--to prevent crime. Most of the operational funding to prevent crime, both federal and local, remains unevaluated by scientific methods (Blumstein et al 1978; Reiss and Roth, 1993).

The Congress has repeatedly stated its commitment to evaluating crime prevention programs. In the early years of local assistance under the Omnibus Crime Control and Safe Streets Act of 1968, it was "probably the most evaluation-conscious of all the social programs initiated in the 1960s and 1970s" (Feeley and Sarat, 1980: 130). In 1972, the Congress amended the Act to require evaluations of the "demonstrable results" of local assistance grants. In 1988, the Congress generally limited federal assistance under the Anti-Drug Abuse Act Byrne Grants to programs or projects of "proven effectiveness" or a "record of success" as determined by evaluations.¹ But then as now, the Congressional mandate to evaluate remains unfulfilled, for reasons of funding structure and levels inherent in local assistance legislation for three decades.²

This report responds to the latest in the long line of Congressional initiatives to insure that its local assistance funding is effective at preventing crime. It is a state-of-the-science report on what is known--and what is not--about the effectiveness of local crime prevention programs and practices. What is known helps to address the Congressional request for a scientific assessment of local programs funded by federal assistance. What is not known helps to address the underlying issue of the Congressional mandate to evaluate crime prevention, the statutory reasons why that mandate remains unfulfilled, and the scientific basis for a statutory plan to fulfil the mandate.

The report finds substantial advances in achieving the Congressional mandate in recent years. The scientific strength of the best evaluations has improved. The Department of Justice is making far greater use of evaluation results in planning and designing programs. Within the scope of severely constraining statutory limitations, the level of resources the Department of Justice has given to evaluation has increased. The 1994 Crime Act already contains piecemeal but useful precedents for a more comprehensive statutory plan to fulfil the mandate. By asking for this report, the Congress has opened the door for a major step forward in using the science of program evaluation better to prevent crime. That step is a clearer definition of what "effectiveness" means, and a clearer plan for using impact evaluations to measure effectiveness.

THE MANDATE FOR THIS REPORT

In the 104th United States Congress, the Senate approved a major new approach to local assistance program evaluation. The Senate bill would have required the Attorney General to "reserve not less than two percent, but not more than three percent of the funds appropriated" for several local assistance programs to "conduct a comprehensive evaluation of the effectiveness of those programs." This would have been the first statutory plan to adopt the principle of setting aside a certain percentage of DOJ's operational funds **exclusively** for program evaluation--a principle often endorsed by the same operational leaders from whose funds would be affected,³ and one which has been adopted for other federal agencies.

The House version of the Justice Department's Appropriations bill did not include the evaluation set-aside plan, so a Conference Committee of the two chambers reached an agreement on this point. Rather than funding evaluations of the three specific programs named in the Senate version, the Conference Committee called for a comprehensive evaluation of the effectiveness of **all** Justice Department funding of local assistance for crime prevention. The Committee also required that the review be completed within nine months after the enactment of the legislation.

On April 27, 1996, the 104th United States Congress enacted the Conference Report (See Exhibit 1) requiring the Attorney General to provide an independent, comprehensive and scientific evaluation of the "diverse group of programs funded by the Department of Justice to assist State and local law enforcement and communities in preventing crime."⁴ The evaluation was required to focus on the **effectiveness** of these programs, defined in three ways:

- o preventing crime, with special emphasis on youth violence
- o reducing risk factors for juvenile violence, including those found in

-community environments

-schools

-families

o increasing protective factors against crime and delinquency

The legislation specifically required that the evaluation employ "rigorous and scientifically recognized standards and methodologies." In order to accomplish this task, the Assistant Attorney General for the Office of Justice Programs directed the National Institute of Justice (NIJ), in coordination with the Bureau of Justice Assistance (BJA), the Office of Juvenile Justice and Delinquency Prevention (OJJDP), and the Executive Office of Weed and Seed, to issue a competitive solicitation for proposals. On June 26, 1996, the National Institute of Justice released a solicitation that began the process of building the framework for this report to achieve the mandate of the 1996 legislation.

Exhibit 1

104TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
1st Session } { 104-378

MAKING APPROPRIATIONS FOR THE DEPARTMENTS OF COMMERCE, JUSTICE, AND STATE, THE JUDICIARY, AND RELATED AGENCIES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1996, AND FOR OTHER PURPOSES

DECEMBER 1, 1995.—Ordered to be printed

Mr. ROGERS, from the committee of conference,
submitted the following

CONFERENCE REPORT

Sec. 116

The conferees have agreed not to include section 120 as proposed in the Senate bill which would have required the Attorney General to reserve not less than two percent, but not more than three percent of the funds appropriated for the Local Crime Prevention Block Grant program, the Weed and Seed program, and the Youth Gang program under Juvenile Justice, to conduct a comprehensive evaluation of the effectiveness of these programs.

However, the conferees are aware that there is a diverse group of programs funded by the Department of Justice to assist State and local law enforcement and communities in preventing crime. The conferees are concerned that there has not been a recent comprehensive evaluation of the effectiveness of all of these programs and expects that nine months after enactment of this Act, the Attorney General shall provide to the Committees on Appropriations of both House and Senate, a thorough evaluation of the crime programs funded by the Office of Justice Programs, with special emphasis on factors that relate to juvenile crime and the effect of these programs on youth violence.

The conferees further expect that research for this evaluation will (1) be provided directly or through grants and contracts, (2) be independent in nature, and (3) employ rigorous and scientifically recognized standards and methodologies. It is further expected that the evaluation will measure, but shall not be limited to: (a) reductions in delinquency, juvenile crime, youth gang activity, youth substance abuse, and other high risk factors; (b) reductions in the risk factors in the community, schools, and family environments that contribute to juvenile violence; and (c) increases in the protective factors that reduce the likelihood of delinquency and criminal behavior.

FRAMEWORK FOR THIS REPORT

This chapter presents the broad rationale for the framework used in this report. It begins with the scientific issues in the choice of the framework, and clarifies what the report is not. It sets the stage for the review with a brief introduction to the scope and structure of federal funding of local crime prevention programs. It then returns to the basic challenge of fulfilling the mandate to evaluate as an integral part of responding to the Congressional request for this report. The detailed plan for the rest of the report is then presented in Chapter Two.

Scientific Issues in The Choice of Framework

The 1996 legislation featured four key factors guiding the choice of methods for accomplishing the evaluation mandate: its **breadth**, its **timing**, its **scientific standards**, and its **independence**. The Justice Department programs in question cover a broad and complex array of activities. The short time period for producing the report ruled out any new evaluations of crime prevention effectiveness. Thus the requirement to employ scientific methods clearly implied a synthesis of already completed scientific studies.

The reliance on existing rather than new evaluations is clearly reflected in the NIJ solicitation, which called for "an evaluation review of the effectiveness of broad crime prevention strategies and types of programmatic activity..[including] family, school, and community-based strategies and approaches, as well as law-enforcement strategies." The solicitation defined more specifically how the evaluation was to be conducted:

It is expected that this evaluation will not conduct new studies or engage in any detailed analysis of existing data. Rather, the evaluation review and report should draw upon existing research and evaluation studies and comprehensive syntheses of this work to produce a critical assessment of the state of knowledge, including its generalizability and its potential for replication....Also, the review must explicitly examine the research in light of the outcome measures specified in the Act as described above.

The Assistant Attorney General decided to award a grant to an independent research group to accomplish this mandate. The legislation required that the review's content be "independent in nature," even if provided "directly" (by federal employees) or by independent contractors or grantees. An anonymous panel appointed by NIJ evaluated the proposals submitted in response to the solicitation. On the basis of the peer-review panel's report, the Director of the National Institute of Justice selected the University of Maryland's Department of Criminology and Criminal Justice in early August, 1996 to conduct the Congressionally mandated evaluation due on January 27, 1997.

Once the University of Maryland was selected as the independent contractor, the strategic choices for accomplishing the mandate shifted to the team of six senior scientists who wrote this report. All decisions about the project were left in the hands of the Maryland criminologists, who bear sole responsibility for the work. That responsibility includes the technical choices we made about how to employ "rigorous and scientifically recognized standards and methodologies" most effectively in the limited time available to complete the report. The principal decision was to define the scope of the report as follows:

a critical assessment, based on a growing body of science, of the effectiveness of a wide range of crime prevention strategies, operated at the local level, with and without the support of federal funds.

This report is thus a review of scientific evaluations of **categories** of local programs and practices that are supported by broad categories of federal funds--often by several different "programs" of funding. Using systematic procedures described in Chapter Two and the appendix, the report attempts to sort the science of local crime prevention programs and practices supported by DOJ. It focuses primarily on the direct evaluation of local program operations, and uses those findings selectively to support indirect and theoretical assessments of some national funding streams based on findings about their specific parts.

Direct Evaluations of Local Program Operations. What rigorous science can evaluate most reliably is the effect of a specific program operated at a local level. This report identifies over 500 studies that attempt to do just that, with varying levels of scientific rigor. In a few areas, the science is rigorous enough, the studies are numerous enough, and the findings are consistent enough for us to draw some reasonably certain and **generalizable** conclusions about what works, what doesn't, and what is promising at the local level of operation. Such conclusions are not yet possible for most local crime prevention strategies. That fact requires the report to address the starting point for the legislation mandating this report: the need for far

greater investment in program evaluation. But the growing OJP support for program evaluation in recent years helps to provide the raw material for the core of this report.

Indirect Evaluations of National Funding. In an effort to be as responsive to the Congress as possible, this report makes selective use of another approach to the scientific method. That approach uses evaluations of local programs to make indirect evaluations of federal funding streams. Those streams vary widely in their diversity, from funding streams of such relatively uniform programs as the hiring of the Crime Act's 100,000 police to very diverse Local Law Enforcement Block Grants program. The extent to which it is scientifically appropriate to generalize upwards from local program evaluations to national funding streams varies as well. In general, the more homogeneous the federal funding stream, the more appropriate it is to evaluate the effectiveness of that funding based on local evaluations.

Theoretical Assessments of Unevaluated Programs. Where no rigorously scientific impact data are available on funding streams expending substantial tax dollars, the report employs theoretical analyses to provide limited assessments of the programs. A prime example is the numerous efforts that OJP is currently making to prevent crime in the concentrated urban ghetto poverty areas producing the majority of serious youth violence in America. These programs attempt to be comprehensive in addressing the crime risk factors in those areas, which allows a comparison of the program content to the available theory and data on risk factors. The need for scientific impact assessments of these programs, however, is critical, and the theoretical assessment should be seen merely as a stopgap approach required by the current lack of measured effects.

Comprehensiveness

This report attempts to be as comprehensive as the available science allows. It is not, however, an annotated list of DOJ local assistance programs with a summary of scientific evidence relating to each one. Such an encyclopedic approach would have several limitations. It would fail to identify important issues cutting across programs. It would fail to give greater attention to the more important crime risk factors identified in the literature. Most important, it would have nothing to say about a great proportion of the specific program components of DOJ local assistance programs, given the lack of available impact evaluations.

While the report attempts some form of scientific commentary for the major DOJ prevention funding streams, it omits direct commentary on many of the smaller diverse funding categories. We attempt not to omit, however, any published program impact evaluations, meeting minimal standards of scientific rigor, that help show indirectly the effectiveness of the DOJ programs. Where such omissions have occurred, we anticipate that can be corrected in a systematic effort to keep the present findings up to date in future years.

What This Report Is **Not**

The Congressional mandate did not require that this report include an audit of the use of Department Of Justice (DOJ) funds, an evaluation of the leadership of DOJ's Office of Justice Programs (OJP) or Community Oriented Police Services (COPS) office, or a process or descriptive evaluation of specific programs at the local level supported with DOJ funds. None of these tasks fall within the required assessment of the scientific evidence of the effectiveness of local assistance funds administered by DOJ in preventing crime and risk factors.

Not an Audit of DOJ. Congress did not require the Attorney General to provide a detailed accounting of how DOJ local assistance funds are being spent. That kind of analysis requires auditing rather than scientific methodologies; the legislation clearly indicated the use of science. Knowing exactly how much money is being spent on Drug Courts, for example, does not alter the conclusions that can be reached by using scientific methods to examine the available studies of the effectiveness of drug courts. The report's concern with the expenditure of DOJ funds was limited to four questions that informed a scientific assessment:

- 1) Does DOJ funding support this kind of crime prevention program or practice?
- 2) If not, does the scientific evidence suggest Congress should consider funding it?
- 3) Are current funds allocated in relation to scientifically established crime risk factors?
- 4) Have the funds been allocated in a way that permits scientific impact evaluation?

Not an Evaluation of DOJ Leadership. The term "evaluation" is often understood to mean something like a report card, reflecting on the personal effectiveness of officials directing programs. There is even a substantial scientific literature in the field of industrial psychology for personnel or performance "evaluation" systems. The legislation clearly does not call for a performance evaluation, but for an evaluation of program effectiveness. The Congressional mandate to focus on the science of the programs does not require assessments, positive or negative, about the performance of DOJ leadership. In order to standardize the focus on the evidence, the report does not even employ interviews with DOJ leadership, and relies solely on analysis of legislation, written documents and publications about the programs they administer.

Not A Descriptive or Process Evaluation of DOJ Programs. The Congressional mandate clearly focuses on what scientists call "impact" evaluations, rather than "descriptive" or "process" evaluations. The distinction between the two kinds of evaluation is critical, but often misunderstood. Descriptive or process evaluations describe the nature of a program activity, usually in some detail. An impact evaluation uses scientific methods to test the theory that a program causes a given result or effect. Only an impact evaluation, therefore, can be used to assess the "effectiveness" of a program. Descriptive evaluations can provide useful data for interpreting impact results based on variations in the implementation of programs and interpretations of their effects. But they do not provide a sufficient response to the Congressional mandate.

Not a Technical "Meta-Analysis." Scientists are making increasing use of a statistical methodology called "meta-analysis," in which findings from many studies are analyzed together quantitatively. This method is important because it can produce different conclusions than a summary of findings from individual studies, largely by increasing the sample size available for analysis. There are no currently published statistical meta-analyses comparing the effectiveness of the full array of crime prevention strategies, from Head Start to prisons. There are several meta-analyses on specific crime prevention strategies included in the evidence used for this report. The Congressional requirements for rapid production of this report, however, ruled out a formal meta-analysis of the evaluation results across all crime prevention programs, however.

Evaluating Funding Mechanisms Versus Prevention Programs

The legislation did not define DOJ crime prevention "programs" as the large general funding streams. The focus on effectiveness clearly directs the report to specific crime prevention strategies. A substantial scientific literature is available on the crime prevention effectiveness of the specific strategies. We could find no existing **impact** evaluation, however, of such general funding streams as the Byrne Memorial State and Local Law Enforcement Assistance Program. This fact raises several key issues: the definition of "programs," the science of varying treatments, and the barriers such variations raise to direct evaluation of internally diverse national funding streams.

Defining "Programs." A major source of confusion in policy analysis of federal crime prevention is the meaning of the word "program." The meanings vary on several dimensions. One dimension is the level of government: if the federal Byrne Program funds a neighborhood watch program in Baltimore, which one is the DOJ "program" this report should evaluate for the Congress: Byrne or Baltimore's neighborhood watch? Or should the evaluation focus fall in between those two levels of analysis, addressing what is known generally about neighborhood watch programs? This report takes the latter approach.

The meanings of the term "program" also vary with respect to the required degree of internal uniformity. Neighborhood watch "programs," for example, are fairly uniform in their content, despite some variations. A national community policing "program," in contrast, embraces a far wider range of activities and philosophies, ranging from aggressive zero tolerance enforcement campaigns "fixing broken windows" (Kelling and Coles, 1996) to outreach programs building partnerships between police and all segments of the community (Skogan, 1990).

Science and Varying Treatments. The tools of the scientific method are only as useful as the precision of the questions they answer. Medical science, for example, evaluates the effectiveness of specific treatments; it is rarely able to establish the controls needed to evaluate broad categories of funding embracing multiple or varying treatments, such as "hospitals" or even "antibiotics." Variations in treatment place major limitations on the capacity of science to reach valid conclusions about cause and effect. The scientific study of aspirin, for example, assumes that all aspirin has identical chemical components; violating that assumption in any given study clearly weakens the science of aspirin effectiveness. The same is true of crime prevention programs. The more a single program varies in its content, the less power science has to draw any conclusions about "the" program's content (Cohen, 1977; Weisburd, 1993).

Compare a study of the effects of a sample of 5,000 men taking aspirin to a study of the same sample taking different pills elected arbitrarily from an entire pharmacy of choices. Any changes in health would be more clearly understood with the aspirin study than with the pharmacy evaluation. Even if the whole pharmacy of pills were taken only on doctor's orders, based on a professional assessment of the most appropriate pills for each patient, wrapping all of the different pills' effects into the

same evaluation of effectiveness would prevent an assessment of what effect each medicine had. Science is far more effective at evaluating one kind of pill at a time than in drawing conclusions about different pills based upon a pharmacy evaluation.

Direct Evaluations of National Funding Programs. Any attempt to evaluate directly an internally diverse national funding program is comparable to a pharmacy evaluation. Even if the right preventive treatments are matched to the right crime risks, a national before-and-after evaluation of a funding stream would lack vital elements of the scientific method. The lack of a control group makes it impossible to eliminate alternative theories about why national-level crime rates changed, if at all, with the introduction of a widely diverse national program like the Local Law Enforcement Block Grant. Federal funding of local crime prevention, for example, increased by over five hundred percent from 1994 to 1996, and violent crime has fallen steadily during that period. But violent crime started falling in 1992, for reasons that no criminologist can isolate scientifically. Isolating still further the effects of the increased funding in 1994 is not possible to do with rigorous scientific methods. Thus we could not have evaluated most national DOJ funding programs directly, even if we had been allowed several years or decades.

Implications of This Approach

The choice to start with the available science on local programs rather than the DOJ funding mechanism programs has important implications. One limitation is the report's unavoidable bias towards well-researched programs. One advantage is that the report becomes a reference source for different legislative approaches to federal funding. The approach also becomes a demonstration of how unevenly evaluation science can proceed, and the need for clear distinctions between science and policy analysis.

Bias Towards Well-Researched Programs. The report clearly emphasizes strategies that have received substantial research attention, regardless of their merits in receiving that attention. To the extent that the rigorous science has been focused on less promising crime prevention strategies, both the report and public policymaking are at a disadvantage. The alternative might have been to rely more on theoretical science and less on empirical results. The obvious danger in that course, however, is a risk of losing the objectivity required for reliable assessments. On balance, then, the decision to focus on the strongest scientific evidence seems to be the most useful and least problematic approach available.

A Reference for Diverse Approaches to Federal Funding. Letting science guide the report around local programs may help the findings to have more lasting value. Organizing the evidence around theories and data will provide a reference for many different possible approaches to federal funding of local programs. While the structure of federal funding changes almost annually, the results of program evaluations accumulate steadily over long time periods. While the NIJ solicitation asked for special emphasis to be placed on evaluations completed in the last five years, many of the most important evaluation results are older than that. Omitting those earlier studies from the analysis would have substantially and inappropriately altered the conclusions reached. Similarly, Congressional deliberations on crime prevention policy can benefit from a reference source organized around the basic institutional settings for local crime prevention: communities, families, schools, labor markets, specific places, police, and criminal justice.

The Uncertainty of Science. Guiding the report with available findings offers a more realistic picture of what evaluation science is able to achieve. As the U.S. Supreme Court recently concluded, hypotheses about cause and effect cannot be "proven" conclusively like a jury verdict; they can merely be falsified using a wide array of methods that are more or less likely to be accurate.⁵ A Nobel Laureate observes that "Scientists know that questions are not settled; rather, they are given provisional answers..."⁶ Science is a constant state of double jeopardy, with repeated trials often reaching contradictory results. Fulfilling the mandate to evaluate will always result in an uneven growth of evaluation results, not permanent guidance. This report directly confronts the problems of mixed results from methods of varying scientific rigor, and attempts to develop decision rules for applying the findings to both research and program policy. These rules may have value not just for this report. They may also help advance the Congressional mandate to evaluate beyond the nonscientific concept of "proven" effectiveness to the scientific concept of "likely" effectiveness.

This problem of accurately predicting the effects of a program wherever it may be implemented is an important limitation to using evaluations in policy analysis. Generalizing results from an evaluation in one city to the effects of a program in another city is a very uncertain enterprise. We still lack good theories and research to predict accurately when findings can be accurately generalized. Just as the Justice Department may fund different kinds of community policing programs, the same program may be very different in different places. The nature of a "drug court" may vary enormously from one judge to the next, community policing home visits may vary from friendly to intrusive, gang prevention programs may have different effects in different kinds of neighborhoods or ethnic groups. This uncertainty is best acknowledged, and addressed by ongoing evaluations of even programs with enough evidence to be judged "likely" to "work."

Science Versus Policy Analysis. The focus on scientific results should help the reader distinguish between the report's science and its policy analysis. The distinction is crucial. Even though scientific evaluation results are a key part of rational policy analysis, those results cannot automatically select the best policy. This is due not just to the scientific limitations of generalizing results from one setting to the next. Another reason is that evaluations often omit key data on cost-benefit ratios; the fact that a program is "effective" may be irrelevant if the financial or social costs are too high. This report attempts, where possible, to distinguish summaries of science from their application to policy issues using judgment and other sources of information outside the evaluation results. We expect that there will be less consensus about the policy analysis than about the scientific findings. But we also determined after extensive deliberation that recommendations based on policy analysis were a useful addition to the purely scientific summaries that form the core of the report.

The framework adopted for this report is not the only possible way to have responded to the Congressional request. There are legitimate differences of opinion about how best to use scientific methods for this kind of analysis. Some analysts have argued for a more "flexible" approach to program evaluation, with more emphasis on expert insight and less emphasis on whether a program "works" (Pawson and Tilley, 1994). Others call for less reliance on evaluation results that have less rigorous measurement of program context and other data needed to assess the generalizability of results (Ekblom and Pease, 1995). Our own preference would have been to raise the cutoff point for defining "scientific" methods much higher than we actually did (see Chapter Two). On balance, however, this approach provides an acceptable compromise between the Congressional needs for information and the scientific strength of available evidence.

There are also multiple goals for the \$4 Billion annual funding described in this report, which may be valuable for other reasons besides its scientifically measurable effectiveness in preventing crime. The focus on crime prevention excludes the very important goals of justice, fairness and equality under the law. That limitation is not inherent in the science of program evaluation; it is merely a function of the boundaries of the specific mandate for this report.

LOCAL CRIME PREVENTION AND THE DEPARTMENT OF JUSTICE

The policy context for this report is the current structure of local crime prevention assistance programs funded by the U.S. Department of Justice. This section provides a brief introduction to those programs. It begins with a summary of the appropriated budgets for local crime prevention in fiscal year 1996, the year the Congress requested this report. It then describes the administrative structure of the Justice Department offices administering those funds. It concludes with a brief discussion of the types of funding mechanisms Congress has created for distributing the funding, and briefly details the focus and mechanisms of the largest of the funding programs.⁷

Budget

Local crime prevention offices now receive more DOJ funding than at any time in American history, a larger budget than the FBI, the DEA, or the INS. Among all DOJ components, only the Federal Bureau of Prisons consumes a larger share of the budget. At \$4 billion per year, the combined annual budget of the \$1.4 billion administered by the Director of the COPS (Community-Oriented Policing Services) Office and the \$2.6 Billion administered by the Assistant Attorney General for OJP (the Office of Justice Programs) is more than five times the amount the Congress allocated in the peak years of the old Law Enforcement Assistance Administration.

Not all of these funds can be classified as having crime prevention purposes. The largest of these programs, the 1994 Crime Act's Title I Community Policing grants, does not even specify the prevention of youth violence as a legislative purpose of the funding, even though many observers would expect youth violence prevention to **result** from the program. The definition of crime prevention as an intention or a result is a major issue addressed in Chapter Two, which explains this report's rationale in using a definition focused on results. This definition thus clearly include the 100,000 police. But even that broad definition does not include the State \$300 State Criminal Alien Assistance Program, reimbursing states for housing 38,000 illegal aliens incarcerated for felony offenses, or the \$31 million Public Safety Officers Benefits program for families of police slain in the line of duty. Nor does it include infrastructure programs for courts and computerization of criminal justice records, general programs of statistics, research and evaluation, services to victims of crime, the Police Corps, or general administrative costs. As Figure 1-1 shows, the major crime prevention funding programs within DOJ added up to about 85% of the \$4 billion total appropriations for the two local assistance offices (OJP and COPS), or about \$3.4 billion. The historical context of these appropriations levels is indicated in Figure 1-2, which shows the three-decade trends in total DOJ funding of its local crime prevention assistance offices (including services other than crime prevention).

The Department of Justice funding of local programs which may result in crime prevention are authorized under several

different Acts of Congress. The Juvenile Justice and Delinquency Prevention Act is the oldest, having continued in force after the end of the Law Enforcement Assistance Administration. The 1988 Anti-Drug Abuse Act of 1988 authorized the Byrne Grants program to the states, followed by the 1994 Crime Act which took the local prevention funding to its current historic heights. The five principal titles of the 1994 Act include Public Safety and Policing (Title I), Prisons (Title II), Crime Prevention (Title III), Violence Against Women (Title IV), and Drug Courts (Title V). While this report treats all five titles as falling within a results-based scientific definition of crime prevention, it is worth noting that the Congress has never appropriated any funds specifically labeled as "crime prevention" under Title III. Both the 1988 Anti-Drug Abuse Act and the 1996 Omnibus Appropriations Act, however, appropriated funds allowing grants to be made in a "purpose area" labeled crime prevention.

Figure 1-1**Major DOJ Crime Prevention Funding Programs**

OFFICE & BUREAU	FUNDING PROGRAMS	FY 1996 Funding
Community-Oriented Policing Services	100,000 Local Police	\$1.4 Billion
Office of Justice Programs		
Bureau of Justice Assistance	Local Law Enforcement Block Grant Formula Program	\$488 Million
	Byrne Memorial State and Local Law Enforcement Assistance Formula Program	\$475 Million
	Byrne Discretionary Grants Program:	\$32 Million
	(Boys and Girls Clubs Earmark)	(\$ 4 Million)
	(Nat'l. Crime Prevention Council Earmark)	(\$ 3 Million)
	(DARE Drug Abuse Prevention Earmark)	(\$ 2 Million)
Office of Juvenile Justice and Delinquency Prevention	Juvenile Justice Formula Grant Program	\$70 Million
	Competitive Grants Programs	\$69 Million
Executive Office of Weed and Seed	Operation Weed and Seed	\$28 Million
Violence Against Women Grants Office	STOP (Services, Training, Officers, and Prosecution) Violence Against Women Formula Grant Program	\$130 Million
	Rural Domestic Violence Enforcement	\$ 7 Million
	Encourage Arrest Program	\$ 28 Million
Corrections Program Office	Residential Substance Abuse Treatment	\$ 27 Million
	Violent Offender Truth in Sentencing Prison Construction Formula Grants	\$405 Million

Drug Courts Program Office Drug Courts Competitive Grants

\$ 15 Million

Total Major Funding**\$3.2 Billion**Administrative Structure

The administration of these various programs under various Acts is organized into the two separate offices. One of these--the Office of Community-Oriented Policing Services--has a single large program and a single presidential appointee. The other--the Office of Justice Programs--has numerous programs ranging widely in size, managed by an Assistant Attorney General, two Deputy Assistant Attorneys General, and five Presidentially appointed directors or administrators of the following units: the Bureau of Justice Assistance (BJA), the Bureau of Justice Statistics (BJS), the National Institute of Justice (NIJ), the Office of Juvenile Justice and Delinquency Prevention (OJJDP), and the Office for Victims of Crime (OVC). In addition, several other OJP offices manage funding under separate Titles of the 1994 Crime Act: the Corrections Programs Office, the Office for Drug Courts, and the Violence Against Women Grants Office. The OJP Executive Office of Weed and Seed is supported by transfers of BJA Byrne Discretionary Grant appropriations under the 1988 Anti-Drug Abuse Act. Figure 1-1 summarizes the administrative and programmatic structure of the agencies administering the major local crime prevention programs. NIJ and BJS do not administer major local assistance grants for crime prevention purposes, although BJS does assist states in their implementation of the data systems requirements for compliance with the Brady Act. The Office of Victims of Crime is funded by fines collected by federal courts, and provides funding mostly for repairing the harm caused by crime; a few areas of potential crime prevention effects from OVC funding, such as its support for battered women's shelters, are noted in Chapter Four.

Funding Mechanisms: Formula, Discretionary, Earmarks, Competitive

The crucial point in understanding DOJ local crime prevention funding programs is the statutory plan for allocating the funding. The "funding mechanisms" of this plan vary across the different authorization Acts, and use different criteria even within each funding mechanism depending on the specific Act. Two basic types of funding mechanisms are "formula" or "block" grants versus "discretionary" grants. Many observers and grant recipients incorrectly assume these labels mean that local units are entitled to their funding under formula grants, while DOJ executives decide how to administer the discretionary grants. That assumption is incorrect. There are substantial legislative requirements constraining DOJ's allocation of "discretionary" funds, and there are also various legislative requirements that grantees must satisfy in order to become eligible to receive their "formula" funding.

The so-called Discretionary programs are constrained by Congress in three ways: earmarks, eligibility criteria, and competition. **Earmarks** are legislative directions in the Appropriations laws (as distinct from Authorization Acts) on how to spend certain portions of funds appropriated within a larger funding program, such as the \$11 million earmark for Boy's and Girls Clubs within the 1996 appropriation for the BJA Local Law Enforcement Block Grant Program and the \$4.35 Million earmark for the same organization under the Byrne Discretionary grants. Earmarks are both "hard" and "soft." Hard earmarks are written into legislation, usually with specific amounts to be spent and the specific recipient of the funding identified. Soft earmarks are based upon committee hearings and conference reports, such as the legislation for the present report, with or without specified amounts.

Eligibility criteria programs are only "discretionary" in the sense that DOJ officials must decide whether the applicants are eligible to receive the funds for which they apply. The applicants do not receive the funds unless they apply, and can demonstrate their eligibility in the application. Congress often requires, for example, that states pass certain state laws as a condition of eligibility for receiving federal funds under certain grant programs. The most famous example is perhaps the limitation of maximum state speed limits to 55 miles per hour that was for two decades an eligibility requirement for receiving federal highway construction funding. Similarly, the 1994 Crime Act makes state passage of "Truth-in-Sentencing" Legislation an eligibility requirement for prison construction grants. Once DOJ has proof of program eligibility, however, the determination of how much funding the applicant receives must follow the statutory allocation plan. All those receiving funds do so on the basis of a "formula" that may be based on population, crime rates, prison overcrowding rates or other factors. In addition, certain minimum amounts are often reserved for jurisdictions of certain size irrespective of the formula, such as the requirement that half of all funding for the 100,000 police be allocated to applicants from cities of over 150,000 people. In that particular case, the allocation is made at least in part on a first-come, first served basis.⁸ Thus a more accurate label for such

funding mechanisms might be "discretionary eligibility formula grants."

Only ten percent of the total OJP appropriation is for **competitive** grants, the truly discretionary programs in which applicants must compete on the merits of issues other than simple eligibility for funding. DOJ officials usually establish different criteria appropriate for each program. Examples of criteria for these grants include innovative approaches, interagency collaboration, comprehensive targeting of crime risk factors, and potential impact of the program on the community. Examples of competitive local assistance programs include Drug Courts, Operation Weed and Seed, JUMP mentoring grants and Encourage Arrest Grants.

Formula grant programs, in contrast to discretionary programs, have no so-called "eligibility" requirements, such as the passage of state laws. The allocation of funding is independent of such tests. Formula programs can, however, require that certain paperwork be satisfactorily completed. BJA Byrne grants, for example, require that an annual plan specify how the formula-determined allocation will be spent, and that evaluations of all grants made with formula allocations be forwarded to BJA. Failure to satisfy these requirements presumably has the same effect as in "discretionary eligibility" programs, which is to block the award of the funds.

These funding mechanisms offer relatively little discretion to DOJ in its choice of program areas or sites, but offers substantial direction to the state and local grant recipients. That policy choice is central to a continuing Congressional debate. Its relevance to this report is to show the centrality of the local programs chosen by the grant recipients in determining the effectiveness of this funding. It is the local decisions on which prevention programs to adopt, and not the Congressionally mandated actions by DOJ in allocating that funding, which largely determine the effectiveness of these broad funding streams in preventing crime.

Major Funding Stream Programs

This section briefly describes the major DOJ funding stream programs listed in Figure 1-1.

COPS. This program reimburses local police agencies for up to 75% of the salary and benefits of an additional police officer for three years, up to a maximum of \$75,000 per officer. It is a discretionary-eligibility-formula grant program in which funding is allocated on the basis of eligible applicant population size, with a minimum allocation requirement that 50 percent of the funds go to police departments serving cities of over 150,000 people. In addition to this "Universal Hiring Program" to which the Congress has restricted appropriations in 1997, the earlier years of the program offered various competitive grant programs for domestic violence, youth firearms, anti-gang initiatives, and other special purposes.

Byrne (BJA). The 1988 Anti-Drug Abuse Act established both formula and discretionary grant programs in memory of New York City Police Officer Edward Byrne, who was murdered while monitoring a crack house. The formula program awards funds to states developing plans for allocating grants, originally under 21 and now under 26 purpose areas: 1) drug demand reduction programs involving police, 2) multijurisdictional task forces against drugs, 3) domestic drug factory targeting, 4) community crime prevention, 5) anti-fencing programs, 6) white-collar and organized crime enforcement, 7) law enforcement effectiveness techniques, 8) career criminal prosecution, 9) financial investigations, 10) court effectiveness, 11) correctional effectiveness, 12) prison industries, 13) offender drug treatment, 14) victim-witness assistance, 15) drug control technology, 16) innovative enforcement, 17) public housing drug markets, 18) domestic violence, 19) evaluations of drug control programs, 20) alternatives to incarceration, 21) urban enforcement of street drug sales, 22) DWI prosecution, 23) juvenile violence prosecution, 24) gang prevention and enforcement, 25) DNA analysis, 26) death penalty litigation. While each state is eligible to receive a minimum of 0.25 percent of total appropriations, the balance is allocated on the basis of state population as a proportion of the entire U.S. All Byrne funds must be matched by a 25% commitment of non-federal funds.

The BJA Byrne Discretionary Grants program is heavily earmarked for initiatives such as those indicated in Figure 1-1 (e.g., Boys and Girls Clubs, DARE) as well as programs well-established with Congressional understanding, such as Weed and Seed (see below). Over 5 percent of Byrne discretionary funds (\$3.1 million) went to program evaluation purposes in FY 1996, with another \$3.5 million allocated to program evaluation by the States from their formula grants.

Local Law Enforcement Block Grants (BJA). This is a formula grant program that awards funds to applying local governments based on their share of the their state's total Part I violent offenses (homicide, rape, robbery, aggravated assault) over the previous three years. The eight purpose areas for local expenditure of the grants are 1) police hiring, 2) police overtime, 3) police equipment and technology, 4) school security measures, 5) drug courts, 6) violent offender prosecution, 7) multijurisdictional task forces, community crime prevention programs involving police-community collaboration.

STOP Violence Against Women Block Grants (VAWGO). This is a formula grant program allocating funding to states and

territories based upon population. Within each state, the grants must total at least 25% for law enforcement, prosecution, and victim services. A wide range of programs fall within each of these categories, including both domestic and stranger violence against women.

Encourage Arrest Grants (VAWGO). This is a competitive program for which eligibility is determined by the passage of certain state laws concerning the arrest of suspects about whom there is probable cause to believe they have committed an act of domestic violence or a related offense. These grants are intended to encourage communities to adopt innovative, coordinated practices that foster collaboration among law enforcement officers, prosecutors, judges, and victim advocates to improve the response to domestic violence.

Operation Weed and Seed (EOWS). This is a competitive program funded by a transfer of BJA discretionary Byrne funding to the OJP Executive Office of Weed and Seed. The program consists of long-term funding to a varying number of selected cities to help them create a comprehensive program of reducing crime in small, high-crime areas. The DOJ funding operates as seed money leveraging additional federal, state, local and private resources.

Juvenile Justice Formula Grants (OJJDP). This program provides annual funding to eligible states to deinstitutionalize status offenders, separate juveniles and adults in secure correctional facilities, jails and lockups, and to reduce the number of juveniles in secure facilities.

Prison Construction Grants (Corrections Office). This program provides funds to states to build more prison cells or to construct less expensive space for nonviolent offenders, to free space in secure facilities for more violent offenders.

Residential Correctional Drug Abuse Treatment (Corrections Office). This funding program funds state prison delivery of substance abuse treatment to inmates.

THE STATUTORY PLAN FOR PROGRAM IMPACT EVALUATION

In theory, one of the most effective federal crime prevention programs is the evaluation of local programs. The Attorney General's Task Force on Violent Crime called it the central role of the federal government in fighting crime, the one function that could not be financed or performed as efficiently at the local level.⁹ With less than one percent of local criminal justice budgets supported by the federal government (not counting the COPS program), federal funds are arguably most useful as a stimulus to innovation that makes the use of local tax dollars more effective (Dunworth, et al, 1997). The three-decade old Congressional mandate to evaluate is consistent with that premise. Its implication is that a central purpose of federal funding of operations is to provide strong evaluations.

The Congressional mandate for this report therefore includes an evaluation of the effectiveness of DOJ-funded program evaluation itself. The central question is whether those evaluations have "worked" as a federal strategy for assisting local crime prevention. The report answers that question in a different fashion from the method used to evaluate the direct local assistance funding. Rather than directly evaluating the impact of program evaluations on crime, the report indirectly examines the antecedent question of whether those evaluations have succeeded in producing published and publicly accessible scientific findings about what works to prevent crime. After presenting the scientific framework for the review in Chapter two, the report presents the evidence for both program and evaluation effectiveness in Chapters Three through Nine. Chapter Ten then summarizes the limited evidence on local program effects, and returns to the underlying issue of how to accomplish the Congressional Mandate to evaluate.

This report concludes that the current statutory plan for accomplishing that mandate is inadequate, for scientific reasons not addressed by current legislation. That inadequacy substantially limits the capacity to judge the effectiveness of the federal effort to reduce serious crime and youth violence. Part of the statutory problem is simply inadequate funding. While Figure 1-2 shows the steep rise in total federal support for local crime prevention operations, Figure 1-3 shows a rough indication of the declining proportionate support for research and evaluation: the percentage of total OJP appropriations allocated to the National Institute of Justice.

Figure 1-2

**LEAA/OJP
Budgets, 1969 through 1996**

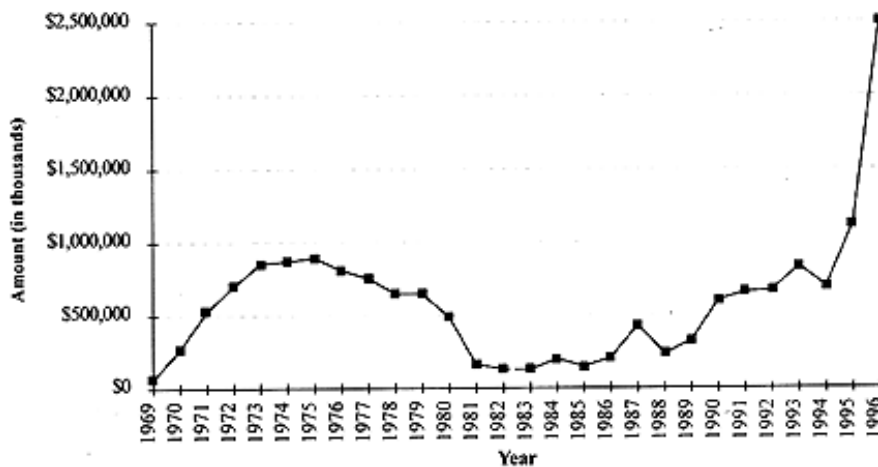


Figure 1-3

NIJ Budget as Percentage of OJP Budget

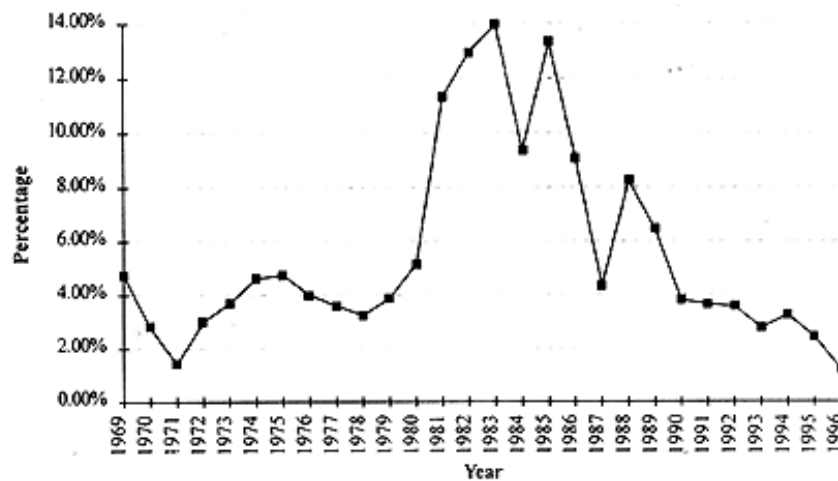


Figure 1-3 actually overstates the amount of DOJ funding allocated to program evaluations. Program evaluations are also funded by OJJDP and BJA,¹⁰ and actual NIJ expenditure in FY 1996 was \$99 million rather than \$30 (due to inter-agency transfers).¹¹ But Figure 1-3 reflects the total NIJ budget for all research, technical assistance, and dissemination purposes, as well as for program evaluation; only 27 percent (\$8 million) of NIJ's FY 1996 appropriation was allocated to evaluation. The proportionate allocation of the NIJ budget to evaluation over the past three decades has not changed substantially on this point. Thus while Figure 1-3 overstates the absolute dollars DOJ has been appropriated for evaluation, it is still an accurate portrayal of the absence of statutory attention to keeping evaluation funding commensurate with operational funding.

Evaluation funding alone, however, cannot increase the strength of scientific evidence about the effects of federally funded local programs on crime. Chapter Ten documents the need for adequate scientific controls on the expenditures of program

funds in ways that allow careful impact evaluation. A statutory plan earmarking a portion of operational funds for strong scientific program evaluation is the only apparent means for increasing the effectiveness of federal funding with better program evaluations. The basis for this conclusion is central to scientific thinking about crime prevention, as the next chapter shows.

NOTES

¹42 U.S.C. 3782 Sec. 801 (b) (1), (19), (20).

²U.S. Attorney General's Task Force on Violent Crime, 1981, p. 73.

³In 1988, for example, more than 30 big city police chiefs asked Congress to earmark ten percent of the Anti-Drug Abuse Act funds for research and evaluation. While Titles I and II of the 1994 Crime Act authorize DOJ to spend up to 3 percent of funds for assorted purposes including evaluation, there has never been a requirement to spend a percentage of operational funds exclusively on program impact evaluations demonstrating crime prevention effectiveness.

⁴104th Congress, First Session, House of Representatives, Report 104-378.

⁵*Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993), in which the Court adopts the scientific framework offered by Karl Popper, Conjectures and Refutations: The Growth of Scientific Knowledge, 5th Ed., 1989.

⁶David Baltimore, "Philosophical Differences," THE NEW YORKER, January 27, 1997, p. 8.

⁷This section is based largely upon a January 17, 1997 NIJ background memorandum from Jane Wiseman to Christy Visher prepared at the University of Maryland's request.

⁸U.S. Department of Justice, Office of Community Oriented Policing Services, COPS Facts: "Cops More '96." Update September 18, 1996.

⁹Attorney General's Task Force on Violent Crime, Report, 1981; James Q. Wilson, "What, if Anything, Can the Federal Government Do About Crime?" Presentation in the Lecture Series on Perspectives on Crime and Justice, sponsored by the National Institute of Justice with support from the Edna McConnell Clark Foundation, December, 1996.

¹⁰Total BJA expenditures on program evaluation in FY 1996 were \$6.6 million.

¹¹Actual NIJ expenditures on all purposes included transfers authorized by the Assistant Attorney General for the Office of Justice Programs from Crime Act appropriations of \$15.6 million in FY 1995 and \$51.9 million in FY 1996.

REFERENCES

Blumstein, Alfred, Cohen, Jacqueline, and Daniel Nagin (eds).

1978 Deterrence and Incapacitation: Estimating The Effects of Criminal Sanctions on Crime Rates. Washington, DC: National Academy of Sciences.

Cohen, J.

1977 Statistical Power Analysis for the Behavioral Sciences. N.Y.: Academic Press.

Eklblom, Paul and Ken Pease

1995 Evaluating Crime Prevention. In Michael Tonry and David Farrington, eds., *Building a Safer Society: Strategic Approaches to Crime Prevention*. Crime and Justice, Vol. 19. Chicago: University of Chicago Press.

Feeley, Malcolm and Austin Sarat

1980 *The Policy Dilemma: Federal Crime Policy and the Law Enforcement Assistance Administration*. Minneapolis: University of Minnesota Press.

Kelling, George and Katharine Coles

1996 *Fixing Broken Windows*. NY: Free Press.

Pawson, R. and N. Tilley

1994 What Works in Evaluation Research. *British Journal of Criminology* 34: 291-306.

Reiss, Albert J., Jr. and Jeffrey Roth (eds.)

1993 *Understanding and Preventing Violence*. Washington, D.C.: National Academy of Sciences.

Skogan, Wesley

1990 *Disorder and Decline*. NY: Free Press.

Weisburd, David with Anthony Petrosino and Gail Mason

1993 Design Sensitivity in Criminal Justice Experiments: Reassessing the Relationship Between Sample Size and Statistical Power. In Michael Tonry and Norval Morris, eds., *Crime and Justice*, Vol. 17. Chicago: University of Chicago Press.

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Chapter Two

THINKING ABOUT CRIME PREVENTION

Lawrence W. Sherman

How effective at preventing crime are local programs with funding from the US Department of Justice? That question can only be answered in the context of a comprehensive scientific assessment of crime prevention in America. That assessment shows that most crime prevention results from the web of institutional settings of human development and daily life. These institutions include communities, families, schools, labor markets and places, as well as the legal institutions of policing and criminal justice. The vast majority of resources for sustaining those institutions comes from private initiative and local tax dollars. The resources contributed to these efforts by the federal government are almost negligible in comparison. The potential impact on local crime prevention of federally supported research and program development, however, is enormous.

The logical starting point for assessing the current and potential impact of federal programs is the scientific evidence for the effectiveness of crime prevention practices in each institutional setting. This requires, in turn, great attention to the enormous variation in the strength of scientific evidence on each specific practice or program. In general, far too little is known about the impact of crime prevention practices, regardless of how they are funded. But thanks largely to evaluations sponsored by the National Institute of Justice (NIJ), the Office of Juvenile Justice and Delinquency Prevention (OJJDP) and other federal agencies, the body of scientific evidence has grown much stronger in the past two decades. Most important, it has shown a steadily increasing capacity to provide very strong scientific evidence, even while most program evaluations remain so weak as to be scientifically useless.

The growing scientific evidence that federal support has produced allows us to assess some programs more intensively than others. Some of the evidence is strong enough to identify some effective and ineffective practices or programs in most institutional settings. Some evidence is more limited, but clearly points to some promising initiatives that merit further research and development. Reviewing this evidence in each of the seven institutional settings provides the strongest possible scientific basis for responding to the Congressional mandate. By separating the question of effectiveness from the question of funding, we map out the entire territory of crime prevention knowledge (including the many uncharted areas). That, in turn, provides a basis for locating both current and future Justice Department programs on that map.

Chapters Three through Nine of the report each examine the evidence in one institutional setting at a time. Each chapter draws scientific conclusions about program effectiveness, then uses those findings to suggest policy recommendations for both current programs and further research. Chapter Ten then assembles the major findings into the Congressionally-mandated assessment of the effectiveness of DOJ crime prevention programs. It concludes the report with the implications of the assessment for the federal role in generating just such evidence, and suggests a statutory plan for improving scientific knowledge about effective crime prevention methods.

This chapter provides the four cornerstones on which the report is based. One is the crucial difference between the political and scientific definitions of crime prevention. Making this distinction at the outset is essential for meeting the Congressional mandate for a scientific assessment. It also helps us clarify other key concepts in thinking about crime prevention.

A second cornerstone is the web of institutional settings in which crime prevention effects are created every day all over the nation, mostly without any taxpayer involvement at all. From childhood moral education to employee criminal history checks, there is tight social fabric holding most people back from committing crimes most of the time. Yet there are many holes and thin spots in that social fabric that crime prevention programs might, and sometimes do, address.

The third cornerstone is the logical basis for separating scientific wheat from chaff, or strong scientific evidence from weak or useless data. Not all crime prevention evaluations are created equal, but we must be clear about the rules of evidence.

The fourth and final cornerstone is the history and current status of the federal role in guiding and funding local crime prevention. The distinction between those functions should be kept in mind in any discussion of the implications of crime prevention research for federal policy.

KEY CONCEPTS IN CRIME PREVENTION

Crime prevention is widely misunderstood. The national debate over crime often treats "prevention" and "punishment" as mutually exclusive concepts, polar opposites on a continuum of "soft" versus "tough" responses to crime: midnight basketball versus chain gangs, for example. The science of criminology, however, contains no such dichotomy. It is as if a public debate over physics had drawn a dichotomy between flame and matches. Flame is a result. Matches are only one tool for achieving that result. Other tools besides matches are well known to cause fuel to ignite into flame, from magnifying glasses to tinder boxes.

Similarly, crime prevention is a result, while punishment is only one possible tool for achieving that result. Both midnight basketball and chain gangs may logically succeed or fail in achieving the scientific definition of crime prevention: any policy which causes a lower number of crimes to occur in the future than would have occurred without that policy.¹ Some kinds of punishment for some kinds of offenders may be preventive, while others may be "criminogenic" or crime-causing, and still others may have no effect at all. Exactly the same may also be true of other programs that do not consist of legally imposed punishment, but which are justified by a goal of preventing crime.

Crime prevention is therefore defined not by its intentions, but by its consequences. These consequences can be defined in at least two ways. One is by the number of **criminal events**; the other is by the number of **criminal offenders** (Hirschi, 1987). Some would also define it by the amount of **harm** prevented (Reiss and Roth, 1993: 59-61) or by the number of **victims** harmed or harmed repeatedly (Farrell, 1995). In asking the Attorney General to report on the effectiveness of crime prevention efforts supported by the Justice Department's Office of Justice Programs, the U.S. Congress has embraced an even broader definition of crime prevention: reduction of **risk factors** for crime (such as gang membership) and increases in **protective factors** (such as completing high school)--concepts that a National Academy of Sciences report has labeled as "primary" prevention (Reiss and Roth, 1993: 150). What all these definitions have in common is their focus on observed effects, and not the "hard" or "soft" content, of a program.

Which definition of crime prevention ultimately dominates public discourse is a critically important factor in Congressional and public understanding of the issues. If the crime prevention debate is framed solely in terms of the **symbolic** labels of punishment versus prevention, policy choices may be made more on the basis of emotional appeal than on solid evidence of effectiveness. By employing the scientific definition of crime prevention as a consequence, this report responds to the Congressional mandate to "employ rigorous and scientifically recognized standards and methodologies."² This report also attempts to broaden the debate to encompass the entire range of policies we can pursue to build a safer society. A rigorously empirical perspective on what works best is defined by the data from research findings, not from ideologically driven assumptions about human nature.

Bringing more data into the debate has already altered public understanding of several other complex issues. The prevention of disease, for example, has gained widespread public understanding of the implications of new research findings, especially those about lifestyle choices (like smoking, diet and exercise) that people can control themselves. The prevention of injury through regulation of automobile manufacturers has increasingly been debated in terms of empirically observed consequences, rather than logically derived theories; the safety of passenger-side airbags, for example, has been debated not just in terms of how they are supposed to work, but

also in terms of data on how actual driver practices make airbags increasingly cause the deaths of young children.³ Emotional and ideological overtones of personal freedom and the role of government clearly affect debates about disease and injury prevention, but scientific evidence appears to have gained the upper hand in those debates.

Similarly, the symbolic politics of crime prevention could eventually give way to empirical data in policy debates (Blumstein and Petersilia, 1995). While the emotional and symbolic significance of punishment can never be denied, it can be embedded in a broader framework of crime prevention institutions and programs that allows us to compare value returned for money invested (Greenwood, et al, 1996). Even raising the question of cost-effectiveness could help focus policy-making on empirical consequences, and their implications for making choices among the extensive list of crime prevention efforts.

The value of a broad framework for analyzing crime prevention policies is its focus on the whole forest rather than on each tree. Most debates over crime prevention address one policy at a time. Few debates, either in politics or in criminology, consider the relative value of all prevention programs competing for funding. While scientific evidence may show that two different programs both "work" to prevent crime, one of the programs may be far more cost-effective than another. One may have a stronger **effect**, cutting criminal events by 50% while the other cuts crimes by only 20%. Or one may have a longer **duration**, reducing crimes among younger people whose average remaining lifetime is 50 years, compared to a program treating older people with an average remaining life of twenty years. A fully informed debate about crime prevention policy choices requires performance measures combining duration and strength of program effect. While such accurate measures of "profitability" and "payback" periods are a standard tool in business investment decisions, they have been entirely lacking in crime prevention policy debates.

Yet comparative measurement is not enough. Simply comparing the return on investment of each crime prevention policy to its alternatives can mask another key issue: the possible **interdependency** between policies, or the economic and social conditions required for a specific policy to be effective. Crime prevention policies are not delivered in a vacuum. A Head Start program may fail to prevent crime in a community where children grow up with daily gunfire. A chain gang may have little deterrent effect in a community with 75% unemployment. Marciniak (1994) has already shown that arrest for domestic violence prevents crime in neighborhoods with low unemployment and high marriage rates--but arrest **increases** crime in census tracts with high unemployment and low marriage rates. It may be necessary to mount programs in several institutional settings simultaneously--such as labor markets, families and police--in order to find programs in any one institution to be effective.

One theory is that **the effectiveness of crime prevention in each of the seven institutional settings depends heavily on local conditions in the other institutions**. Put another way, the necessary condition for successful crime prevention practices in one setting is adequate support for the practice in related settings. Schools cannot succeed without supportive families, families cannot succeed without supportive labor markets, labor markets cannot succeed without well-policed safe streets, and police cannot succeed without community participation in the labor market. These and other examples are an extension of the "conditional deterrence" theory in criminology (Tittle and Logan, 1973; Williams and Hawkins, 1986), which claims that legal punishment and its threat can only be effective at preventing crime if reinforced by the informal social controls of other institutions. The conditional nature of legal deterrence may apply to other crime prevention strategies as well. Just as exercise can only work properly on a well-fed body, crime prevention of all kinds may only be effective when the institutional context is strong enough to support it.

Over a century ago, sociologist Emile Durkheim suggested that "it is shame which doubles most punishments, and which increases with them" (Lukes and Scull, 1983, p. 62). More recently, John Braithwaite (1989) has hypothesized the institutional conditions needed to create a capacity for shame in both communities and individuals. He concludes that shame and punishment have been de-coupled in modern society, and suggests various approaches to restoring their historic link. His conclusions can apply to non-criminal sanctions as well, such as school discipline, labor force opportunities, expulsion from social groups and ostracism by neighbors and

family. Conversely, it applies to rewards for compliance with the criminal law, such as respectability, trust, and responsibility. The emotional content of winning or losing these social assets is quite strong in settings where crime prevention works, but weak or counterproductive in what social scientists call "oppositional subcultures." Any neighborhood in which going to prison is a mark of prestige (Terry, 1993) is clearly a difficult challenge for any crime prevention practice.

The community context of crime prevention may need a critical mass of institutional support for informally deterring criminal behavior. Without that critical mass, neither families nor schools, labor markets nor places, police nor prisons may succeed in preventing crime. Each of these institutions may be able to achieve marginal success on their own. While most American communities seem to offer sufficient levels of institutional support for crime prevention, serious violence is geographically concentrated in a small number of communities that do not. Lowering national rates of violent crime might require programs that address several institutional settings simultaneously, with a meaningful chance of rising to the threshold of "social capital" (Coleman, 1992) needed to make crime prevention work.

To the extent that this theory focuses resources on the relative handful of areas falling below that threshold, that focus can be justified by its benefits for the wider society. Over half of all homicides in the US occur in just 66 cities, with one-quarter of homicides in only eight cities (FBI, 1994). These murders are concentrated in a small number of neighborhoods within those cities. The public health costs of inner-city violence, by themselves, could provide sufficient justification for suburban investment in inner-city crime prevention. If crime can be substantially prevented or reduced in our most desperate neighborhoods, it can probably be prevented anywhere.

By suggesting that the effectiveness of some crime prevention efforts may depend upon their institutional contexts, we do not present a pessimistic vision of the future. While some might say that no program can work until the "root causes" of crime can be cured, we find no scientific basis for that conclusion--and substantial evidence against it. What this report documents is the potential for something much more precise and useful, based on a more open view of the role of scientific evaluation in crime prevention: a future in which program evaluations carefully measure, and systematically vary, the institutional context of each program. That strategy is essential for a body of scientific knowledge to be developed about the exact connections between institutional context and program effectiveness.

We expect that greater attention to the interdependency of institutions may help us discover how to shape many institutional factors simultaneously to prevent crime--more successfully than we have been able to do so far. The apparent failure of a few efforts to do just does not mean that we should give up our work in that direction. Such failures marked the early stages of almost all major advances in science, from the invention of the light bulb to the development of the polio vaccine. The fact that our review finds crime prevention successes in all of seven of the institutional settings suggests that even more trial and error could pay off handsomely. Our national investment in research and development for crime prevention to date has been trivial (Reiss and Roth, 1993), especially in relation to the level of public concern about the problem. Attacking the crime problem on many institutional fronts at once should offer more, not fewer, opportunities for success.

Defining crime prevention by results, rather than program intent or content, focuses scientific analysis on three crucial questions:

1. What is the independent effect of each program or practice on a specific measure of crime?
2. What is the comparative return on investment for each program or practice, using a common metric of cost and crimes prevented?
3. What conditions in other institutional settings are required for a crime prevention program or practice to be effective, or which increase or reduce that effectiveness?

The current state of science barely allows us to address the first question; it tells us almost nothing about the second or third. Just framing the questions, however, reveals the potential contribution that federal support for crime prevention evaluations could offer. That potential may depend, in turn, on a clear understanding of the location of every crime prevention practice or program in a broad network of social institutions.

THE INSTITUTIONAL SETTINGS OF CRIME PREVENTION

Crime prevention is a consequence of many institutional forces. Most of them occur naturally, without government funding or intervention. While scholars and policymakers may disagree over the exact causes of crime, there is widespread agreement about a basic conclusion: strong parental attachments to consistently disciplined children (Hirschi, 1995) in watchful and supportive communities (Braithwaite, 1989) are the best vaccine against street crime and violence. Schools, labor markets and marriage may prevent crime, even among those who have committed crime in the past (Sampson and Laub, 1993), when they attract commitment to a conventional life pattern that would be endangered by criminality. Each person's bonds to family, community, school and work create what criminologists call "informal social control," the pressures to conform to the law that have little to do with the threat of punishment. Informal controls threaten something that may be far more fearsome than simply life in prison: shame and disgrace in the eyes of other people you depend upon (Tittle and Logan, 1973).

The best evidence for the preventive power of informal social control may be the millions of unguarded opportunities to prevent crime which are passed up each day (Cohen and Felson, 1979). Given the fact that most crimes never result in arrest (FBI, 1996), the purely statistical odds are in favor of a rational choice to commit any given crime. The question of why even more people do not commit crime is therefore central to criminology, and has driven many theories (Hirschi, 1969; Cohen and Felson, 1979; Gottfredson and Hirschi, 1990). The extent to which law enforcement can affect the perception of those odds is a matter of great debate (Blumstein, Cohen and Nagin, 1978), as is the question of whether even a low risk of punishment is too high for most people. Yet there is widespread agreement that the institutions of family and community are critically important to crime prevention.

That agreement breaks down when the institutions of family and community themselves appear to break down, creating a vacuum of informal social control that government is then invited to fill up (Black, 1976). Whether police, courts and prisons can fill the gap left by weak families and socially marginal communities is a question subject to debate in both politics and social science. But it may be the wrong question to ask, at least initially. The premise of the question is that the breakdown of the basic institutions of crime prevention is inevitable. Yet for over a century, a wide range of programs has attempted to challenge that premise. Entirely new institutions, from public schools to social work to the police themselves (Lane, 1992), have been invented to provide structural support to families and communities. In recent years, the federal government has attempted a wide range of programs to assist those efforts. Rather than simply assuming their failure, it seems wiser to start by taking stock of their efforts.

Settings, Practices and Programs

Crime prevention is a result of everyday practices concentrated in seven institutional settings. A "setting" is a social stage for playing out various roles, such as parent, child, neighbor, employer, teacher, and church leader. There are many ways to define these settings, and their boundaries are necessarily somewhat arbitrary. Yet much of the crime prevention literature fits quite neatly into seven major institutional settings: 1) communities, 2) families, 3) schools, 4) labor markets, 5) places, 6) police agencies and 7) the other agencies of criminal justice. The definitions of these settings for crime prevention are quite broad, and sometimes they overlap. But as a framework for organizing research findings on crime prevention effectiveness, we find them quite workable.

Crime prevention research examines two basic types of efforts in these seven settings. One type is a "**practice**," defined as an ongoing routine activity that is well established in that setting, even if it is far from universal. Most

parents make children come home at night, most schools have established starting times, most stores try to catch shoplifters, most police departments answer 911 emergency calls. Some of these practices have been tested for their effects on crime prevention. Most have not. Some of them (such as police patrols and school teacher salaries) are funded in part by federal programs. Most are not. Regardless of the source of funding, we define a practice as something that may change naturally over time, but which would continue in the absence of specific new government policies to change or restrict them.

A "**program**," in contrast, is a focused effort to change, restrict or create a routine practice in a crime prevention setting. Many, but far from all, programs are federally funded. Churches may adopt programs to discourage parents from spanking children, or letting children watch violent television shows and movies. Universities may adopt programs to escort students from the library to their cars in the hours after midnight. Shopping malls may ban juveniles unescorted by their parents on weekend evenings, and police may initiate programs to enforce long-ignored curfew or truancy laws. In time, some programs may turn into practices, with few people remembering the time before the program was introduced.

Perhaps the clearest distinction between programs and practices is found among those programs requiring additional resources. The disciplinary practices of parents, for example, and the hiring practices of employers are largely independent of tax dollars. But calling battered women to notify them of their assailant's imminent release from prison may be a practice that only a federally funded program can both start and keep going. Even police enforcement of laws against drunk driving, in recent years, seems to depend almost entirely on federally funded overtime money to sustain (Ross, 1994). Whether these federal resources are "required" is of course a matter of local funding decisions. But in many jurisdictions, many practices begun under federal programs might die out in the absence of continued funding.

These distinctions are important to crime prevention for reasons of evidence: newly-funded programs are more likely to be subjected to scientific evaluations than longstanding practices. The modern trend towards demanding accountability for public expenditures has made program evaluations increasingly common, especially for federal programs. Paradoxically, we could know more about potentially marginal new ideas than we do about the mainstream practices of the major crime prevention institutions. Police DARE programs (Drug Abuse Resistance Education), for example, have been subjected to more numerous evaluations (Lindstrom, 1996) than the far more widespread practice of police patrol (Sherman and Weisburd, 1995). Similarly, neighborhood watch programs (Hope, 1995) have been subjected to far more extensive evaluation than the pervasive role of zoning practices in physically separating commercial and residential life in communities, reducing face-to-face contact among the kind of neighbors who used to see each other at the corner grocery store.

The availability of evidence on crime prevention is itself a major issue for the national policy debate. Where expenditures are high but evidence is weak or non-existent, the need for evaluation research is great. Even where expenditures are low, practices or programs that show good reason to conclude that they are causing or preventing crime should merit a high priority for research. In order to identify the key gaps in our knowledge, however, we must start not with the available evidence, but with an inventory of crime prevention practices and programs in each institutional setting. Throughout the report, this inventory guides our review of what works, what doesn't, what's promising, and what we need to know a lot more about.

Chapter 3: Communities

We begin our review with the most broadly defined institutional setting. From small villages to large urban neighborhoods, from suburban developments to urban high rise public housing, both the physical and social structure of communities varies widely. So, too, does their effectiveness in preventing crime through informal social controls. Some communities average more than two jobs per family; others average none. Some communities have more churches than taverns; others have more crack houses than grocery stores. Some have more people on welfare than working; others have more retirees than schoolchildren. Some have more renters than homeowners; others have more adult men who are technically homeless than those who are named on a

lease or a deed. In some communities most residents recognize most other residents by name and face; in most of the modern United States, perhaps, even face recognition of most neighbors is extremely rare.

Communities also vary on several stark dimensions. Most of the serious violent juvenile crime in the US is concentrated in a relative handful of communities (OJJDP, 1996). Some communities have homicide rates 20 times higher than the national average (Sherman, Shaw and Rogan, 1995). In some communities two-thirds of all adults are chronically unemployed (Wilson, 1996: 19). In some communities 90% or more of the population is African-American for miles around, a condition of "hypersegregation" unprecedented in American history (Massey and Denton, 1993). In some communities child abuse is reported among 19% of at-risk children of white parents (Olds, et al, 1986). To a large extent, the entire rationale for the federal politics of crime prevention is driven by the extreme criminogenic conditions of these relatively few communities in the US, areas of concentrated poverty where millions of whites and an estimated 1/3 of all African-Americans reside.

Where a community winds up on these and other dimensions may not only affect its crime prevention practices. There is also substantial evidence that these factors condition the effectiveness of community-based crime prevention **programs** (Hope, 1995), another excellent (but rare) example of interdependency. In study after study, evidence emerges that crime prevention programs are more likely to take root, and more likely to work, in communities that need them the least. Conversely, the evidence shows that communities with the greatest crime problems are also the hardest to reach through innovative program efforts.

Chapter Three reviews this evidence as pointing to the general conclusion that such programs are too weak to make a difference in the underlying structural conditions causing both crime prevention and innovative programs to fail. More heavily concentrated federal efforts to address many community factors simultaneously have, fortunately, suggested somewhat better results against local crime risk factors. And even in the midst of great adversity, there is some evidence that "big brother" and "sister" mentoring programs can help reduce drug abuse and other risk factors for crime--perhaps showing how much a community benefits by having strong families that provide their own mentoring, also known as parenting.

Chapter 4: Families

Perhaps the most basic structural feature of any community is the condition of its families. Basic family practices in child-rearing, marriage, and parental employment appear to matter enormously in the criminality of both children and fathers (Hirschi, 1995; Sampson, 1986). The failure of many parents to marry has been the target of many programs for preventing extramarital pregnancy, especially among teenagers. The failure of many parents to provide consistent affection and discipline to children has been the target of other programs, from parent training to home visitation and consultation by nurses and other helpers. As Chapter Four shows, some of these programs are quite promising, with very encouraging evaluation results. Whether these programs, by themselves, can overcome the effects of surrounding a family with a high-crime community is unclear.

It is also unclear whether we have found the right programs for combatting domestic violence, arguably a major risk factor for crime found in the family setting. Most of these programs are delivered to families by the criminal justice system. These programs unfortunately fail to reach the many families whose violence goes unreported to police. For the families the programs do reach, the scientific evidence is either discouraging or inadequate. Here again, the crime prevention programs seem to work best for the families in the strongest communities. Criminal justice programs may be least effective in the communities where family violence is most prevalent.

The major exception to this pattern is the use of battered women's shelters, an important emergency service at high-risk times for family violence. While shelters also lack clear evaluations showing crime prevention benefits, police data show the highest risk of such violence to lie in the immediate aftermath of the last domestic assault. Protecting women, and often their children, in that short time frame may well reduce total injuries from domestic violence, even if shelters cannot solve the underlying family violence. Yet even shelters are relatively less available in the poorest communities, compared to communities of greater social and financial resources.

Chapter 5: Schools

The most direct link between families and communities is presently found in schools. Measured purely by the amount of available time to reduce risk factors for crime, schools have more opportunity to accomplish that objective than any other agency of government. Succeeding at their basic job of teaching children to read, write and compute may be the most important crime prevention practice schools can offer. But too many schools are overwhelmed by a criminogenic community context, crippled by the lack of parental support for learning and the breakdown of order in the classrooms (Toby, 1982). While some schools succeed at teaching basic skills despite these challenges, the odds appear to be against it.

The most intensively studied crime prevention programs in schools, however, are unrelated to academic learning. More common are the efforts to use schools to reduce non-academic crime risk factors, including drug abuse and aggression. As Chapter Five demonstrates, the extensive record of scientifically evaluated prevention programs provides some guidance about which programs are most effective or promising. The evidence shows that school-based programs aimed at increasing resilience, for example, by teaching students "thinking skills" necessary for social adaptation, work to reduce substance use and are promising for reducing delinquency. Programs that focus not on individual students, but instead on school organizations, also work. Programs that simply clarify norms about expected behavior work. As in other settings, the success of school programs and practices is largely dependent on the school's capacity to initiate and sustain innovative programs. Schools situated in crime-ridden, disorganized communities are less likely to have the infrastructure necessary to support prevention programs, and are more likely to fail. That failure is usually more pronounced in communities with the weakest labor market demand for adult workers.

Chapter 6: Labor Markets

There is a long history of attempting to prevent the onset or persistence of criminality by pulling young people into the labor market for legitimate work (Cloward and Ohlin, 1960). Theoretical and empirical support for the crime preventive value of employment is generally quite strong in the longitudinal analysis of individual criminal careers (Sampson and Laub, 1993; but see Shannon, 1982, and Gottfredson, 1985). It is also found in experimental studies of the effects of criminal sanctions, which can deter offenders who are employed but backfire on offenders who are unemployed (Sherman, 1992). Macro-level data on the short-term effects of changes in the unemployment rate on crime are more mixed (Freeman, 1983, 1995), but the staggeringly high unemployment rates in our highest-crime communities are beyond dispute (Wilson, 1996).

Programs aimed at linking labor markets more closely to high crime risk neighborhoods and individuals could have substantial crime prevention benefits. As Chapter Six shows, however, only Job Corps programs have demonstrated success at enhancing the employment experience of severely unemployable persons, and even that evidence is scientifically weak. No program has yet shown success in tackling the unemployment rates of high crime neighborhoods. Yet of all the dimensions of neighborhood life, this one may have the most pervasive influence on crime. Neighborhoods where work is the exception rather than the rule may lack the discipline necessary for conventional life styles (Wilson, 1996). Marriage and two-parent family life deeply declines with the loss of labor markets for adult males, making men unnecessary as economic partners and husbands. If inner city communities of concentrated poverty are to be reclaimed as crime prevention institutions, reviving their local labor markets may be the most logical place to start. As jobs increasingly migrate to far suburbs beyond the reach of public transit, inner city workers with no cars may depend even more on recent innovative programs to link them to suburban labor markets.

Inner city employment may face an even tougher problem than geography, however. As employers become increasingly sensitive to concerns about potential theft and violence by their employees, they have won increasing access to measures of the criminality of prospective and current workers. One measure is official records of criminal convictions, which are more readily available now than at any previous time in US history (SEARCH Group, 1996). Another measure is drug testing in the workplace, which many employers require as a

condition of employment. Both measures could either bar a worker from being hired or lead to their being fired. Extensive police crackdowns of recent years have given millions of young men criminal records for minor offenses (Blumstein, 1993; Tonry, 1995), limiting their employment prospects and perhaps increasing their likelihood of further and more serious criminality.

Yet labor markets may be most powerful in preventing crime precisely because they respond negatively to criminal histories. While employment may give would-be offenders a stake in society, its crime preventive value may hinge on the threat of losing that stake. Maintaining that threat without creating a large group of unemployable outcasts is a major crime prevention challenge for the future of our labor market practices.

Chapter 7: Places

One of the most recently discovered "institutions" in American life is the "place" (Anderson, 1978; Oldenburg, 1990). From donut shops to taverns to street corners and hotels, there is a pattern of social organization uniquely constructed around very small locations that are usually visible to the unaided human eye. These places vary enormously in their populations, core functions and activities, crime rates and criminogenic risk factors like drugs and guns. Some places are so crime prone that they are labeled "hot spots" of crime (Sherman, Gartin and Buerger, 1989), among the 3% of addresses which produce 50% of reported crimes.

Regardless of whether these places cause crimes or merely act as "receptors" for them, the prevention of crime in places may have substantial effects at reducing total crime in the community. Even in high crime neighborhoods, most places are crime-free for years at a time (Pierce, Spaar and Briggs, 1988). The frequent recurrence of crimes in just a handful of locations makes the prevention of crime in such "hot spots" all the more important.

Security guards, cameras, alarm systems, safes and fences have all proliferated in the latter twentieth century, making private expenditures on crime prevention rival public spending. Whether these practices succeed in preventing crime is generally impossible to determine from the available research, given its limitations. Even where they do succeed at preventing crime in target places, it is unclear whether the total number of criminal events in society is reduced or merely displaced to other locations (Barr and Pease, 1990). But as the evidence reviewed in Chapter Seven shows, the control of criminogenic commodities like alcohol, cash and firearms (Cook and Moore, 1995) can make a great deal of difference in the rate of crime in limited access locations like airports and transit systems. Such strategies may even overcome the influence of surrounding high crime communities.

Our capacity to make a limited number of places into safe havens from crime may also form a paradox: the safer we make places for more advantaged people, the less public investment there may be in making less advantaged communities safe (Reiss, 1989). The use of metal detectors to create of gun-free zones has become a prized luxury, reserved for presidents and judges, airplane passengers and (more democratically) some school children. But it may also have reduced policymakers' concern about gun crime in the streets, especially the streets of poverty areas. People spending more money on private security may wish to spend less for public safety. While communities may be better off without their worst hot spots of crime, they cannot be made safe by place-based strategies alone. To the extent that crime prevention in places depletes efforts in other institutional settings, safe places in a dangerous community may be ultimately self-defeating. It is hard to imagine a democracy as a fortress society.

Chapter 8: Policing

The crime prevention effects of policing may pose the widest gap between academic and political opinion. While public opinion polls show consensus that police prevent crime, criminologists widely challenge that view. Citing a single, scientifically weak evaluation of police patrol presence (Kelling, et al, 1974), many criminologists generalize that variations in police practice or numbers can make little difference in crime (Gottfredson and Hirschi, 1990; Felson, 1994). This conclusion ignores a vast array of contrary evidence.

As Chapter Eight shows, there are many police practices that reduce crime, and some that even increase crime. The strength of police effects on crime is generally moderate rather than substantial, unless police presence drops to zero when patrols go on strike--at which point all hell breaks loose. The converse of that observation could be that massive increases of police presence focused in a small number of high crime communities have a major effect at preventing crime. While such concentrations have never been attempted for sustained periods of time, it is possible that a focused crime prevention strategy could rely heavily on police presence to regain a threshold level of public order and safety. Once beyond this threshold, the effectiveness of family, community, schools and the labor force could be substantially increased.

Community policing programs offer one opportunity to increase police presence in the highest crime communities. Like police resources generally, the 1994 Crime Act puts a large portion of its 100,000 police where the people are, but not where the crime is. The scientific evidence increasingly suggests the effectiveness of much greater concentration of federal funding in the neighborhoods which need police the most. While such policies would fly in the face of distributional politics (Biden, 1994), they are strongly implied (although not proven) by studies of police effects on crime in low and high crime areas. The Federal funding of police overtime could also be more effective if available funds were channeled to the small number of neighborhoods generating most of the handgun homicide in the nation.

Yet research also shows that police presence can backfire if it is provided in a disrespectful manner. Rude or hostile treatment of citizens, especially juveniles, can provoke angry reactions that increase the risk of future offending (Tyler, 1991). Flooding high crime communities with aggressive police could backfire terribly, causing more crime than it prevents, as it has in repeated race riots over the past quarter century. The challenge is to develop programs that make policing simultaneously more focused in **what** they do to prevent crime and more polite in **how** they do it.

Chapter 9: Criminal Justice

The full list of crime prevention practices and programs in criminal justice is very long indeed. We relegate them to a single chapter in an attempt to focus more attention on how such punishment programs compare to non-punitive prevention practices. Recent reviews conclude there is very little evidence that increased incarceration has reduced crime (Reiss and Roth, 1993). Yet variations in how the criminal justice system treats admitted offenders can make a great deal of difference. The evidence reviewed in Chapter Nine finds encouraging support for more correctional use of drug treatment programs, rehabilitation programs in prison, and institutionalization of some juvenile offenders rather than community-based supervision.

The effectiveness of any correctional treatment, however, may depend upon the community, family, and labor market context into which the offender returns home. In a very important sense, correctional programs compete with the same home conditions that led the offender into correctional hands in the first place. Making corrections work, at least with the offenders it treats, may require the same changes of institutional context needed to make programs and practices in other settings more effective.

Chapter 10: Justice Department Funding for Local Crime Prevention Programs

It is important for the U.S. Congress to assess its own funding of local crime prevention programs in the context of these seven institutional settings for attempting--and sometimes achieving--crime prevention results. It may be even more important to understand the relationship among the seven settings, and the extent to which conditions in one affect conditions or results in another. Chapter Ten synthesizes the major findings from each institutional setting to draw broad conclusions about the effectiveness of DOJ local assistance programs. But many of the local programs and practices these funds support have never been evaluated with enough scientific rigor to draw conclusions based on direct evidence about their effects on crime. Chapter Ten therefore concludes with analysis and recommendations concerning the structure of program evaluation for local assistance funding, suggesting

how to better achieve the longstanding Congressional mandate to evaluate.

Evaluating crime prevention is at best a delicate enterprise. Policymakers often think, incorrectly, that an evaluation is like an "audit" or trial in which the results are usually clear cut and definitive. Either the funds were spent or they weren't; either the program served its intended beneficiaries at a reasonable cost per client or it didn't. Such "audit" questions are much easier to answer than the "evaluation" questions of cause and effect, often stretching out over a lifetime of the targets of crime prevention efforts. The next section introduces some of the complications in drawing such conclusions scientifically. Chapter ten returns to those issues in terms of their implications for future evaluation policies for OJP funding. Rather than spending a little evaluation money on most programs in an "audit" model, the Congress would receive more return on investment by concentrating evaluation dollars on a few major examples of key programs in a field testing model.

MEASURING CRIME PREVENTION EFFECTIVENESS

A recent review of the crime prevention evaluation literature by two prominent English criminologists concluded the field was "dominated by....self-serving unpublished and semi-published work that does not meet even the most elementary criteria of evaluative probity (Ekblom and Pease, 1995:585-6). What they meant by "evaluative probity" was fairly basic to any inference of cause and effect. Measures of crime, for example, are very often missing from publicly funded crime prevention "evaluations," which simply describe how the program worked and whether it achieved its administrative objectives: services provided, activities completed. Despite the recent emphasis at reinventing government to focus on **results**, most crime prevention evaluations still appear to focus on **efforts**.

Crime Prevention and Other Worthy Goals

Many if not most government programs, of course, have multiple objectives. Even those which evaluations show ineffective at preventing crime may accomplish other worthy goals, such as justice and equality under the law. That is a very important consideration for policy analysis, one that deserves careful treatment. This report does not explicitly examine program effects in accomplishing other goals beyond those specified in the legislation: crime, especially youth violence, risk factors and (their converse) protective factors. That does not mean other goals are unimportant. Consideration of those other goals can be entirely appropriate in other contexts, and can be examined by scientific program evaluations. This report omits them necessarily in order to conserve resources for answering the specific question the Congress asked.

Whether the focus of an evaluation is on crime prevention or other goals, the distinction between descriptive and impact evaluations remains crucial. Training police on domestic violence issues, for example, may not directly reduce domestic violence. But descriptive evaluations reporting how many police were trained for how many hours are also unable to show whether other goals were accomplished. Causing police to treat domestic violence victims more politely, to provide more victim assistance, or to gather better evidence at the scene could all be important objectives of police training. Controlled experiments could show whether training accomplishes those important goals. Absent a strong scientific approach to program evaluation, however, descriptive evaluations of efforts say little about results for other goals besides crime prevention.

Classifying the Strength of Scientific Evidence

Even where evaluations attempt to measure crime prevention, they often lack the basic scientific elements needed for inferring cause and effect. While they may report lower crime rates among people who were served by a program than those who were not, the evaluations often fail to say which came first, the program or the crime rates. If crime prevention programs simply attract lower crime rate people, they cannot be said to cause those lower crime rates. Other evaluations include a temporal sequence, reporting that crime dropped after a program was introduced, for example. But there may be many other reasons why crime went down besides the program. While comparison or "control" groups can be used to help eliminate those other possibilities, many evaluations

fail to use them. Even when they are used, the comparison groups chosen are often too unlike the target groups given the program, so that the comparison does not plausibly show what would have happened without the program. Only a random selection of equally eligible program targets can conclusively eliminate alternative theories about the effects of a crime prevention program.

Thus we must confront a body of research in which the strength of the **evidence** varies as much as the strength of the crime prevention program **effects** reported in the research. Making sense of this evidence requires some scale for rating the strength of each study. While our analysis employs more complicated classifications (see Appendix 1), there are three basic elements we consider:

- 1) reliable and statistically powerful measures and correlations (including adequate sample sizes and response rates),
- 2) temporal ordering of the hypothesized cause and effect--so that the program "cause" comes before the crime prevention "effect," and
- 3) valid comparison groups or other methods to eliminate other explanations, such as "the crime rate would have dropped anyway."

The first element without the others arguably constitutes "weak" evidence, the first and second without the third comprise "moderate" evidence, and all three together define "strong" evidence. This standard sets aside the question of replication of results in repeated studies, since it is generally so rare in federal program evaluations. Such replicated results are "very strong" evidence compared to most program evaluations.

A SCALE OF EVIDENTIARY STRENGTH FOR CAUSE AND EFFECT

	Weak	Moderate	Strong
1. Reliable, powerful correlation test	x		
2. Temporal ordering of cause and effect		x	
3. Elimination of Major Rival Hypotheses			x

Our analysis employs a "methodological rigor" rating based on a scale adapted from one used in a recent national study of the effectiveness of substance abuse prevention efforts (Center for Substance Abuse Prevention, 1995). Using this **scientific methods scale**, we rate seven different dimensions of the methods used in each study. The overall rating is based primarily on these three factors:

o **the study's ability to control extraneous variables** (i.e., to eliminate major rival hypotheses, accomplished through random assignment to conditions, matching treatment and comparison groups carefully, or statistically controlling for extraneous variables **the minimization of measurement error**

o **the statistical power** to detect meaningful differences (e.g., the power of a test to detect a true difference. The smaller the anticipated effects of prevention, the larger the sample size must be in order to detect a true difference.)

Other considerations contributing to the overall rating of methodological rigor are the **response rate**, **attrition** of cases from the study, and the use of appropriate **statistical tests**. An appendix to this report describes the methodology rating in more detail and shows the coding sheet used to rate studies.

Using this scale, each eligible study examined for this report was given a "scientific methods score" of 1 to 5, with 5 being the strongest scientific evidence.⁴ While there are some minor variations in how the authors of Chapters Three through Nine apply the basic scientific methods criteria in making coding decisions, the criteria

are standardized within each chapter and highly similar across chapters. In order to reach level 3, a study had to employ some kind of control or comparison group to test and refute the rival theory that crime would have had the same trend without the crime prevention program;⁵ it also had to attempt to control for obvious differences between the groups, and attend to quality of measurement and to attrition issues. If that comparison was to a more than a small number of matched or almost randomized cases, the study was given a score of "4".⁶ If the comparison was to a large number of comparable units selected at random to receive the program or not, the study was scored as a "5", the highest possible level; random assignment offers the most effective means available of eliminating competing explanations for whatever outcome is observed. Most of the tables summarizing evaluation research in the next seven chapters display these scientific methods scores right next to the reference to the study.

The scientific issues for inferring cause and effect vary somewhat by institutional setting, and the specific criteria for applying the scientific methods scale vary accordingly. Issues such as sample "attrition," or subjects dropping out of treatment or measurement, for example, do not apply to most evaluations of commercial security practices. But across all settings, our scientific methods scale does include these core criteria:

1. Correlation between a crime prevention program and a measure of crime or crime risk factors
2. Temporal sequence between the program and the crime or risk outcome clearly observed, or a comparison group present without demonstrated comparability to the treatment group
3. A comparison between two or more units of analysis, one with and one without the program ⁷
4. Comparison between multiple units with and without the program, controlling for other factors, or a nonequivalent comparison group has only minor differences evident
5. Random assignment and analysis of comparable units to program and comparison groups

In addition, the use of statistical significance tests is employed as a key criterion in reaching program effectiveness conclusions based on the application of the scores.

The report does not code scientific methods scores on evaluations of every program or practice considered. On many questions, recent literature reviews and meta-analyses by qualified scholars were readily available. The Office of Juvenile Justice and Delinquency Prevention, in particular, was very helpful in providing the draft report of its own group of independent scholars examining the problems of serious, chronic and violent juvenile offenders (Loeber and Farrington, forthcoming). The report uses two alternate procedures in relying on extant secondary reviews and meta-analyses. One is to use data presented in the reviews to score the key original research. The other is not to use any scoring, but merely to summarize the conclusions of the secondary review.

Risk and Protective Factors. The Congressional mandate for this report included risk and protective factors for crime and delinquency as outcome measures to be considered. Different approaches to the interpretation of these terms are offered in the literature. This report defines them as inversely related: the lower the level of a risk factor, the higher the level of a protective factor. For example, community labor force participation is a risk factor where it is low and a protective factor where it is high. To the extent that factors such as a secure personality or strong bonding to adults may be considered protective against independent risk factors (such as neighborhood unemployment), those protective factors can also be treated as risk factors when they are absent.

Deciding What Works

Clear conclusions about what works and what doesn't requires a high level of confidence in the research results. Such claims are always suspect in science, which is an eternally provisional enterprise. New research results

continue to fill in the gaps of our knowledge, and reanalysis of old results in light of the new findings often produces different conclusions. The best one can ever claim to "know" is what to conclude on the available evidence, pending the results of further research. Given the consequences of claim about "what works" can have major effects on crime prevention practice, it is important to use a high threshold for the strength of scientific evidence at any point in time.

The current state of the evidence, however, creates a dilemma in responding to the Congressional mandate. Using level 5 studies as the "gold standard" of evaluation design, the scientific methods scores for most of the available evaluations are low. The recommendations in Chapter 10 are designed to raise the methods scores of future evaluations of DOJ programs. The dilemma the current evidence poses is the question of how high to set the threshold for answering the Congressional question about program effectiveness: deciding what works. A very conservative approach might require at least two level 5 studies showing that a program is effective (or ineffective), with the preponderance of the evidence in favor of the same conclusion. Employing a threshold that high, however, would leave very little to be based upon from the existing science. There is a clear tradeoff between the level of **certainty** in the answers we can give to the Congress and the level of useful **information** that can be gleaned from the available science. On balance, excluding what can be said from moderately rigorous studies would waste a great deal of information that could be useful for policymaking. The report takes the middle road between reaching very few conclusions with great certainty and reaching very many conclusions with very little certainty.

Based on the scientific strength and substantive findings of the available evaluations, the report classifies all local programs into one of four categories: what works, what doesn't, what's promising, and what's unknown. The criteria for classification applied across all seven institutional settings are as follows:

What Works. These are programs that we are reasonably certain of preventing crime or reducing risk factors for crime in the kinds of social contexts in which they have been evaluated, and for which the findings should be **generalizable** to similar settings in other places and times. Programs coded as "working" by this definition must have at least two level 3 evaluations with statistical significance tests showing effectiveness **and** the preponderance of all available evidence supporting the same conclusion. Where the strength of the effect on crime is available in terms of standard deviations from the mean level of crime or risk, the effect size (Cohen, 1977) in both level 3 studies must exceed .1.

What Doesn't Work. These are programs that we are reasonably certain **fail** to prevent crime or reduce risk factors for crime in the kinds of social contexts in which they have been evaluated, and for which the findings should be **generalizable** to similar settings in other places and times. Programs coded as "not working" by this definition must have at least two level 3 evaluations with statistical significance tests showing ineffectiveness **and** the preponderance of all available evidence supporting the same conclusion. The effect size standard for coding what works is also applied where available, which in the current report is limited to the school-based prevention programs.

What's Promising. These are programs for which the level of certainty from available evidence is too low to support **generalizable** conclusions, but for which there is some empirical basis for predicting that further research could support such conclusions. Programs are coded as "promising" if they have at least one level 3 evaluation with significance tests showing their effectiveness at preventing crime or reducing crime risk factors, **and** the preponderance of all available evidence supports the same conclusion.

What's Unknown. Any program not coded in one of the three other categories is defined as having unknown effects. The report lists some but not all such programs. This category includes major variations on program content, social setting, and other conditions which limit the generalizability even of programs coded as working or not. For example, it is unknown whether family training interventions repeatedly found effective in Oregon can work on the south side of Chicago.

The weakest aspect of this classification system is that there is no standard means for determining exactly what variations on program content and setting might affect generalizability. In the current state of science, that can only be accomplished by the accumulation of many tests in many settings with all major variations on the program theme. None of the programs reviewed for this report have accumulated such a body of knowledge so far. The conclusions about what works and what doesn't should therefore be read as more certain to the extent that the conditions of the field tests can be replicated in other settings. The greater the differences between evaluated programs and other programs using the same name, the less certain or generalizable the conclusions of this report must be.

What Works and Policy Conclusions

The uses of this report for policy conclusions require two additional cautions. One is that program evaluations alone are clearly insufficient as a basis for making policy. Other goals programs may achieve besides crime prevention need also to be examined. So must issues of relative cost-effectiveness that this report is unable to address. The current state of science cannot support detailed analyses of where crime prevention dollars can achieve the largest return on investment.

A second caution is that programs with unknown effects should not be judged deficient. A basic tenet of science is that the absence of evidence is not evidence of absence--of a cause and effect relationship. Merely because a program has not been evaluated properly does not mean that it is failing to achieve its goals. Previous reviews of crime prevention programs, especially in prison rehabilitation, have made that error, with devastating consequences for further funding of those efforts. In addressing the unevaluated programs, we must blame the lack of documented effectiveness squarely on the evaluation process, and not on the programs themselves. Our analysis must also address programs for which there is little or weak evidence.

Given the risk of unevaluated programs being labeled ineffective, we attempt where possible to use indirect empirical evidence or theoretical analysis to provide some scientifically based assessment. For example, battered women's shelters have not been evaluated, but substantial epidemiological evidence shows that they protect women at a very high risk time for domestic violence. Thus indirect evidence suggests they should be effective at reducing domestic violence, even though the specific hypothesis remains untested. Such commentary beyond the scope of program evaluations seems, on balance, to be a reasonable attempt to fulfill the Congressional mandate for this report.

FEDERAL GUIDANCE VERSUS FEDERAL FUNDING

A recent analysis of police organizations concluded that "research and development is the core technology of policing" (Reiss, 1992). For police officers accustomed to thinking of guns, cars or even computers as their core technology, this statement may be quite surprising. Just as R & D is the core technology of both medicine and computer software manufacturing, however, so it is for crime prevention. This is no more true in policing than in the six other institutions. And for the federal government to leverage its scarce dollars in crime prevention, Professor Reiss's dictum may be truest of all.

The claim that R & D is a core technology for crime prevention provides a useful framework for considering the history of the federal government's role in state and local crime. That history can be seen as a struggle between **guiding** and **funding** local crime prevention, between an emphasis on R & D and an emphasis on program funding. The two are not necessarily exclusive, and can even be complementary to the extent that R & D becomes the basis for more effective use of program funding. That appears to be the premise of the Congressional mandate for this report. But any consideration of federal programs for local crime prevention must begin by noting the two separate, and clearly unequal, responsibilities Congress has assigned to the U.S. Department of Justice.

Historically, crime prevention R & D preceded local funding, and persisted during the decade in which funding

was largely abolished. The following time line summarizes the two functions:

Program Funding	-----		-----		-----		
Research & Development	-----						
Years	1950s	1960	1965	1969	1980	1988	1996

Prior to World War Two, the federal role in local crime prevention was limited to investigation and prosecution of federal crimes, such as bank robbery. During the Eisenhower Administration, growing concern over juvenile delinquency led to research within the Department of Health, Education and Welfare (HEW) Office of Children and Youth. These programs were expanded in the early Kennedy-Johnson administration, especially within the National Institute for Mental Health, which joined the Ford Foundation as a major source of funding for research on youth crime. (Ford and other foundations largely withdrew from the crime problem after the massive increases in federal funding in the 1970s). Many of the ideas emerging from that research, especially about community development, were to become key elements in the Johnson administration's War on Poverty.

In 1965, the federal role in local crime prevention moved beyond research into program development, and from HEW into the Department of Justice (DOJ). In the process, the federal role evolved into a practical emphasis on providing **guidance** to local authorities about preventing crime. The creation of the Office of Law Enforcement Assistance within DOJ led to grants supporting new ideas, such as the Family Crisis Intervention Unit. Developed as a partnership between the City University of New York and the New York City Police Department under an OLEA grant (Bard, 1970), this project became the first clear example of federal guidance, with these elements:

- o a locally-initiated innovative idea for a crime prevention program
- o federal funds to support a demonstration of the program in one location
- o federal funds to support an evaluation of the program in one location
- o federal funds to disseminate the results of the program nationwide

The success of the approach was dramatic. Within a few years after DOJ funded the demonstration in New York, hundreds of police agencies around the country had adopted a similar approach. The capacity of the federal government to help incubate a new idea and then distribute it to the nation was clear.

What was less clear was the capacity of the federal government to insure high scientific standards of program evaluation (Liebman and Schwarz, 1973). Using the scale of scientific methods employed in this report, the evaluation of the New York City project would have ranked a zero. While the program sought to reduce domestic violence, the evaluation contained no measurement of that crime problem, relying only on general crime statistics. There was no comparison of cases that were or were not assigned to the Family Crisis Intervention Unit, and no basis for determining its effectiveness. Yet when both the evaluation and the DOJ pronounced the program a success, the combined authority of science and the federal government led to widespread replication of the program using local tax dollars.

In the past three decades, the federal capacity to produce rigorous evaluation research has increased substantially. The federal role has helped the entire field of criminology to grow in both the numbers and the experience of trained evaluation scientists; the number of doctoral programs in the field has also increased ten fold. The field itself has a much stronger body of knowledge about scientific issues in program evaluation, notably statistical power. The analysis presented in Chapter Ten suggests that the major limitations on better crime prevention evaluations today are not technical, but statutory. There is a clear need for a statutory plan specifying both the resources and the structure of the federal role in crime prevention R & D. In the absence of such a plan, a great deal of federal funds will be spent without any opportunity to measure their effectiveness at preventing crime.

Most of those funds will be spent on program funding for crime prevention, which have come, gone and returned to the federal role in local crime prevention. At the peak of the violent crime epidemic of the late 1960s, the idea of federal financing of local police and corrections had enormous bipartisan appeal. The Omnibus Crime Control and Safe Streets Act of 1968 was signed by President Johnson, and then implemented by President Nixon at a cost of almost \$1 Billion per year. The 1968 law increased the federal R & D role by creating what became the present National Institute of Justice, Bureau of Justice Statistics, and the Office of Juvenile Justice and Delinquency Prevention as part of the new Law Enforcement Assistance Administration (LEAA) in DOJ. But most of the billion was transferred back to the states, through each Governor's Office, for spending on a wide range of unevaluated programs. Some of the state expenditures, like tanks for rural police agencies, became so notorious that LEAA was ultimately abolished by Congress at the end of the Carter administration.

Operational program funding slowly returned to the federal role during the Bush administration, as part of the national war on drugs prompted partly by crack cocaine epidemics in several cities. Despite the urging of almost 40 big city police chiefs that Congress set aside even 10% of the drug war funding for federal R & D, the return of program funding contained no plan for evaluating its effectiveness. Just as in the 1960s design of the LEAA, Congress provided no statutory plan for developing usable knowledge from state and local programs funded by federal dollars. Sound evaluations, and the costs associated with them, remained the exception, not the rule. The Crime Bill of 1994 vastly increased program funding to historic highs, but provided almost no statutory language for measuring the effectiveness of the programs funded.

Discretionary reallocations of the 1994 funds by the Assistant Attorney General for Justice Programs have breathed new life into the R & D role, putting resources for measuring effectiveness to a new high level. The National Institute of Justice, for example, was only appropriated \$31 million in fiscal year (FY) 1996, but actually expended \$99 million. The additional funds came from allowable transfers of programmatic funds. In the short run, these reallocations seem likely to increase the scientific evidence available for assessing the effectiveness of crime prevention programs; even a year from now, for example, a report like this one should have many new findings from rigorous research. But in the long run, the role of R & D will remain marginal to the federal role without a statutory plan for insuring its centrality.

The key issue for such a plan is the relationship between guiding and funding crime prevention. The two can proceed on largely separate paths, much as they have in the past. The result of that approach is an enormous opportunity cost, a lost chance to learn what works, what doesn't, and what's promising. By tying R & D more closely to program funding, the Congress can leverage taxpayer dollars to guide local crime prevention as well as supplement its funding. The record suggests that, dollar for dollar, the small federal investment in R & D has had far more effect on local crime prevention than the large federal investment in program funding (Blumstein and Petersilia, 1995). Program funding provides a tiny fraction of the financial capital invested in crime prevention. Research and development, in contrast, provides a very large fraction of the intellectual capital invested in local crime prevention. Program funding can be far more productive if it serves to enhance R & D.

Using program funding to enhance R & D is unlikely to happen without a Congressional mandate. No program can be properly evaluated as an afterthought. In contrast to a financial audit, a scientific evaluation requires data collection in advance of the program startup date. It also requires an element of control by the evaluators in how the program is delivered, in order to provide a valid evidence about cause and effect. While not all locations adopting a program need to be evaluated in this way, there must be at least a few "laboratory" locations in which controlled testing of crime prevention effects becomes scientifically feasible. Under current statutory funding arrangements, however, Congress imposes little requirement on funded programs to cooperate with evaluations, and little requirement on federal agencies to set aside program funds to support scientifically adequate evaluations.

This historical context sets the stage for the Congressionally-mandated review of program effectiveness. It reveals several key points to recall in reviewing the following chapters:

- 1) The vast majority scientific knowledge on the effectiveness of federal programs is itself the product of federal investment, primarily through DOJ; such knowledge is too costly to come from state and local tax dollars
- 2) The short supply of available knowledge is a direct reflection of federal under- investment in crime prevention R & D.
- 3) Federal program funding puts the cart before the horse, then fail to even harness the horse. Crime prevention programs are funded nationwide before they are evaluated, and then are funded in ways that make sound evaluation almost impossible to achieve.

This report is thus a scientific assessment of both federal crime prevention programs and federal policy for evaluating those programs. Defining crime prevention as a result rather than an intention, the report maps out the charted and uncharted territory of crime prevention knowledge in each of its seven institutional settings. It distinguishes between strong and weak evidence for each part of that map, most of which is unfortunately far too weak. It then locates federal crime prevention programs on that map, many of which fall in uncharted territory. It concludes with an assessment of the federal role in improving that map, and a cost-effective plan for speeding up the rate of discovery.

NOTES

¹Some developmental criminologists distinguish factors and programs that help stop people from ever becoming offenders from those which help prevent further offenses after a first offense (e.g., Tremblay and Craig, 1995). Given the difficulty in detecting offenses hidden from the criminal justice system, however, this distinction is made primarily for purposes of program operation, and not for conceptual purposes.

²104th Congress, H.R. Report 104-378, December 1, 1995, Section 116.

³And as the policy debate relies increasingly on data, the importance of the scientific strength of the evidence becomes more visible. Asra Q. Nomani and Jeffrey Taylor, "Shaky Statistics Are Driving the Airbag Debate" WALL STREET JOURNAL January 22, 1997, p. B1.

⁴The scores are based on direct examination of studies subjected to primary review (see Appendix). For studies summarized from secondary reviews, the scores are inferred from descriptions of research designs provided in the secondary reviews.

⁵This criterion was employed by all chapters except for Chapter Seven, in which long time series analyses absent control groups were coded as level 3.

⁶Chapter Five rates some studies as level four even without a large number of units in the comparison group.

⁷Chapter Five also requires that differences between treatment and control are known and partially controlled, while Chapter Seven substitutes long time series for control groups.

REFERENCES

Anderson, Elijah

1978 *A Place on the Corner*. Chicago: University of Chicago Press.

Bard, Morton

1970 *Training Police As Specialists in Family Crisis Intervention*. Washington, DC: US Department of Justice.

Barr, R. and Ken Pease

1990 *Crime Placement, Displacement, and Deflection*. In Michael Tonry and Norval Morris, eds. *Crime and Justice: A Review of Research*. Vol. 12. Chicago: University of Chicago Press.

Black, Donald

1976 *The Behavior of Law*. NY Academic.

Blumstein, Alfred and Joan Petersilia

1995 *Investing in Criminal Justice Research*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Blumstein, Alfred, Cohen, Jacqueline, and Daniel Nagin (eds).

1978 *Deterrence and Incapacitation: Estimating The Effects of Criminal Sanctions on Crime Rates*. Washington, DC: National Academy of Sciences.

Blumstein, Alfred

1993 *Making Rationality Relevant*. *Criminology* 31: 1-16.

Braithwaite, John

1989 *Crime, Shame and Reintegration*. Cambridge: Cambridge University Press.

Butterfield, Fox

1995 *All God's Children*.

Cloward, Richard and Lloyd Ohlin

1960 *Delinquency and Opportunity*. Glencoe, Ill: Free Press.

Cohen, J.

1977 *Statistical Power for the Behavioral Sciences*. NY: Academic.

Cohen, Lawrence and Marcus Felson

1979 *Social Change and Crime Rate Trends: A Routine Activities Approach*. *American Sociological Review* 44: 588-607.

Coleman, James S.

1990 Foundations of Social Theory. Cambridge: Harvard University Press.

Cook, Philip J. and Mark H. Moore

1995 Gun Control. In James Q. Wilson and Joan Petersilia, Eds., Crime. San Francisco: ICS Press.

Center for Substance Abuse Prevention

1995 The National Structured Evaluation of Alcohol and Other Drug Abuse Prevention. Washington, DC: US Department of Health and Human Services.

Ekblom, Paul and Ken Pease

1995 Evaluating Crime Prevention. In Michael Tonry and David P. Farrington, Eds., Building a Safer Society. Crime and Justice, Vol. 19. Chicago: University of Chicago Press.

Farrell, Graham

1995 Preventing Repeat Victimization. In Michael Tonry and David P. Farrington, Eds., Building a Safer Society. Crime and Justice, Vol. 19. Chicago: University of Chicago Press.

FBI

1994 Crime in the United States, 1993. Washington, DC:

1996 Crime in the United States, 1995. Washington, DC:

Felson, Marcus

1994 Crime in Everyday Life. Thousand Oaks, CA: Pine Forge Press.

Freeman, Richard B.

1983 Crime and Unemployment. In James Q. Wilson, Ed. Crime. San Francisco: ICS Press.

1995 The Labor Market. In James Q. Wilson and Joan Petersilia, Eds., Crime. San Francisco: ICS Press.

Gottfredson, D.C.

1985 Youth Employment, Crime, and Schooling: A Longitudinal Study of a National Sample. DEVELOPMENTAL PSYCHOLOGY 21: 419-432.

Gottfredson, Michael and Travis Hirschi

1990 A General Theory of Crime. Stanford, CA: Stanford University Press.

Greenwood, P.W., K.E. Model, C.P. Rydell & J. Chiesa. (1996) Diverting Children from a 1996 Life of Crime: Measuring Costs and Benefits. Santa Monica, CA: RAND.

Hirschi, Travis

1969 *Causes of Delinquency*. Berkeley: University of California Press.

1986 On The Compatability of Rational Choice and Social Control Theories of Crime. In Derek Cornish and Ronald Clarke, Eds., *The Reasoning Criminal*. NY: Springer-Verlag.

1995 *The Family*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Hope, Tim

1995 *Community Crime Prevention*. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

Kelling, George L., Antony M. Pate, Duane Dieckman and Charles Brown

1974 *The Kansas City Preventive Patrol Experiment: Technical Report*. Washington, DC: Police Foundation.

Lane, Roger

1992 *Urban Police and Crime in Nineteenth Century America*. In Michael Tonry and Norval Morris, eds., *Modern Policing. Crime and Justice*, Vol. 15. Chicago: University of Chicago Press.

Liebman, Donald A. and Jeffrey Schwartz

1973 *Police Programs in Domestic Crisis Intervention: A Review*. In J. R. Snibbe and H.M. Snibbe, Eds., *The Urban Policeman in Transition*. Springfield, Ill.: Charles C. Thomas.

Lindstrom, Peter

1996 Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Loeber, Rolf and David P. Farrington, Editors

Forthcoming Report of the Study Group on Serious, Chronic, and Violent Juvenile Offenders. Washington, DC: Office of Juvenile Justice and Delinquency Prevention

Lukes, Steven and Andrew Scull, Editors

1983 *Durkheim and The Law*. NY: St. Martin's Press.

Marciniak, Elizabeth

1994 *Community Policing of Domestic Violence: Neighborhood Differences in the Effects of Arrest*. PhD Dissertation, University of Maryland, College Park.

Massey, Douglas S. and Nancy A. Denton

1993 American Apartheid: Segregation and the Making of the Underclass.

Merton, Robert K.

1969 The Matthew Effect in Science. *Science*.

Oldenburg, Ray

1990 The Great Good Place. NY: Paragon House.

Olds, David, Charles R. Henderson, Jr., Robert Chamberlin, and Robert Tatelbaum

1986 Preventing Child Abuse and Neglect: A Randomized Trial of Nurse Home Visitation. *Pediatrics* 78: 65-78.

OJJDP (Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Department of Justice)

1996 Juvenile Offenders and Victims: A National Report. Washington, DC: OJJDP.

Petersilia, Joan and Alfred Blumstein

1995 In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Pierce, Glenn, Susan A. Spaar, and LeBaron Briggs, IV.

1988 The Character of Police Work: Strategic and Tactical Implications. Unpublished Ms., Northeastern University, Center for Applied Social Research.

Reiss, Albert J., Jr.

1987 The Legitimacy of Intrusion Into Private Space. In Clifford D. Shearing, and Philip C. Stenning, Eds., *Private Policing*. Beverly Hills: Sage.

1992 In Michael Tonry and Norval Morris, Eds., *Modern Policing*. *Crime and Justice*, Vol. 15. Chicago: University of Chicago Press.

Reiss, Albert J. Jr., and Jeffrey A. Roth, eds.

1993 *Understanding and Preventing Violence*. Washington, DC: National Academy of Sciences.

Ross, H. Laurence

1994 personal communication

Sampson, Robert

1986 *Crime In Cities: The Effects of Formal and Informal Social Control*. In Albert J. Reiss, Jr. and Michael Tonry, Eds., *Communities and Crime*. *Crime and Justice*, Vol. 8. Chicago: University of Chicago Press.

Sampson, Robert and John Laub

1993 *Crime in The Making*. Cambridge, Mass.: Harvard University Press.

SEARCH Group

1996 *Interface*. Fall.

Sherman, Lawrence W.

1992 *Policing Domestic Violence: Experiments and Dilemmas*. NY: Free Press.

Sherman, Lawrence W., Patrick R. Gartin and Michael E. Buerger

1989 *Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place*. *Criminology* 27: 27-55.

Sherman, Lawrence W., James W. Shaw and Dennis P. Rogan

1995 *The Kansas City Gun Experiment: Research in Brief*. Washington, D.C.: National Institute of Justice.

Sherman, Lawrence and David A. Weisburd

1995 *General Deterrent Effects of Police Patrol in Crime "Hot Spots:" A Randomized, Controlled Trial*. *Justice Quarterly* 12: 625-648.

Tittle, Charles and Charles H. Logan

1973 *Sanctions and Deviance: Evidence and Remaining Questions*. *Law and Society Review* 7: 371-379.

Tremblay, Richard and Wendy M. Craig

1995 *Developmental Crime Prevention*. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society*. *Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

Toby, Jackson

1982 *Violence in School*. In Norval Morris and Michael Tonry, Eds. *Crime and Justice: A Review of Research*. Vol.4. Chicago: University of Chicago Press.

Tonry, Michael

1995 *Malign Neglect*. NY: Oxford University Press.

Tyler, Tom

1991 *Why People Obey the Law*. New Haven: Yale University Press.

Williams, Kirk R., and Richard Hawkins

1986 *Perceptual Research on General Deterrence: A Critical Review*. *Law and Society Review* 20: 545-572.

Wilson, William Julius

1996 When Work Disappears: The World of the New Urban Poor. NY: Alfred A. Knopf

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Chapter Three:

COMMUNITIES AND CRIME PREVENTION

by Lawrence W. Sherman

..many community characteristics implicated in violence, such as residential instability, concentration of poor, female-headed households with children, multiunit housing projects, and disrupted social networks, appear to stem rather directly from planned governmental policies at local, state and federal levels.

--National Academy of Sciences report, 1993¹

Communities are the central institution for crime prevention, the stage on which all other institutions perform. Families, schools, labor markets, retail establishments, police and corrections must all confront the consequences of community life. Much of the success or failure of these other institutions is affected by the community context in which they operate. Our nation's ability to prevent serious violent crime may depend heavily on our ability to help reshape community life, at least in our most troubled communities. Our good fortune is that the number of those troubled communities is relatively small. Our challenge is that their problems are so profound.

Serious violent crime is not a problem for most residential communities in the United States. In the suburban areas where most Americans live, the homicide rate is comparable to Finland's (FBI, 1994: 191; Reiss and Roth, 1993: 52). Half of all American homicides occur in the 63 largest cities, which only house 16% of the U.S. population. Homicides in those cities are also highly concentrated, in a handful of communities marked by concentrated poverty, hypersegregation (Massey and Denton, 1993), family disruption and high gun density. Almost 4% of all homicides in America involve gang members in Los Angeles County alone (Klein, 1995: 120). Serious violent crime in America is predominantly a matter of one particular kind of community, increasingly isolated and shunned by the rest of American society (Wilson, 1996).

The causation of inner-city crime has received extensive diagnosis (Wilson, 1987, 1996; Massey and Denton, 1993; Bursik and Grasmik, 1993; Sampson and Lauritsen, 1993). The prevention of inner-city crime has been attempted with extensive programs. The connection between causes and prevention, however, has been weak at best, and often nonexistent. More than any of the other institutional settings, the community setting shows a striking divergence of causal analysis and prevention programs. The causes, or at least the risk factors correlated with serious crime,² are basic and interconnected, while the programs are superficial and piecemeal. Federal policies from urban renewal to public housing may have done more to cause inner city violence than to prevent it (Sampson and Lauritsen, 1993: 89). For most of this century, community crime prevention programs have failed to tackle the governmental policies and market forces that fuel inner-city violence.

A central issue in the disconnection between causes and cures is the assumptions of how these communities "got that way." As William Julius Wilson has observed, "The segregated ghetto is not the result of voluntary or positive decisions on the part of the residents... [but is] the product of systematic racial practices such as restrictive covenants, redlining by banks and insurance companies, zoning, panic peddling by real estate agents, and the creation of massive public housing projects in low-income areas." The result of these forces in recent years has been called "hypersegregation:" historically unprecedented levels of geographic segregation by race and class, magnifying the effects of poverty and racial isolation (Massey and Denton, 1993). Yet community prevention programs address none of these causes of community composition and structure, which in turn influence community culture and the availability of criminogenic substances like guns and drugs.

Ironically, a central tenet of community prevention programs has been the empowerment of local community leaders to design and implement their own crime prevention strategies. This philosophy may amount to throwing people overboard and then letting them design their own life preserver. The scientific literature shows that the policies and market forces causing criminogenic community structures and cultures are beyond the control of neighborhood residents, and that "empowerment" does not include the power to change those policies (Hope, 1995). It is one thing, for example, for tenants to manage the security guards in a public housing project. It is another thing entirely to let tenants design a new public housing policy and determine where in a metropolitan area households with public housing support will live.

Even the management of modest programs with federal support are often beyond the capacity of community organizations, especially where it is needed the most. The consistent evidence of the neighborhood watch programs, for example (Skogan, 1990: chapter 6), is that the more crime and risk factors a neighborhood suffers, the less likely it is to develop any organized activity to fight crime. When community organizations do get involved in administering federal funds, there are often major

problems and scandals of financial mismanagement. "Empowering" local communities with federal funding often turns into no applications from the worst areas and red tape nightmares for the not-so-bad areas that do get involved.

The disconnection between causation and prevention is also clear in the official use of the term "comprehensive." To be comprehensive in addressing risk factors is very different from being comprehensive in mobilizing all available agencies of government. Recent "comprehensive" crime prevention programs merit the term more by agency participation than by risk factors. The fit between agencies and risk factors is good in a few cases, such as home nurse visitation to address single parent childraising practices (see Chapter 4). But many risk factors have no obvious agency to fix them. Even multi-agency coordination is no guarantee that the major risk factors, like hypersegregation and labor market isolation (see Chapter 6), will be addressed.

Thus the major causes of community crime problems are like handcuffs locking a community into a high crime rate. The most frequently evaluated community-based crime prevention programs do not attempt to break those handcuffs. Rather, they operate inside those constraints, attempting "small wins" within the limited range of risk factors they can manipulate. But until the handcuffs of race-based politics themselves are unlocked, many analysts expect relatively little major improvements from programs addressing only the symptoms of those constraints.

Given the disconnection between causes and cures, it is not surprising that program impact evaluations provide little strong evidence of effective crime prevention. Setting aside programs delivered in families, schools, labor markets, places or the criminal justice system, the number of evaluations of community-based programs is quite small and generally discouraging. While there have been some "small wins," like reduced vandalism and drug use in housing projects with recreational programs, there have been no scientifically documented "big wins" preventing violence in a concentrated urban poverty area. Within that context, community mobilization efforts, gang prevention programs, gun buybacks, social worker and recreation programs have generally failed to show much if any effect on crime.

Yet the evaluation methods for these programs have generally been quite weak, and there is no certainty that such programs are doomed to failure even though they sidestep the central causes reflected in the scientific literature. Amidst generally negative results from generally weak program evaluations, there are encouraging findings from some research that may merit further testing, even though other studies have found contradictory results:

- o **Gang violence prevention** has been effective in several case studies
- o **Community-Based Mentoring** prevented drug abuse in one rigorous experiment
- o **Afterschool Recreation** programs have reduced vandalism in public housing

These findings about community-based programs addressing "proximate" rather than "root" causes suggest a strategy for developing national crime prevention policy. Both the Justice Department and the rest of the federal government are moving towards concentration of resources on high-crime inner-city areas, which one-third of all African-Americans reside (Massey and Denton, 1993: 77) and where community factors generate the high homicide victimization rate of young black males-- which is twelve times higher than the average in the US population (Fingerhut and Kleinman, 1990). Whether the efforts now in planning can address the structural factors is an unanswered question. But a combination of programs addressing proximate causes and the structural factors may have the best chance of success.

It is also possible that the diagnosis of community crime causation is incomplete. Even in the face of profound urban problems, it may be possible to reduce substantially the level of serious crime. New York City homicides and shootings dropped in half in recent years, with no documented change in concentrated urban poverty. It is not clear how or why that reduction occurred. The leading theory is the application of the police methods found effective in the studies reviewed in Chapter Eight. No community-level prevention program (or demographic change) has emerged as an alternative, competing explanation. But it remains possible to design such a program, focused more on the proximate than on the root causes of serious violence, and to test it in a randomized trial on a large multi-city sample of urban poverty areas. Programs currently planned by the executive branch to improve inner-city conditions can be most beneficial if they are structured to allow such a rigorous evaluation, so the nation can be very clear about the precise effects of the program on crime.

This chapter compares scientific evidence about community risk factors for violent crime to the logic of community crime prevention programs. It briefly reviews some methodological issues in evaluating those programs. It then examines the limited impact evaluations of crime prevention programs based in community settings outside the institutions examined in the next six Chapters. The chapter concludes by comparing the science of community-based crime prevention to major DOJ funding

programs, with policy recommendations for both programs and research.

COMMUNITY RISK FACTORS FOR VIOLENT CRIME

The science of crime causation, while still in its infancy, offers more than a century of research on the community characteristics associated with higher risks of violent crime (Quetelet, 1842). By "community," this literature usually denotes residential areas of varying size within cities. These areas may be as small as blocks (Taylor and Gottfredson, 1986) or cover several square miles (Shaw and McKay, 1942). Much of this literature, recently reviewed for an NIJ-funded National Academy of Sciences Panel (Sampson and Lauritsen, 1993), uses rates of homicide and other serious violent crimes as the major focus.

One framework for classifying community risk factors distinguishes community composition, social structure, oppositional culture, legitimate opportunities, and social and physical disorder. Each of these apparent risk factors could be the focus of comprehensive community crime prevention programs. Most are not. Instead, as the National Academy of Sciences report suggests, "non-crime" government policies may have done more over the past four decades to enhance these risk factors than to reduce them. Perhaps the most visible example is the construction of public housing projects (Bursik, 1989), which in one study was followed by increased population turnover and increased crime rates independent of race.

Community composition refers to the kinds of people who live in a community. Unmarried or divorced adult males, teenage males, non-working adults, poor people, persons with criminal histories and single parents have all been identified in the literature as the kind of people whose presence is associated with higher rates of violent crime (Messner and Tardiff, 1986; Sampson, 1986; Curry and Spergel, 1988; Bursik and Grasmik, 1993). What is unclear in the literature is whether having more such people simply produces a higher total of individual level risk factors, or whether there is a "tipping" effect associated with the concentrations of such people (Sampson and Lauritsen, 1993). The latter theory derives from substantial findings on the effects of proportions in groups and corporations (Kanter, 1977): in which behavior of entire communities changes when a proportion of one type of person goes beyond the tipping point.

Public policies contributing to the concentration of high-risk people in certain neighborhoods include the federally funded highway system that took low-risk people out of urban neighborhoods to the suburbs (Skogan, 1986). The suburbanization of both white middle class people through highways, and black middle class people through federal open-housing laws (Wilson, 1987), helped tip the proportions of many inner city communities towards a majority of persons or families at higher risk of crime. As long as those high-risk families or persons were in a minority, their low risk neighbors were able to exercise a community protective factor against violent crime. When the high-risk families became a majority in many urban communities, a spiral of crime and the fear of crime led to further loss of middle class residents and jobs. This in turn increased the concentration of unemployed and poor people, followed by further increases in crime (Schurman and Kobrin, 1986; Wilson, 1996.) No federal or local public policies have yet to counteract, or even challenge, these proportional imbalances.

Community Social Structure. Independently of the kinds of people who live in a community, the way in which they interact may affect the risk of violent crime. Children of single parents, for example, may not be at greater risk of crime because of their family structure. But a community with a high percentage of single parent households may put all its children at greater risk of delinquency by reducing the capacity of a community to maintain adult networks of informal control of children. The greater difficulty of single parent families in supervising young males is multiplied by the association of young males with other unsupervised young males, since delinquency is well-known to be a group phenomenon (Reiss, 1988). The empirical evidence for this risk factor is particularly strong, with violent victimization rates up to three times higher among neighborhoods of high family disruption compared to low levels, regardless of other characteristics such as poverty, and the correlation between race and violent crime at the neighborhood level disappears after controlling the percentage of female-headed households (see Sampson and Lauritsen, 1993).

Other aspects of community structure include the prevalence of unsupervised male teenage groups, the density (or extent of overlap) among local friendship networks, and local participation in formal voluntary associations. Support for the inverse correlation of violent crime with voluntary association membership has been found at the block level in Baltimore (Taylor et al, 1984). Sampson and Groves (1989) found support for dense friendship networks as a protective factor and unsupervised teen groups as a risk factor for violence in the British Crime Survey. All of the risk factors have arguably been concentrated in urban neighborhoods by public policies. Skogan (1986) reviews the evidence on urban renewal's destruction of dense local friendship networks, uprooting entire neighborhoods; nationwide, 20 percent of all urban housing units occupied by blacks were demolished during the 1970s (Logan and Molotch, 1987: 114, as cited in Sampson and Lauritsen, 1993: 88). Wilson (1987) and Massey and Denton (1993) trace the history of public housing policy decisions that concentrated poor, black, female-headed households in limited areas rather than dispersing them amidst other kinds of families (Lemann, 1991). While community mobilization programs are designed in part to build voluntary association membership and increase informal social

control, the evidence to date suggests that such efforts have not succeeded (Hope, 1995).

Oppositional Culture. Observers of high crime neighborhoods have long identified the pattern of "oppositional culture" arising from a lack of participation in mainstream economic and social life: bad becomes good and good becomes bad. Given the apparent rejection of community members by the larger society, the community members reject the values and aspirations of that society by developing an "oppositional identity" (Cohen, 1955; Clark, 1965; Braithwaite, 1989; Massey and Denton, 1993: 167). This is especially notable in terms of values that oppose the protective factors of marriage and family, education, work and obedience to the law. As inner-city labor force participation rates have declined (Wilson, 1996) and inner-city segregation has increased over the past three decades (Massey and Denton, 1993), the strength of the opposition has increased. Ethnographic studies of such cultures in recent years (e.g., Anderson, 1990) show more intense opposition than similar studies in the 1960s and 1970s (e.g., Liebow, 1967; Anderson, 1978), which found more widespread acceptance of mainstream values. Efforts to gain "respect" in oppositional cultures may then rely more on violence than on other factors (Anderson, 1990). Public policy has contributed to this primarily by its historical support for segregation and its modern failure to prevent its inner-city concentration, both by race (Massey and Denton, 1993: chapter 7) and joblessness (Wilson, 1996: chapter 3).

Criminogenic Commodities. Communities with very high rates of youth violence are places in which there are high concentrations of criminogenic commodities (Cook and Moore, 1995). Both alcohol use (Collins, 1989) and drug use (Goldstein, 1989) are highly correlated with violent crime at the situational level of analysis (Miczek, et al, 1993), and gun use in crime generally causes greater risk of homicide (Cook, 1991; Reiss and Roth, 1993). Other evidence suggests that high crime communities appear to have very high concentrations of locations selling alcohol (Roncek and Maier, 1991) and drugs (Sherman and Rogan, 1995). Whether the disproportionate presence of these substances reflects market demand arising from oppositional culture or other reasons (including public policy) is an unresolved issue in the literature.

Social and Physical Disorder. Recent work on the "broken windows" (Wilson and Kelling, 1982; Kelling and Coles, 1996) theory of community crime causation suggests some support for the theory (Skogan, 1990). The theory claims that in communities where both people and buildings appear disorderly, the visual message that the community is out of control may attract more serious crime (Wilson and Kelling, 1982). This may happen by a spiral of increasing fear of crime among conventional people, who use the area less and thus provide less informal control. Communities that deteriorate in this respect over time are observed to suffer increased rates of violence (Schuerman and Kobrin, 1986). Public policies contribute to such declines through nonenforcement of building code violations (Hirsch, 1983) and of minor criminal conduct such as public drinking (Kelling and Coles, 1996). Demolition policies to reduce the unsightly appearance of decayed buildings may then also reduce neighborhood density of street populations, the effect of which is not clear in the literature; lower density may either increase the risk of violent crime (Wilson, 1996) or reduce it (Sampson and Lauritsen, 1993).

All of these risk factors and more are connected to broader debates about race, poverty, welfare, unemployment and family life in America. These debates often ignore the extreme inner-city concentrations of these risk factors. These concentrations are both extreme in each category and in their accumulation. Few neighborhoods in the US suffer nonemployment rates as high as 63 to 77 percent of all adults. The ones that do are also likely to suffer from weak social structure, high rates of alcohol abuse, gun carrying, drug abuse, and violent youth crime. To the extent that policy debates focus on these issues outside of the inner-city areas of concentration, it may fail to attack the interdependence between these risk factors.

EVALUATING COMMUNITY CRIME PREVENTION

In order to learn whether federal policies can at least reduce violent crime in such communities, both strong programs and strong scientific methods should help. In this context, "strong" programs would address multiple risk factors simultaneously, while "strong" scientific methods would isolate the separate effects of different program elements. Using these definitions, the current state of the science offers no strong tests of strong community crime prevention programs.

The evaluations reviewed in this chapter generally employ weak research designs to test programs focused on symptoms of community risk factors, rather than the basic risk factors themselves. This limits our ability to draw conclusions about what effects, if any, the evaluated programs really have. As Chapter Two explains, all evaluations are not created equal. Some of them provide far stronger evidence about cause and effect than others. The strong ones generally employ large samples, reliable measures of both program operations and their intended effects, and possible rival causes of those effects. The weaker ones, quite common in this chapter, may measure program content and crime, but do a very poor job of measuring other factors that may affect crime besides the program.

This chapter uses the scale of scientific methods scores presented in Chapter 2. On a scale of 1 to 5, each specific evaluation reviewed is ranked for its capacity to support strong conclusions about the effect of the program. This strength of evidence is

often unrelated to costs, or even the theoretical strength of the program being tested. The massive Chicago gang prevention project of the early 1960s, for example, gathered detailed records on thousands of interactions between the gang workers and area youths. But because the program area was the unit of analysis, not those interactions, the actual sample size was only 4 areas, and the power to infer cause and effect was quite low. Any number of other factors could have caused crime in those areas to go up or down besides the presence or absence of the intensively measured gang prevention programs.

This problem poses a serious obstacle to advancing scientific knowledge about community-based crime prevention. Community risk factors can only be addressed and measured one community at a time. The cost of measuring some factors is very high. Multiplying that cost across a substantial sample of communities has long been deemed prohibitive by research funding agencies. Yet the cost of inner-city violence is also very high. The cost of more rigorous program research could be well justified if it led to more effective community-based prevention programs. In the absence of such investment to date, however, there is not a single large-sample randomized controlled trial in which the community is the unit of analysis and the outcome measure is serious crime.

A related problem of scientific method is the simultaneous application of more than one program to a community at a time. These combinations of treatments are usually premised on the rationale that the more programs, the better: comprehensively attacking many risk factors at once should increase the overall chances of successful crime prevention. In the words of one observer, the theory is that "only everything works." The problem is that even with successful results, a combination of programs makes it impossible as a matter of scientific method to isolate the active ingredients causing the success. It may be all of them in combination. Or it may be only one or two.

A third related issue is the choice of program elements. Many funding programs leave the choice of specific prevention programs up to local communities. Local assessment of specific community risk factors and local decisions about program content are a key part of many community-based strategies (Hawkins, et al, 1995). But from a scientific standpoint, the variability in these combinations across communities allows an evaluation to test the effects of the general strategy, and not the specific program elements. Research designs in other fields have been used to systematically vary the program combinations, and determine across large samples which combinations are most effective, holding other factors constant through random assignment. This approach, or some variant of it, can be used in evaluating community programs, and may be implemented soon in England (Farrington, 1997).

There is no necessary tradeoff, as some have suggested, between comprehensive programs and scientific evaluations. While the operational and research problems in multi-community designs are clearly complex, they can be addressed with sufficient time and resources. As recent DOJ crime prevention policy has moved in the direction of comprehensive community programs, both the number of treatments and the number of communities have become increasingly critical aspects of the potential return on evaluation dollars. The scientific solution to the methodological limitations observed so far is larger sample sizes, with varying combinations of the treatments. The best argument in favor of this "big science" solution is the evidence that follows, and the extremely limited conclusions we can draw from the \$100 million or more (in current dollars) of private and public funds that it cost over the past three decades to conduct the studies examined below.

COMMUNITY MOBILIZATION

The most visible community-based crime prevention strategy in the latter Twentieth Century has been community mobilization. The definition of this term has varied widely, from the creation of formal community development organizations to the mobilization of resources from outside the community to help solve local problems like crime and unemployment. Hope's (1995) review of the evaluations of these programs finds virtually no evidence that the programs attempted to date have achieved an impact on crime. In some cases, as in New York City's Mobilization for Youth Project of the 1960s, that is due to the lack of crime impact evaluations. In other cases, it is due to a failure to implement successfully the programs selected by community leadership to a degree sufficient to test the theory of the program. Whether the approach could be successful under conditions other than those evaluated to date remains unknown.

The Eisenhower Foundation's support of nonprofit community organizations in ten low-income neighborhoods in the late 1980s offers one of the best evaluations available (Scientific Methods Score = 3; Lavrakas and Bennett, 1989, as cited in Hope, 1995: 39-40). Its most encouraging finding is that eight of the ten sites actually implemented programs chosen during the planning process. This stands in strong contrast to the police-generated neighborhood watch programs reviewed in Chapter Eight, for which the major problem in low-income areas has been successfully organizing block or apartment house meetings of neighborhood residents. The Eisenhower site programs that were implemented ranged from individual-level social service provision to attempts to change community social structure. The evaluators concluded from the impact evaluations that there was "little evidence that the ...Program had documentable successes in achieving its major goals of crime reduction and

improved quality of life."

These results may stem in part from what Hope (1995) calls the difference between "vertical" and "horizontal" strategies of community crime prevention. Horizontal strategies focus on aspects of community life and place accountability on community members to solve their own problems. Vertical solutions focus on the linkages between community life and decisions made at higher levels of power outside the community, from factory closings to bank redlining of mortgages. Recent scholarly analyses of community crime causes (e.g., Wilson, 1996) focus more on vertically determined dimensions of community life, while few prevention programs evaluated to date have drawn heavily on a vertical approach. Uses of vertical solutions to date have been relatively limited, such as seeking external assistance in street closings, assigning more police, and other city government decisions that leave untouched most of the risk factors cited above. But even local government decisions may make a difference.

In the NIJ-sponsored Hartford experiment in the early 1970s (Fowler and Mangione, 1986), the community mobilization of a resident organization was successful at street closing and obtaining increased police activity. Initial reductions in crime, however, were followed by increases in the third and fourth years of the program. This scientifically weak (Scientific Methods Score = 2) evaluation lacked a comparison area, which limits the interpretation of the target area crime trends. But it is of interest that in the two years after local police activity was reduced, resident mobilization rose to its highest program levels. But despite the peak level of community mobilization, robbery and burglary rose to their highest levels in the life of the project.

It may be that mobilization alone cannot bear down directly on crime, and that the "horizontal" theory of community crime prevention is not likely to succeed. Further experimentation with different "vertical" tactics may be needed to find out if community mobilization or other methods to affect decisions external to the local community can change such decisions in ways that cause local crime prevention.

COMMUNITY PREVENTION OF GANG VIOLENCE

The disconnection between causes and cures in community crime prevention is illustrated by our nation's approach to gang violence. Five recent reviews of this literature provide the evidence for this analysis (Klein, 1995; Spergel, 1995; Howell, 1995, forthcoming; Thornberry, forthcoming). Taken together, this research suggests four major conclusions:

1. Most government and private programs for gang prevention have been left unevaluated.
2. The few evaluated programs have either failed to decrease gang violence, or have actually increased it.
3. Gang prevention programs have ignored the most likely causes of the recent growth of gangs, the community structure of growing urban poverty ghettos.
4. Nonetheless, successful methods for preventing gang violence have been demonstrated in case studies, and could be subjected to controlled testing on a larger scale.

This section reviews the connection between gang membership and serious violent crime, the evidence on the causes of gang membership, and the evaluations of community-based programs for preventing gang violence. It concludes that while most evaluations have been negative, the scientific rigor of the studies has been weak. The case studies demonstrating success in preventing gang violence can be tested with much greater scientific rigor as possible national models. The high concentration of serious juvenile violence among gang members provides ample justification for large-scale research and development.

Gang Membership and Serious Crime

The basic question about gang prevention is whether it would have any impact on serious and violent crime. Success at gang prevention is only important to communities if eliminating gangs would reduce the number of serious crimes. The answer to that question has not been clear from the scientific evidence. Fortunately, a substantial investment in research by the U.S. Department of Justice Office of Justice Programs (OJP) has recently provided strong scientific evidence on the question. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) Study Group on Serious, Violent and Chronic Juvenile Offenders shared with the University of Maryland Crime Prevention Project its draft report, one chapter of which reviews this evidence (Thornberry, forthcoming). The chapter examines longitudinal data on the connection between gang membership and serious crime in two birth cohort studies. It breaks the question into two parts:

o How much serious crime is committed by gang members?

o Does gang membership make any difference in the harm caused by the people who join gangs, or would they have committed the same amount of serious crime even without joining a gang? That is, do gangs facilitate serious crime, or merely recruit serious criminals?

Thornberry reports that in Rochester, NY, one-third of a panel of adolescent males reported being a member of a gang at some point before the end of high school. That same one-third committed 90 percent of the serious crimes in the entire panel, including 80% of violent crimes and 83% of drug sales. Thornberry also summarizes similar results from the NIH Center for Substance Abuse Prevention (CSAP)-funded study of gang members in the Seattle Social Development Project (Battin, Hill, Hawkins, Catalano, and Abbott, 1996, as cited in Thornberry, forthcoming). Gang members in Seattle comprised only 15% of the sample, but accounted for 85% of all robberies committed during grades 7 to 12, and 62% of all drug selling. Thornberry reports lower gang contributions for gang crime in Denver from Esbensen and Huizinga's (1993) panel data: with 6% of respondents reporting gang membership, gang members reported 35% of serious offenses and 42% of drug sales.

The hypothesis that gangs **cause** juveniles to commit more serious crimes than they would commit anyway receives a rigorous test in the OJJDP Rochester Youth Study. Thornberry et al (1993, as cited in Thornberry, forthcoming) report that gang members commit crimes against persons twice as often while they are active members of gangs than before and after active membership. Similar patterns were found for crimes in general and drug use, but not for property offenses. Thornberry (forthcoming) reports that similar patterns were observed in the Seattle CSAP project, except that involvement in drug sales in Seattle remained elevated even after gang membership ended (Hill, Hawkins, Catalano, Kosterman, Abbott and Edwards, 1996, as cited in Thornberry, forthcoming). More recent analyses of the Rochester data also show drug sales, as well as gun carrying, persisting at elevated rates even after gang membership ends (Lizotte et al, 1996).

Large sample, multiple interview, longitudinal self-reported offending studies are the strongest evidence possible on these questions. The studies reported here do not necessarily reflect the effects of gang membership in the highest-crime areas of the very large cities where serious juvenile violence is most concentrated. But the available evidence is clear enough to establish gang membership as a community risk factor appropriate for preventive programs. There is also a scientific basis for distinguishing gangs from drugs as a cause of violence, since Klein (1995) finds far more gang homicides without a drug link than with one.

Successful prevention of gang membership for substantial portions of adolescent males might reduce their rates of serious crime. Even among gang members, interventions to divert them from gang violence could prevent many crimes. The question then becomes how prevention or diversion can be accomplished at the community level of intervention. As a matter of science, the logical starting point is to attack the causes of gang membership.

Causes of Gang Membership

At the individual level of analysis, the causes of gang membership appear little different from the causes of delinquency in general (Thornberry, forthcoming). While the cumulation of disadvantages in life is a risk factor for both delinquency and gang membership, it is not clear why in the same community, some boys join gangs and others do not (Spiegel, 1995).

At the community level of analysis, however, the patterns are somewhat clearer. The key fact to be explained is why gangs have spread so rapidly--almost contagiously--over the past decade, from a few big cities to virtually all large and middle-sized cities and many smaller cities and towns. Klein (1995: 91) reports a 345% increase in the number of cities reporting violent gangs from 1961 (54 cities) to 1992 (766 cities). The 1995 National Youth Gang Survey found 2,000 jurisdictions reporting 23,000 gangs with some 665,000 members (Moore, 1996, in Howell, forthcoming). Within cities in which gangs have been well-established for decades, gang-related homicides have also risen dramatically, such as the 392% increase in Los Angeles County from 1982 to 1992 (Klein, 1995: 120). Klein (1995: 194) concludes that while the rise of homicides is partly driven by the growth in gun carrying, the growth of gangs themselves is strongly linked to the rapid growth of urban "underclass" areas.

Drawing heavily on William Julius Wilson's (1987) analysis of the new urban poverty ghettos, Klein isolates five factors: the loss of industrial jobs, out-migration of middle-class blacks, growing residential segregation of inner-city blacks, increasing failure of schools to prepare inner-city children for a service economy, and the consequent strains on family life of the declining ratio of "marriageable" (that is, employed) males to females of child-bearing years. Hagedorn (1988) applies this theory to the case study of Milwaukee, and finds a good fit with the facts: gang membership and violence rose as the Wilson model of concentrated urban poverty developed in that city. Huff's (1989) comparison of gangs in Columbus and Cleveland

found much more rapid growth in Cleveland, where the Wilson model had rapidly accelerated, than in Columbus, where community factors had remained fairly static. Jackson (1991) found across a large sample of cities that two factors predicted whether they developed gangs, job opportunities and the proportion of the population ages 15 to 24.

Klein's own work with Fagan (reported at Klein, 1995: 204) finds that 1970 Census data on community characteristics at the city level predict gang emergence in the 1980s. Specifically, racial segregation and a low proportion of persons in the labor force in 1970, although not concentration of poverty in 1970, predicts the 1980s emergence of gangs. So does an interaction of the loss of manufacturing jobs and unemployment rates. Different patterns are evident, however, for blacks and Hispanics, with strong effects for the former but not the latter. Curry and Spergel (1992) also report black-Hispanic differences in causes of gang growth, with more emphasis on cultural factors for Hispanics and structural factors for blacks. These findings lead Klein (1995: 205) to this conclusion about the design of gang prevention programs: "at least some portion of the gang proliferation problem is reflective of larger social ills. Merely addressing gang problems through gang intervention, be it street work or suppression, won't have much effect."

Evaluations of Gang Prevention Programs

The impact evaluation literature is largely consistent with Klein's conclusion. Howell's (1995, forthcoming) review of these data for OJJDP includes nine studies, from which "nothing has been demonstrated through rigorous evaluation to be effective in preventing or reducing serious and violent gang delinquency, [although] a number of promising strategies are available" (Howell, forthcoming, p. 21). Spergel's (1995: 256) independent review of the same evidence reaches the same conclusion: "traditional social intervention programs, whether agency-based, outreach or street work, or crisis intervention, have shown little effect or may even have worsened the youth gang problem."

Gang Membership Prevention. Three studies test a gang membership prevention program on a population of potential gang members. The first evaluation dates to the 1930s, when University of Chicago gang scholar Frederic Thrasher (1936, as cited in Howell, forthcoming) directed a four-year study of the "character-building" and recreation programs of a New York City Boys' Club. His conclusion sounds much like Klein's a half-century later: the program was unable to prevent gang membership due to family, school and poverty problems. "These influences for the most part were beyond the power of the Boys' Club to neutralize" (p. 78). The second study is a description of a grass-roots residential and nonresidential "sanctuary" from street life in Philadelphia (Woodson, 1981), without a comparison group. The House of Umoja also initiated "gang summits," so it is difficult to credit the city-wide drop from thirty-nine gang homicides in 1973 to one in 1977 to prevention alone.

The third prevention program (Thompson and Jason, 1988, as cited in Howell, forthcoming) consists of a gang prevention curriculum and afterschool recreational activities offered to eighth grade students suggests. The evaluation's conclusion that the program was successful is based on a difference of three more students who became gang members in the comparison group (4 out of 43) than in the experimental group (1 out of 74). The evaluation design also suffered substantial attrition between exposure to treatment and followup interview, as well as the common problem of school-based evaluations (see Chapter Five): the treatment was assigned at the level of the school, but evaluated at the level of the student. The design featured three pairs of schools, with one in each pair assigned to receive the program. The outcome data are not reported at the school level, but the base rate of gang membership in the short followup period renders most other aspects of the design less important. In sum, there is little empirical basis for promise in the Thompson and Jason (1988) evaluation of the gang prevention curriculum and afterschool program.

Gang Intervention. The programs for intervening with already active gangs and gang members are somewhat more rigorously evaluated. While the oldest and most influential of all gang intervention and prevention projects, the Chicago Area Project, has never been evaluated, its primary component has been evaluated several times. That component is the "detached worker," a trained youth counselor who spends most working hours on the streets with gang members. The role and function of these workers varies somewhat across projects, largely on a dimension of how much formal programming they organize, such as club meetings or outings to major league baseball games. Some detached workers also try to organize adults into voluntary associations, and to develop community-level capacity for leadership and problem-solving. The workers vary in the extent to which they focused on gangs as groups or on gang members as individuals. The common core of their role is an attempt to redirect gang energy towards legitimate activity, including school and work, as well as to discourage crime.

Despite these variations on the theme, none of the evaluations of detached worker programs found any evidence of reduced crime. Klein (1971), in fact, found just the opposite in an African-American area of Los Angeles: the detached workers increased the level of crime, which declined after the program was terminated. His explanation for that result is that the detached workers enhanced group cohesion, which in turn increased the "productivity" of the gang with its major product, crime. The theoretical significance of that conclusion is enormous, given the implications for other gang programs that may

also increase cohesion. Durkheim's basic principle that group solidarity is increased by external attack would apply, for example, to police efforts to lock up a gang. Such a struggle with authorities can provide glory and meaning to otherwise barren lives, and simply encourage more violence.

In a followup study, Klein (1995: 146)) applied the group cohesion theory in an explicit attempt to minimize it. The Ladino Hills program tested a strategy of working only with 100 Hispanic gang members as individuals, not with the gangs as a group. Detached workers in this evaluation encouraged gang members to drop out of the gang, which some of them did as long as the workers were around; gang arrests declined 35% during that period. Gang cohesion also remained low for a six month followup period after the program ended. Several years after the program ended, Klein reports, gang cohesion and crime returned to its baseline levels. He concludes (1995: 147) that gangs "cannot long be controlled by attacks on symptoms alone; community structure and capacity must also be targeted."

Limited evidence against the cohesion hypothesis, however, comes from a California Youth Authority program in Los Angeles in the mid-1970s (Torres, 1981, cited in Klein, 1995: 149). Over four years, cohesion-building efforts with seven Hispanic gangs, including sports activities, served as a basis for truce meetings and feud mediation. Homicides and intergang violence declined among the targeted gangs, but not between targeted gangs and other groups. Klein (1995: 149) is skeptical about the reliability of the police data on "gang" crimes, but concludes that "further research attention to such intensive efforts as took place in this CYA project certainly seem warranted."

Table 3-1

Findings from Gang Prevention and Intervention Evaluations

(Secondary Sources: Howell 1995, forthcoming; Klein, 1995)

Primary Evaluation	Scientific Rigor Score	Program Content	Program Effects
Gang Membership Prevention			
Thrasher 1936 effect	?	NYC Boy's Club	No preventive
Woodson 1981 declined	2	House of Umoja, Philadelphia	Gang Murders
Thompson & Jason 1988 gangs;	2	12 Gang Prevention Classes; some afterschool options	Major attrition, small N joined 1 of 74 Experimentals, 4 of 43 Comparison
Gang Member Intervention			
Miller 1962 measures	3	Goal: turn gangs into clubs, 7 detached workers, 205 boys	No effect on delinquency of targets
Gold & Mattick 1974 cited in Spergel crime;	3	Detached Workers focused on gangs;	No effect on area crime or gang

1995: 249		community organization	slight effect on educational goals
Bibb 1967	?	NYC Detached Workers with gangs	No effect on gang crime
Klein 1969	2	LA Group Guidance 5 detached workers 5 gangs, weekly meetings, program	Project increased delinquency; more program, more crime reduced when program ended
Klein 1968, gang 1995:145-147	2	100 Ladino Hills gang members encouraged to leave gangs, 18 months	35% reduction in arrests from less gang cohesion; lost after 2 yrs
Torres 1981	2	Older gang leaders hired as consultants, truces and feud mediation	Homicides and intergang violence declined among gangs, not other gangs
Spergel 1986	3	Crisis intervention & mediation by detached workers	Less serious crime for juveniles, more for adults, in target than control
Spergel 1995	3	Conflict mediation, job and school referrals, police and social workers	50% less serious violence for target gangs
Goldstein, Glick and Carthan (1994)	?	Anger Replacement training for gang members	Reductions in gang arrests

Most other evaluated gang programs had far less success than the CYA or Ladino Hills projects, even with the symptoms of community structure. It was not for lack of effort. The intensity of gang worker efforts is described in one summary of the six years of work of the Chicago Youth Development Project (CYDP), a privately-sponsored program combining detached gang workers with community organization (Carney, Mattick and Callaway, 1969: 15, as quoted in Klein, 1995:144):

Staff succeeded in finding 750 jobs for 490 young people; similarly, 950 school dropouts were returned to school 1,400 times. CYDP outreach workers made 1,250 appearances at police stations and courts on behalf of 800 youngster.. Finally CYDP workers made 2,700 follow-up visits to the homes of 2,000 juveniles who were arrested during the last thirty months of the project, in an effort to get them involved in one aspect or another of the project's programs. Despite this effort, the careful evaluation found that the youth unemployment rate remained unchanged, the school dropout rate increased somewhat, and the arrest rates of juveniles in CYDP areas increased over time.

A different and more recent strategy for using gang workers is crisis intervention and conflict mediation. A test of this approach by detached workers in a Puerto Rican area of Chicago had more encouraging, if, complex results (Spergel, 1986, as cited in Spergel, 1995: 255). While the program area had a slower rate of increase in serious gang crimes by **juveniles** than the

comparison area, the program area also had a faster rate of increase in serious crimes by **adults**. Attempts to organize the target community were less successful than efforts to mediate juvenile gang conflicts to prevent violence. More recently, Spergel has found some evidence that a coordinated police-probation-detached worker program to monitor gang offenders on community supervision has slowed their rate of committing serious violence (Spergel and Grossman, 1995, as cited in Howell, forthcoming). Encouraging results from another conflict-oriented program have been reported for New York (Goldstein, Glick and Carthan, 1994, as cited in Howell, forthcoming). Using a cognitive skills approach called "Anger Replacement Training," the evaluators report decreases in arrests of gang members.

Perhaps the most encouraging findings about gangs come from Boston, where they have nothing to do with traditional gang prevention. Preliminary results of a gang-related project to reduce juvenile firearms crime are extremely encouraging (Kennedy, Piehl and Braga, 1996). An effort to deter gang-related gun violence by massive police response to any shootings is supported by probation officers who have the statutory authority to search probationers at will. The probation officers work with police to send out the word that any shootings will get anyone even tangentially involved into a lot of trouble. This approach has apparently given some gang members a convenient excuse to opt out of planned conflicts, much as the police crackdown on drunk driving in Australia has given barroom drinkers an excuse to refuse extra drinks (Homel, 1994). If the final results of this project confirm preliminary findings, it will be another example of substantially reduced gun crime without any structural changes in community conditions.

The Future of Gang Violence Prevention

While the results of available evaluations are generally negative, the number of careful field tests remains quite small. The average level of scientific rigor in the available evaluations is quite low. Taken together, **the studies show weak evidence of no effect**. None of the programs address the underlying community risk factors associated with the recent explosive growth in gang activity. Yet new models of gang violence prevention now under development at Harvard and the University of Chicago might well succeed in reducing gang violence without solving the structural problems of the inner-city. Combinations of police, probation officers and civilians who keep gangs under close surveillance may be successful at heading off planned conflicts leading to gun violence. Unplanned encounters of rival gangs leading to shootouts may be harder to prevent, but reduced gun carrying could accomplish that as well. Police-civilian teams checking known and convicted gang members for guns, with appropriate legal authority, could in theory reduce gun carrying and spontaneous shootings.

The enormous concentration of serious violence among gang members suggests the value of further research and development efforts to find effective prevention methods for gang violence. But the state of the scientific evidence suggests the risks of funding gang programs without careful evaluations, whether through block grants or discretionary programs. University of Southern California gang violence scholar Malcolm Klein (1995: 138) states the case clearly:

Consider California, more affected by street gangs than any other state is, by far...the state has 196 cities with street gangs, 60 in Los Angeles County alone. The state's Office of Criminal Justice Planning in fiscal year 1990-91 poured almost \$6 million into sixty projects under its Gang Violence Suppression Program. Included were school programs, street work programs, community mobilization, diversion alternatives, and a wide variety of criminal justice enforcement projects. Yet not a dollar went to an independent evaluation of the effectiveness of these projects. Sixty wasted opportunities to assess our efforts seems to be an inexcusable exercise in public irresponsibility.

The fact that Klein's own work demonstrated that a gang "prevention" program actually **increased** crime rather than reducing it lends special force to his conclusion. The theoretical implications of Klein's work on gang cohesion suggest that much of what police are doing--often supported by federal funds--to suppress gang violence may also be increasing rather than preventing that violence. The seriousness of gang violence provides even more reason, not less, for a high standard of scientific rigor in evaluating gang prevention. What evidence we have clearly shows that good intentions are not enough.

Both old and new strategies could be subjected to more rigorous evaluations. Despite the strength of Klein's findings, for example, they are based on quasi-experimental pre-post designs generally lacking control groups. A large scale test of gang worker strategies across a sample of 100 gangs, with 50 gangs randomly assigned to intervention, might well produce different results. The Ladino Hills project Klein (1995:146) reports is actually quite encouraging; the program was a clear success at diverting gang members from gangs as long as the gang workers stayed on the job. Klein's emphasis on the project's failure to end gang activity in the area for up to two years after the gang workers were withdrawn seems to set an unrealistically high standard. Just because a maintenance therapy did not rise to the level of a permanent vaccine does not make it worthless. Rather, the evidence suggests that Klein has found a way to reduce gang membership. This is a promising finding that merits replication with a more rigorous research design.

New strategies for gang prevention should also be tested at much higher levels of scientific rigor. OJJDP is currently supporting the development and testing of comprehensive community gang prevention efforts, coordinating multiple local agencies and attempting to mobilize community involvement. NIJ is currently supporting firearms crime reduction efforts. Neither approach is currently undergoing a randomized controlled test (level 5) using communities, or gangs, as the unit of analysis. Indeed, it may well be premature to be doing so at this stage until the strategies are sufficiently well-developed. But a clear plan to develop a strategy that can be subjected to more rigorous testing could help move the nation more quickly to discovering effective methods for reducing gang violence.

One objection to this approach is that every city has a unique gang situation, and must design its own program (Klein, 1995: 154). The response to that objection is that most cities lack sufficient data to conduct rigorous evaluations: enough neighborhoods, enough gangs, enough gang violence to control for all the chance factors that can affect results. Limiting evaluations to one gang program or one city at a time would do little to increase available evidence about how to prevent gang crime. It is only by seeking out the commonalities of successful gang prevention programs across areas and types of gangs that the scientific basis for effective prevention can be advanced.

COMMUNITY-BASED MENTORING PROGRAMS

Community-based mentoring programs take a much broader focus on risk factors than gang prevention programs. Both the empirical evidence and theoretical linkages to community risk factors gives solid reason to support much more research and development on this strategy. While it does not have the gang programs' efficiency of focusing on the limited number of juveniles committing the most serious violence, mentoring offers the promise of effectiveness across a much broader population. Some members of that population could well become gang members or serious violent criminals. Mentoring could be a way to prevent that.

Theoretical Rationale for Mentoring

Why should mentoring of a larger at-risk population of pre- and early adolescents be any more effective than detached social workers focused on gangs? Gang social workers, after all, are in effect mentors to gang members. But the general failure of detached workers may be due to their focus on older youths who are already active offenders. Many developmental theorists argue that ages 10 to 14 provide a more promising focus for intervention and prevention (Carnegie Council on Adolescent Development, 1995). The power of peer groups may not be as great in that age-range, and an intensive relationship with a conventional adult could be a powerful influence for youths on the cusp of delinquency.

A more powerful reason for the failure of detached workers with gangs may be insufficient dosage. Given their workloads, they may not have been able to spend enough time with their individual clients, irrespective of age, in order to become a strong role model. A more intense relationship, with "quantity time" of "quality time," between a "mainstream" male adult and a preadolescent or early adolescent boy may directly address several community risk factors for crime:

- o fatherless boys; 17 million children now in single parent homes, 25% of all youth and 50% of minority youth (Tierney, et al, 1995: 49)
- o lack of legitimate role models
- o insufficient "intergenerational closure" with adult influences counteracting peers (Wilson, 1996: 62)

Mentoring provides the highest dosage of adult-child interaction of any formal community-based program. Compared to street workers and recreation program supervisors, mentors can develop much stronger bonds with juveniles at risk. In theory, they can gain the power of "legitimacy" (Tyler, 1990) based on a pattern of respect and support the mentor establishes with the juvenile, so that the mentor's approval and attention becomes a valued resource. That resource then gives the juvenile a "stake in conformity" (Toby, 1957), something to lose if the juvenile gets into trouble with the law.

Mentoring programs described in available evaluations feature three to four meetings a month or more between mentor and child, with each meeting lasting at least for several hours. Community-based mentors see juveniles in a wide range of settings, including home, movies, professional sports, plays and concerts. They may talk frequently on the telephone, with mentees calling mentors as well as vice versa. In contrast to school-based mentoring programs (reviewed in Chapter 5) which generally operate with a heavier emphasis on academic issues and truancy, community-based mentors tend to be involved in more domains of the child's life. They may also provide more resources in the form of entertainment outings. Mentors may be paid

or unpaid, college students or adults. All of them receive some sort of training, although the infrastructure supporting mentoring relationships varies. Adult volunteers in the oldest formal mentoring program, the 90-plus year-old Big Brothers and Big Sisters of America (BB/BSA), for example, are subjected to extensive background examination to screen out potential child molesters.

Results of Community Mentoring Evaluations

Careful examination of community-based mentoring evaluations supports a conclusion that they are a promising approach to preventing crime risk factors, notably drug use. While most of the evaluations show no effect, the most rigorous modern evaluation shows a strong effect at reducing drug use, and clear effects at reducing alcohol use and "hitting" among at-risk children. The short-term measurement of those beneficial effects, however, must stand in the shadow of much less encouraging results from a thirty-year followup of an equally rigorous Depression-era mentoring test, the privately-funded Cambridge-Somerville experiment.

Controlled Experiments. The first controlled test of mentoring began in 1937, when recent college graduates were hired and trained to provide an average of two visits a month to the experimental half of a sample of 650 at-risk boys under age 12 at the program's outset.³ The paid social worker mentors met with their clients at home, in the street, or at project headquarters. They provided academic tutoring, trips to concerts and sports events, and general emotional support for the boys. The program also provided the boys' families with help for medical and employment problems, and sent the treatment group boys to summer camp. By 1942, 253 of the original 325 treatment group boys were still in the program, when it was ended so the counselors could join the armed forces.

The results of this intensive mentoring showed no difference between treatment and control groups in criminal records, either in 1942 (Powers and Witmer, 1972) or in 1975-76 (McCord, 1978). The longterm followup, however, did show significantly higher levels of diagnosed alcoholism, serious mental illness, and stress-related physical health problems. A higher level of unfavorable life outcomes, although not specifically greater crime, among the treatment group seems clear. What is less clear is the meaning of the results for the value of mentoring programs today.

Three theories compete to explain these results. One is that mentoring simply backfires, somehow creating an artificial source of support that makes it harder for mentored boys to adjust as adults. A more plausible theory is that the abrupt departure of these long-term counselors from the boys' lives was as damaging emotionally to the boys as a divorce or other loss of parental involvement, compounded in many cases by the boys' previous loss of their own natural fathers' support. A third theory is that the difference in diagnosed mental health problems is only an artifact of the treatment group's greater exposure to professional and medical services as part of the treatment content. Under this theory, the treatment boys had no greater rate of personal problems, but when they had problems they were simply more likely to seek professional help of the kind the program had taught them to seek.

The fundamental principle of science here is that one experiment alone, no matter how rigorous, cannot provide a "definitive" test of any hypothesis. Social experiments in particular require replication to determine their generalizability to other times and places. A three-decade followup is an excellent basis for drawing conclusions about the lifetime effects of a treatment, but it has a substantial drawback for policy analysis: by the time the results are in, the world has changed so much that the results may no longer be valid. The modern social conditions of inner-city poverty and segregation are so different from the context of the Cambridge-Somerville experiment that it is not clear that the identical program would produce similar results.

If three decades are too long, one year is probably too short. Unfortunately, that is all we have in our modern controlled experiment in community-based mentoring for pre- and early adolescents (Tierney and Grossman with Resch, 1995). The virtues of this experiment, however, are many, including the substantial risk factors in the sample. The 959 eligible applicants for the Big Brothers/Big Sisters program in eight cities came from homes in which 40% of the parents were divorced or separated, 15% had suffered a death of a parent, 40% had a family history of substance abuse, and 28% had a history of domestic violence. The children themselves, of whom 60% were minorities, 40% girls, and all aged 10-14, included 27% who had been abused as children. As Chapter Four reports, child abuse substantially increases the risk of criminality in later life.

How much the Big Brothers/Big Sisters program reduces criminality later in life is not clear. What is clear from this tightly randomized experiment is that there were substantial benefits in one year (average) treatment. After spending around 12 hours monthly with their volunteer adult mentors, the treatment group children had 45% less reported onset of drug abuse than the control group children, who had been put on the waiting list.⁴ They also had 27% less onset of alcohol use, and 32% less frequency of hitting someone. The program also reduced truancy: treatment group children skipped 52% fewer days of school and 37% fewer classes on days they were in school.

These results were achieved at a very modest cost. Since the mentors volunteer their time, the only cost is the infrastructure needed to recruit, screen, train and properly "match" the mentors to children for successful long-term relationships. The cost is estimated at about \$1,000 per match (Tierney and Grossman, with Resch, 1995: 52). While the full crime prevention benefits of that cost cannot be specified without a longer-term followup study, the short-term benefits alone might justify federal support of this apparently underfunded program. At a price of \$1,000 per year of drug abuse prevented, the taxpayer would be well ahead spending money on this program instead.

Table 3-2

Community-Based Mentoring Evaluations

Primary Source (secondary)	Scientific Methods Score	Program Content	Program Effects
McCord 1978, 1992 criminal Powers and Witmer 1972	5	2 visits monthly by paid male counselors for 5.5 years with 253 At-risk Boys under 12 in 1937-42; WW2 end	No effect on record; treatment group did worse on diagnosed mental health
Tierney et al 1995 drug hitting	5	Big Brothers & Sisters, 1 year for 10-14 yr.-olds, 60% minority & 27% abused; 3 hrs wkly	46% reduction in use onset, 32% reduction in people, relative to controls
Green 1980 (Howell 1995) measures	4	Big Brothers for fatherless white boys 1/2 day weekly for 6 months	No effects on disruptive class behavior; no of drug use
Goodman 1972 (Howell 1995)	2	College Student Mentors of 10-11 yr-old boys 6 hrs wkly over 2 years	high control group attrition; program effects on crime unknown
Dicken, Bryson and Kass 1977 (Howell 1995)	3	College Student mentors for 6-13 yr.-olds, 6 hrs wkly, 4 months	no difference in teacher-rated behavior of mentees
Fo and O'Donnell 1974 (Howell 1995)	5	12 weeks of paid community mentors with at-risk 11 to 17 year olds; N = 26	Truancy reduced significantly under some conditions
Fo and O'Donnell for 1975 with	5	1 year of paid community mentors	Lower recidivism treatment groups

(Howell 1995)

meeting weekly with	priors, higher
at-risk 10-17	without
yr-olds	

Two other randomized experiments in paid "Buddy System" mentoring conducted in Hawaii were published in the early 1970s. The ages of the at-risk youth ranged from 11 to 17, while the ages of the paid mentors ranged from 17 to 65. The first experiment (Fo and O'Donnell, 1974, as cited in Howell, 1995: 91) lasted only 12 weeks, during which it randomly assigned 26 subjects into four treatment groups (an average of 6 per group). This small experiment used an elaborate theoretical model, in which treatment groups varied on several dimensions. The dimensions included the conditions of mentor approval for the mentees, dichotomized as contingent, or not, on appropriate behavior by the mentees. A third treatment group was paid \$10 a month on the same contingent basis. The results showed that truancy declined for the subjects receiving contingent approval, but not for those receiving unconditional approval.

A larger experiment by the same authors abandoned the theoretical distinctions, comparing crime rates between randomly assigned 10-17 year olds receiving mentoring or not (Fo and O'Donnell, 1975, as cited in Howell, 1995: 92). The one-year experiment found that treatment backfired among those with no prior record; those in the experimental group had more offenses during treatment than control group youths who also had no prior record in the baseline period. Among youth who had prior records at the outset of the experiment, however, the results were the opposite: mentees had less recidivism than the control group. The possible reasons for this difference were not reported.

Non-Randomized Evaluations. The other community-based mentoring studies offer little scientific evidence for policy purposes. The Green (1980, as cited in Howell, 1995: 92) evaluation of a Big Brothers' program in Nassau County, for example, lacks any outcome measure of drug abuse, violence or crime. Green does find no difference in disruptive classroom behavior, but so did the Tierney and Grossman with Resch (1995) experiment. The non-randomized design and 6 month followup period also limit its value.

None of the remaining tests are strong enough to contradict the positive effects found in the recent test of Big Brothers/Big Sisters. The Goodman (1972, as cited in Howell, 1995: 90) two-year test of paid mentors in Berkeley (CA) showed some evidence of worse school behavior among mentored at-risk boys than among the controls. Substantial attrition in the control group only, however, made the comparison difficult to interpret. A nonrandom test of a similar approach using unpaid college students for a semester found no differences in teacher ratings of behavior (Dicken, Bryson and Kass, 1977, as cited in Howell, 1995: 91). All of these negative results from what were essentially "start-up" programs may be due to factors that are not present in the standardized, long-practiced methods of the national Big Brothers/Big Sisters program.

The Future of Community-Based Mentoring

The major question about mentoring remains the meaning of the Cambridge-Somerville experiment for contemporary public policy. The answer to that question is unlikely to come from further analysis of that experiment, but from its replication under modern conditions. The Big Brothers/Big Sisters experiment (Tierney and Grossman with Resch, 1995) is an excellent start in that direction, and would be even more valuable if followed by many years of followup data collection. Its promising results, however, suggest the value of a larger test, one that incorporates the diagnosis of community risk factors, as suggested in the conclusions of this chapter.

Based solely on the research available at present, there seems to be sufficient basis to reach somewhat different conclusions than those reached by one OJP publication prepared prior to the publication of the Tierney and Grossman with Resch (1995) experiment, which substantially alters the weight of the evidence. The OJJDP Guide for Implementing the Comprehensive Strategy for Serious, Violent and Chronic Offenders (Howell, 1995: 128) suggests that "mentoring relationships that are noncontingent and uncritically supportive" are "not effective," but that "mentoring relationships that include behavior management techniques" are "potentially promising." The Big Brothers/Big Sisters program reports no contingency policy for mentor approval of mentees. Its success at reducing drug use onset would thus seem to falsify the "contingent approval" hypothesis. The small sample size (N =26) of the one finding consistent with that hypothesis makes the much larger recent study more compelling evidence (Fo and O'Donnell, 1974).

The most important conclusion from this research restates the conclusion of the gang prevention evaluations. Even with the

encouraging findings from the most recent controlled test of community mentoring, there is too little information for adequate policymaking. The priority is for more research, not more unevaluated programs. The danger of doing harm is far too great to promote and fund mentoring on a broad scale without carefully controlled evaluations. No such evaluations, to our knowledge, are presently on the drawing boards. They could readily be included, however, as part of a broader test of a comprehensive interventions package in high-crime areas. While the community context of mentoring experiments under those conditions would be unique, the addition of other programs addressing community risk factors could well enhance the potential for crime prevention will adding to scientific knowledge.

COMMUNITY-BASED RECREATION PROGRAMS

The hypothesis that recreation can prevent crime has become one of the most acrimonious in the history of crime policy. More than any other issue, the debate reflects the inappropriate definition of prevention discussed in Chapter 2. What is most revealing about the debate, however, is the virtual indifference it has displayed to empirical evidence. Rather than arguing on theoretical grounds alone, it would seem more valuable to test the hypothesis scientifically. Chapter Five presents evidence that school-based programs have been tested and found ineffective at preventing crime and delinquency. This section presents more limited evidence on community-based recreation centers, where the evidence is thinner but marginally more promising.

An OJJDP publication (Howell, 1995: 95) provides a clear statement of the recreation hypothesis:

Afterschool recreation programs can address the risk factors of alienation and association with delinquent and violent peers. Protective factors may include opportunities for involvement with prosocial youth and adults, skills for leisure activities, and bonding to prosocial others.

An equally plausible negative hypothesis can be suggested on theoretical grounds. In a neighborhood plagued by inter-gang rivalries and everyday anger (Bernard, 1990), after-school recreation creates opportunities for victims and offenders to intersect in time and space (Cohen and Felson, 1979), creating conflicts and potential for violence. One Philadelphia nightclub shooting in the early 1980s, for example, was generated by a fight that began on a recreation center basketball court. A middle ground hypothesis is that the effects of after-school recreation may vary substantially by neighborhood context and how the recreation center is run.

Results of Recreation Evaluations

The scientific evidence on these hypotheses is currently quite limited. What evidence there is all positive, supporting the proponents of recreation programs. While the scientific rigor of the three available evaluations is modest, it shows fairly strong effects, two on crime and one on drugs. Two are based on Boys' and Girls' Clubs (BGC), and two are in public housing.

Table 3-3

After-School Recreation Programs

Primary Source (Secondary source)	Scientific Methods Score	Program Content	Program Effects
Jones and Offord 1989 for (Howell 1995: 95) control	3	Canadian Public Housing Project children 5 to 15 offered intensive recreation, 3 years	75% reduction in juvenile arrests experimental, 67% increase for location
Schinke, Orlandi and Cole 1992 prevention use;	4	3 groups of 5 public housing projects each, 1 group	Recreation centers with drug had lowest drug

sites	3	Boys/Girls Club (BGC), 1 BCG plus drug prevention, 1 control no BGC	vandalized housing units down 25% in drug prevention
Brown and Dodson 1959 declined (Howell 1995: 95)		Boys' Club area compared to 2 comparison areas, 9 years	Program area delinquency after two years, comparison rose

The test in a Canadian public housing project offers the strongest evidence. Over 32 months, the low-income children ages 5 to 15 were provided an intensive after-school program in sports, music dancing, and scouting. A comparison public housing project had only minimal city services. The majority of age-eligible children in the test site participated in the recreation program. Compared to a baseline period of two years prior to the program, arrests of juveniles in the program site declined 75 percent. In the same time period, arrests of juvenile in the comparison site rose 67%. Sixteen months after the program ended the effect had worn off, providing further evidence of a program effect (Jones and Offord 1989, as cited in Howell, 1995:95).

The American public housing test covered three groups of five housing projects each. One group already had a traditional BGC program operating in the community center. A second group received newly established BGC programs, supplemented by the SMART Moves (Self-Management and Resistance Training) substance abuse prevention program aimed at parents as well as children. A third group of three projects had no BGC and remained that way as a control group. Observational and police data indicated a decline in drug use in the new BGC/SMART Moves sites. Archival records showed that vandalized housing units dropped from 8% to 6% of total units in the new BGC sites, while rising from 8% to 9% in the controls and remaining unchanged in the existing BGC sites (Schinke, Orlandi and Cole, 1989).

A nine-year, 1950s study examined juvenile delinquency in a Louisville Kentucky area served by a Boys' Club (Brown and Dodson, 1959). The club included both traditional activities at the building and a summer camp program. The study found declining juvenile delinquency relative to two comparison areas without a Club. The first two years after the Club began operation, however, showed similar trends in delinquency in the program and comparison areas. While the prevention effect could plausibly have taken several years to become evidence, the lack of significance tests and other checks on validity limit the value of this study.

The Past and Future of Recreation Programs

Recreation programs merit further research and development for their potential crime prevention benefits, if only because they continue to draw Congressional support (e.g., Washington POST, January 16, 1997, p. A4). This conclusion is based not just on the three available impact evaluations, but on the long history of such programs in mainstream American life. The widespread availability of such programs in low-crime areas is another structural difference between suburban and inner-city communities, one that may contribute to the latter's higher crime rates.

The danger of violent conflicts being generated by club activities is just as open a question as the potential benefits of the programs. Careful research is needed to assess the net frequency of such conflicts with and without recreation, since shootouts can start off the basketball courts as well as on them. The potential prevention benefits from such programs may well exceed the benefits of prison, perhaps at much lower cost. But we will never know unless we invest in careful evaluation research. More funding of operations alone will leave the policy decision vulnerable to ideological and symbolic politics, rather than a rational decision on the merits of reliable evidence.

REMOVING CRIMINOGENIC COMMODITIES

Perhaps the most immediate proximate contributing cause to many criminal events is a "criminogenic substance" (Cook and Moore, 1995). Guns, drugs, alcohol and cash, in the right circumstances, can all provide the additional, if not sufficient, cause which helps make a crime happen. That does not mean, however, that these substances will always be in the right

circumstances, even when they are available in the community. Guns, for example, may not do much harm if they are kept locked in a safe, even though the potential for theft of the guns may make them a potential cause of a shooting on the street. Similarly, the context and use of alcohol varies widely, and is only criminogenic in some settings.

One approach to community crime prevention is to limit access to criminogenic substances. Community groups often lobby against the renewal of tavern liquor licenses, for example, on the grounds that the alcohol access increases the rates of robbery and assault in the community. Many cities are increasingly concerned about 24-hour bank cash-dispensing machines, with increasing regulatory control of their locations and security measures (Sherman, 1995). Low-income communities have possibly had fewer robberies and thefts since direct bank deposit of welfare and Social Security checks became common a decade ago.

These ideas are generally theoretically sound, given the prevailing theory of criminal events (Felson, 1994). Few of them have been evaluated. One specific approach that has been evaluated, gun buyback programs, suggests that there can be a major gap between theory and practice.

Gun buyback programs are based on two hypotheses. One is that the more guns in a community, the more gun violence there is. There is substantial evidence to support that claim (Reiss and Roth, 1993). The second hypothesis, however, is not supported by the evidence. That hypothesis is that offering cash for guns in a city will reduce the number of incidents in which guns are used in crime in that city. Four evaluations reviewed in Figure 4 show no effects of gun buyback programs on guns. There are several reasons why buyback programs may fail to reduce gun violence:

- o they often attract guns from areas far from the program city
- o they may attract guns that are kept locked up at home, rather than being carried on the street
- o potential gun offenders may use the cash from the buyback program to buy a new and potentially more lethal firearm; the buyback cash value for their old gun may exceed market value substantially.

The enormous expense of these programs is instructive. When St. Louis invested \$250,000 in gun buybacks in 1994, the same funds could have been used to match 250 children with Big Brothers/Big Sisters. Those 250 children would then have enjoyed about half the risk of becoming drug users, at least for the first year (Tierney and Grossman with Resch, 1995). But the opportunity cost of the programs never entered into the debate.

The scientific rigor of the buyback evaluations is not great. They can be summarized as providing **moderate evidence of no effect**. They fail to show effects on gun crimes relative to a comparison of trends in the same types of crimes committed without guns. Given their high cost and weak theoretical rationale, however, there seems little reason to invest in further testing of the idea.

Table 3-4

Gun Buyback Evaluations

Source	Scientific Rigor Score	Program Content	Program Effects
Rosenfeld 1995 to	3	1991 Gun Buyback in St. Louis of 7,500 guns	No reduction in homicides or gun assaults relative same offenses, no guns
Rosenfeld 1995 to	3	1994 Gun Buyback in St. Louis of 1200 guns	No reduction in homicide or gun assaults relative

		same offenses, no guns
Callahan et al 1995	3	1992 Seattle Gun Buyback
		No effect on crime reports or medical records of gun injuries

CONCLUSIONS

This chapter has shown that there is a substantial disconnection between what is known about community causes of serious violence and what this nation is doing about those causes. The scientific evidence that communities matter is strong. The evidence that serious crime is concentrated in a very small number of communities is even stronger. But the link between those facts and the design of prevention programs is very thin indeed. Instead, a National Academy of Sciences report concludes there is evidence that federal and local transportation and housing policies over the past half-century have substantially contributed to the causation of serious crime, especially in the hypersegregated inner cities where over half of all homicides occur.

Despite the past gap between causation and prevention, there are many as-yet unevaluated new efforts on the horizon attempting to bridge that gap. There is also promising evidence that some programs can be successful without addressing the root causes diagnosis of causation. Thus the prospects for progress in community-based prevention may be stronger than the current evaluation record suggests.

By the criteria used in this report, there are no community based programs of "proven effectiveness" by scientific standards to show with reasonable certainty that they "work" in certain kinds of settings. There are programs for which we can conclude the evidence shows with reasonable certainty that they do not work, at least in the settings where they have been evaluated. But even these programs might be found effective if varied in significant ways and rigorously evaluated. Moreover, there is both empirical evidence and theoretical reason to conclude that some programs are promising enough to merit further replication and evaluation.

What's Promising

- o **Gang violence prevention** focused on reducing gang cohesion, but not increasing it
- o **Volunteer mentoring** of 10 to 14 year-olds by Big Brothers/Big Sisters is promising for the reduction of substance abuse, but not delinquency

What's Doesn't Work

- o **Community mobilization** against crime in high-crime inner-city poverty areas
- o **Gun buyback** programs operated without geographic limitations on gun sources

THE EFFECTIVENESS OF DOJ PROGRAMS

These findings offer some answers to the Congressional question about the effectiveness of DOJ crime prevention programs. Perhaps most important is the scientific support for the growing emphasis on comprehensive programs for high crime communities found throughout the Office of Justice Programs (OJP). With the advent of the Enterprise Zone/Empowerment Communities (EZ/EC) initiative, the emphasis on comprehensive risk factor strategies is spreading to the entire federal executive branch. The scientific evidence supports this approach, especially to the extent that it actually concentrates on the specific neighborhoods in which serious crime is most heavily concentrated--not just the cities in which those neighborhoods are located. Because this review finds no community-based programs of scientifically proven effectiveness to employ in those high-crime communities, however, there is a critical need for further research and development to help focus that funding more effectively. And because the statutory plan allows states to expend DOJ funds in communities with moderate to low rates of

serious youth violence and risk factors for crime and delinquency, the expenditure of the funds is not yet optimal for discovering programs of proven effectiveness in those areas.

Several DOJ funding programs provide support for community-based local prevention programs. The major funding areas are Byrne Grants, Weed and Seed, Local Law Enforcement Block Grants, and the Title V Delinquency Prevention Grants. Most important, however, may be the DOJ funding for rigorous program evaluations of community-based prevention.

Byrne Grants

The Byrne Formula Grant program (as distinct from discretionary grants--see Chapter One) awarded \$1.8 billion through the states and territories from 1989 through 1994 (Dunworth, et al, 1997: 5). Community crime prevention, property crime prevention, and public housing are three of the twenty-one original (now 26) "Purpose Areas" for the program. Grants funded under these purpose areas could generally fall in the institutional setting addressed by this chapter. Together the three purpose areas received approximately \$68 million, or less than four percent of the total funding. Drug treatment is a fourth Purpose Area operating at the community level, receiving \$107 million in those years or 6 percent of total formula grants.

As noted in Chapter One, the broad diversity of programs funded and general absence of scientifically rigorous impact evaluations makes it impossible to assess the effectiveness of the Byrne funding stream as a single policy. Even the specific Byrne Purpose Areas cover a broad range of local programs. The scientific evidence reviewed in this chapter, however, strongly supports the statutory language calling for "strategic plans to target resources on geographic and substantive areas of greatest need" (Dunworth, et al, 1997: 3). The key question raised by this chapter is the best criteria for selecting the areas of greatest need. A related question is the most appropriate definition of "area." Absent a clear focus on the geographic areas with the most serious crime, community-based programs offer little scientific basis for claims of effectiveness at preventing such crime.

The evidence suggests that community-based Byrne grants may be most effective if concentrated on the small number of census tracts (often contiguous) where the majority of homicides in each state are clustered. The scientific evidence on the geographic distribution of homicides shows strong concentrations within high risk-factor census tracts. While a decade ago it would have been difficult for many states to analyze homicide data statewide by census tract, recent advances in microcomputers and computerized crime mapping makes such analysis feasible. Not every high homicide area may be appropriate for Byrne funding, given the difficulties of implementing community-based programs. But a statutory plan to focus a substantial percentage--perhaps fifty percent or more--of community-based Byrne Grant programming within such communities could speed the process of discovering what works. This would be especially likely if coupled with a national plan for testing community-based strategies across large samples of communities (see below).

The issue of concentration helps to interpret the evidence on **community mobilization**. That evidence shows that, by itself, mobilization is ineffective against serious crime in low-income communities. But it is far too early to close the door on mobilization as a possible necessary condition for other strategies. Many questions remain about whether mobilization can enhance a wide range of other specific efforts to attack serious crime, such as helping police reduce illegal gun carrying, reducing the availability of drugs and alcohol, and divert youth from gangs. Those questions, again, can only be answered by large sample community level studies as recommended below. In the absence of such programming for the sake of discovering what works, however, community mobilization funding would be of doubtful effectiveness.

Concentration of funds on high-crime communities would also make it possible to evaluate programs like drug treatment in a community-based way. Rather than examining the effects of drug treatment on individual-level crime rates, a community-level concentration of drug treatment could measure the community crime prevention effects of substantial increases in local treatment slots. The individual-level evidence we do have on drug treatment (see Kinlock, 1991), however, is certainly supportive of the effectiveness of Byrne funding spent on that Purpose Area.

Local Law Enforcement Block Grants

This formula grant program newly established in 1996 is also more focused on high-crime communities than other federal funding of local crime prevention. Most of the \$404 million in 1996 funds were allocated on the basis of each local police agency's level of reported Part I violent crimes. The statutory distribution plan clearly places greater resources in the cities with the most serious problems of violence and youth violence. It does not, however, require that the funding be concentrated within those cities in the areas of greatest risk.

Like the Byrne Program, Local Law Enforcement Block Grants (LLEBG) could be focused more precisely on census tracts

with highest homicide rates. And like the Byrne grants, LLEBGs have awarded substantial support for community mobilization. The 1996 amount was \$33 million, about nine percent of program funding. The comments above about further funding of community mobilization programs under Byrne apply to LLEBG as well; more investment in discovering what works seems justified, while unevaluated funding is likely to be ineffective at either preventing crime or increasing scientific knowledge about prevention.

Weed and Seed

Since 1991, the Weed and Seed program (see Chapter One) has been the most theoretically appropriate federal funding program for dealing with concentrated inner-city violence. Based upon the available DOJ publications, Weed and Seed funding offers the clearest focus on the census tracts with very high homicide rates; the initial program area in Kansas City had a rate of 180 per 100,000, or twenty times the national average. As the first of many comprehensive inner-city programs developed in recent years by OJP, Weed and Seed also offers the best evidence on the challenges of implementing and evaluating comprehensive programs, especially those in which DOJ becomes the lead agency in mobilizing resources from other federal departments at a micro-local level.

Weed and Seed's rationale for preventing serious crime is a high concentration of resources addressing a high concentration of risk factors in a small geographic area. The basic structure of this approach apparently differs from the majority of DOJ funding, which by statute cannot be focused upon the highest-crime communities. Given enough evaluation evidence for programs of proven effectiveness in such places, there could be a strong rationale for channeling the majority of DOJ crime prevention funding in ways similar to Weed and Seed. The challenge for Weed and Seed is therefore not just to prevent crime in the target communities, but to do so in a way that allows scientific evidence to accumulate about program effectiveness. The initial history of the program in that regard is instructive.

The initial Weed and Seed target area in Kansas City was accompanied by an NIJ evaluation grant that was almost equal to the amount of the program funding. That evaluation found a 49 percent reduction in gun crime and a statistically significant reduction in homicide associated with a single element of the program that fell outside the community-based institutional setting of this chapter (see Chapter Eight): directed police patrols at computer-located "hot spots" of gun crime (Moore, 1980). These patrols produced a 65 percent increase in gun seizures not found in the comparison area, where gun crime remained stable (Shaw, 1994; Sherman, Shaw and Rogan, 1995). The single element could be evaluated because none of the other elements had been implemented at that time. Had there been other elements implemented, it would have been scientifically impossible to isolate the effects of this element. Fortunately, the delay in the other program elements allowed the evaluation to discover an apparent effect with important implications.

Subsequent Weed and Seed sites did not have such intensive evaluations. The 50-50 ratio of evaluation to program dollars was tipped overwhelmingly in favor of program dollars. In the five years since the subsequent site funding was awarded, no impact evaluation has been completed. A process evaluation published by NIJ (Roehl, et al, 1996) illuminated the complexity of the program, which has now attracted substantial state and private funding in some sites. A second multi-site evaluation is now in progress, which is slated to produce site-specific impact evaluations at a Scientific Methods Score of either 2 or 3. The ability of that retrospective design to isolate program elements in relation to crime prevention will be difficult given the problem of multiple treatments (Cook and Campbell, 1979). Thus as the program currently stands, there is good scientific theory but no scientific data to show the effectiveness of the program.

The most challenging theoretical element for any inner-city crime prevention program is raising the community rate of adult labor force participation (Wilson, 1996). Chapter Six discusses the evidence on that point in detail. Labor force programs have suffered from a lack of focus on the Weed and Seed strategy, scattering resources across individuals spread out over many disparate communities. More recent private and public efforts to change community labor markets, rather than personal labor skills, fit right into Weed and Seed (see Bloom, 1996). They can easily become an integral part of its multi-risk factor reduction strategy, coupling high enforcement with greater opportunity.

Comprehensive Communities Program

Similar in conception to Weed and Seed, the Comprehensive Communities Program (CCP) is an effort to integrate social programs and policing, public and private organizations to control crime and improve the quality of life. The major difference is a lower funding level (see Chapter One) and a less clear-cut focus on addressing the highest-crime, highest risk factor areas. CCP is more flexible about specific priorities set by city-wide leadership for specific programs and areas in which to operate them. The scientific evidence is thus less helpful in assessing such a program, given its greater variability. An intensively measured level 2 process and impact evaluation is currently under way (Rocheleau, et al, 1996), but there is no well-controlled

test of its crime prevention effectiveness in progress. To the extent that some sites rely on gang programs that are of uncertain safety and effectiveness, as this chapter has shown, controlled tests of those specific program elements would be a high priority.

Title V Community Prevention Grants Program

Since 1992, this program has assisted local juvenile justice agencies to collaborate with other youth-serving agencies to develop an integrated system of services designed to prevent delinquency (see Chapter One). A major prevention component of this strategy is based on the Communities That Care model (CTC; Hawkins, Catalano, & associates, 1992). Consistent with the scientific evidence of concentrated risk factors, but not with the micro-local focus discussed in this chapter, the CTC model recommends a flexible plan for reducing risk factors. The plan is for local jurisdictions to identify risk factors known to be associated with delinquent behavior, to identify protective factors that buffer the effects of the identified risk factors operating within the communities, and to target program interventions on those factors. Like Weed and Seed, this program has a firm foundation in indirect empirical evidence and theoretical support. What it lacks to date is scientifically rigorous crime prevention impact evaluations.

The Title V program is implemented in two phases. During phase one, the assessment and planning phase, communities (defined here as entire jurisdictions, not neighborhoods) interested in participating in the Title V program must form a local prevention policy board and conduct an assessment to identify and prioritize the risk factors operating in their community. On the basis of this assessment, the applicant community then must develop a specific, comprehensive 3-year delinquency prevention plan. This plan serves as the basis for the community's application to the state's juvenile justice advisory group for Title V funding. Phase two of the process involves the implementation, monitoring, and evaluation of the programs and services. A 1996 survey administered by GAO showed that most of the 277 local projects supported by this program appeared to be designed in accord with the CTC model.⁵ For example, 78% reported addressing multiple risk factors in three or more substantive problem areas, and about 90% reported that they used two or more strategies identified in the CTC materials as "promising." Common prevention activities include parent training in effective techniques of conflict resolution and after-school programs.

The CTC model recommends local monitoring of changes in risk and protective factors at the community (city or county) level, but that will yield limited insights on crime prevention effectiveness. A national evaluation of Title V is being planned, but its scientific strength will be limited in the absence of random assignment of funding, or at least of different prevention strategies, to some communities and not others (Farrington, 1997). The scientific possibilities for comparing two different approaches consistently applied within two equivalent groups of communities, especially at the neighborhood level, would appear to be quite strong (Boruch, 1996). But whether it will happen depends in large part on the future of the issues and recommendations presented in Chapter 10.

Based on our review of the evaluations of the programs in the OJJDP "menu" for Title V (Howell, 1995) in Chapters 2,3,4,7 and 8, we can make a limited assessment of the potential effectiveness of this crime prevention program. The framework provided for the Title V incentive grants focuses local jurisdictions on selecting prevention strategies that have some basis in research. It is possible, however, that the array of "promising" activities allowed under the model is too broad, encompassing some ineffective strategies along with the more effective ones. The GAO report describes activities undertaken with Title V funds in six jurisdictions. These descriptions are too general to support a judgement of the delinquency prevention potential of any particular activity, but they seem to encompass a wide range of activities. Some of these, such as social skills training (see Chapter Five) mentoring programs, appear promising. Others, such as peer mediation and sports programs, do not.

Gang Prevention and Intervention

Funding for gang prevention and intervention programs is provided by BJA's Byrne formula grants, OJJDP, and potentially by Weed and Seed and Local Law Enforcement Block Grants. There are currently no restrictions on the kinds of gang programs that are eligible for support. The scientific literature suggests, but at a moderately low level of certainty, that the approach taken to gangs is critically important. It is possible that DOJ funding is supporting programs that reduce gang cohesion, in which case they are more likely to be effective. It is also possible that DOJ funds support programs that work with gangs in ways that may increase their cohesion, in which case they are less likely to be effective. Since the results of the available evidence cannot yet be generalized at a very high level of certainty, it is fairer to say that absent further evaluation evidence, the effects of DOJ-funded anti-gang programs are unknown.

JUMP: Juvenile Mentoring Program

This national discretionary program is a line-item Congressionally earmarked appropriation for both schools and nonprofit organizations to establish mentoring programs for juveniles (See Chapter One). The school-based mentoring evidence discussed in Chapter 5 is less encouraging than the findings from the Big Brothers and Sisters experiment reviewed in this chapter, but the school-based studies were also less rigorous. The \$4 million annual appropriation since 1994 was increased to \$15 million in FY 1997. No impact evaluations of JUMP have been completed, but one was solicited in 1996.⁶ Based on the available scientific evidence, the drug abuse prevention effectiveness of the Big Brothers/Big Sisters model is promising, but the school based model is of unknown effectiveness.

Based on the 1996 evaluation solicitation, it seems unlikely that the effectiveness of JUMP will be measured scientifically in the near future. JUMP is yet another rapidly developing program that would benefit more from Congressional appropriations for evaluation than for expanded operations. The 1996 evaluation was budgeted at \$150,000 per year to assess the effectiveness of a \$4 million annual appropriation covering 41 separate grantees, or about \$3600 of evaluation funding per program grantee. While JUMP is ideal for the kind of level 5 evaluation conducted in the private sector using randomized controls (Tierney and Grossman, with Resch, 1995), the under-funded DOJ evaluation clearly made controlled testing by independent evaluators impossible. The design's reliance on program grantees for data collection compromises the independence and reliability of the data, and probably precludes such methods as obtaining police records on juvenile arrests as an outcome measure. The Congress could correct these limitations by providing twenty percent of program funds for a more limited number of JUMP sites to be evaluated using the same design as the Tierney et al (1995) study.

STOP Formula Grants to Combat Violence Against Women

This program requires that states spend 25% of their funds to prevent violence against women on each of three priority areas (see Chapter One): law enforcement, prosecution, and victim services. None of these fall into community-based crime prevention, but grants under the remaining 25 percent may well do so. The purpose of the money is not just to combat domestic violence (see Chapter Four), but also to prevent stranger violence against women in the community. Hence community-based programs to reduce rape, stalking, purse-snatchings and carjackings would also be relevant here. The initial NIJ process evaluation of the program did not identify any community-based programs (Burt, 1996), nor was our review able to identify any impact evaluations of community prevention programs for stranger violence against women.

IMPROVING EFFECTIVENESS THROUGH BETTER EVALUATIONS

Community-based programs are among the most difficult to evaluate. They may also be the most important. The "small science" approach to evaluations of community programs has prevented the discovery of programs of proven effectiveness in this vital institutional setting. The effectiveness of community prevention might be greatly increased by a substantial investment in more controlled testing of program effects on serious crime. The Department of Labor has invested \$15 million in a randomized test of a single job training program. The prevention of serious crime in communities where it is heavily concentrated should warrant at least that much.

A fast-track strategy for advancing knowledge about community crime prevention is a multi-level randomized trial, with experiments imbedded in experiments. Mentoring programs, for example, can be randomly assigned to half the communities. Then within communities, the program can be provided to half the applicants. Gang prevention strategies for reducing cohesion can be randomly assigned to half of the communities, and then within half of the communities receiving the program it can be randomly assigned to half of the gangs. If "communities" are defined at the level of Census tract, there could be several hundred units of analysis available for this kind of multi-level research design.

The design could also embody elements that would always be delivered to the entire community. Substantial increases in police patrol, for example, could greatly reduce the crime rate in the short run. That, in turn, could assist efforts to attract new employers to the community, creating long-term employment opportunities. That, in turn, could diversify the class and race composition of the neighborhood, reducing hypersegregation on both variables as a risk factor. Drug prevention programs, recreation centers, school and family-based programs could be added as well. While many of these elements are already part of OJP funding plans, the method of testing them in randomly assigned combinations is not.

A broader experiment in community-based mentoring could draw separate samples from systematically different communities, chosen on theoretical grounds. A contemporaneous trial in two segregated inner-city communities of concentrated poverty, two predominantly white but high single-parent family suburban areas, and two racially and economically mixed areas would answer a key question: is whether the effects of the mentoring program vary by community context. An added comparison of Hispanic and African-American poverty areas would also illuminate the role of ethnicity, if any, in conditioning the effects of community-based mentoring. Separate random assignment schedules in each location would allow a strong test of interaction

effects, rather than the multivariate correlational methods used in the Tierney and Grossman with Resch (1995) test.

The importance of testing mentoring in different communities is clear. Many prevention strategies evaluated in this report produce different effects for different kinds of people, and in different community contexts. The Cambridge-Somerville experiment is a caution that mentoring, like gang intervention, may well backfire. It would be a mistake of both science and policy to support community-based mentoring for all communities on a one-size-fits-all basis. While that may well be the ultimate result of such a research program, the possibility of differential effects must be carefully examined.

Additional elements for a national experiment for dealing with high crime communities are suggested in the following chapters. Regardless of the specific elements included, the scientific basis for such an experiment remains the same. While scientists clearly disagree over the best way to handle the difficulties of community-level prevention (Bloom, 1996; Farrington, 1997), there is substantial agreement that we are not learning enough about the relative effectiveness of different strategies for community-based crime prevention.

NOTES

¹Sampson and Lauritsen, 1993: 89.

²While community crime rates have clear correlations with risk factors, there is still no scientifically conclusive evidence of causation, for reasons summarized in Sampson and Lauritsen (1993) at pp. 75-83. Thus the term "cause" in this section is used flexibly to denote a high priority target for a public policy intervention, a risk factor whose elimination might reduce crime.

³Whether this program is properly characterized as a mentoring program or something else is an issue debated within the University of Maryland team, one that illustrates the difficulty of characterizing multi-dimensional programs on the basis of any one dimension.

⁴Control groups and randomized experiments are generally far more possible ethically than many public officials are willing to concede, giving the scarcity of resources. Waiting lists are an excellent opportunity for controlled experiments. In this case, the control group males waited no longer than the applicants on the waiting list.

⁵This section is based largely on a recent (August, 1996) G.A.O. report entitled "Status of Delinquency Prevention Program and Description of Local Projects."

⁶Office of Juvenile Justice and Delinquency Prevention, FY 1996 Discretionary Competitive Program Announcements and Application Kit, p. 25.

REFERENCES

Anderson, Elijah

1978 *A Place on the Corner*. Chicago: University of Chicago Press.

1990 *Streetwise: Race, Class and Change in an Urban Community*. Chicago: University of Chicago Press.

Battin, S., K.G. Hill, J.D. Hawkins, R.F. Catalano, and R. Abbott

1996 *Testing Gang Membership and Association with Antisocial Peers as Independent Predictors of Anti-Social Behavior*. Paper Presented to the American Society of Criminology, Chicago, November.

Bernard, Thomas

1990 *Angry Aggression Among the Truly Disadvantaged*. *Criminology* 28: 73-96.

Bibb, M.

1967 Gang-Related Services of Mobilization for Youth. In M. Klein and B.G. Myerhoff, Eds., *Juvenile Gangs in Context*. Englewood Cliffs, NJ: Prentice-Hall.

Bloom, Howard S.

1996 Building A Convincing Test of Public Housing Employment Program Using Non- Experimental Methods: Planning for the Jobs-Plus Demonstration. Unpublished MS, The Wagner School, New York University.

Boruch, Robert and Ellen Foley

1996 Testing A Program Model in Many Sites: The Site and Other Entities as the Unit of Allocation and Analysis in Controlled Experiments. Draft Paper prepared for the US Department of Education.

Braithwaite, John

1989 *Crime, Shame and Reintegration*. Cambridge: Cambridge University Press.

Brown, R.C., Jr. and D.W. Dodson

1959 The Effectiveness of a Boy's Club in Reducing Delinquency. *Annals of the American Academy of Political and Social Sciences* 322: 47-52.

Bursik, Robert

1989 Political Decision-Making and Ecological Models of Delinquency: Conflict and Consensus. In S. Messner, M. Krohn, and A. Liska, *Theoretical Integration in the Study of Deviance and Crime*. Albany: SUNY Press.

Bursik Robert and Harold G. Grasmick

1993 *Neighborhoods and Crime*. New York: Lexington

Burt, Martha

1996 *The Violence Against Women Act of 1994: Evaluation of the STOP Block Grants to Combat Violence Against Women*. Washington, DC: Urban Institute.

Callahan, Charles, Frederick Rivara and Thomas Koepsell

1995 Money For Guns: Evaluation of the Seattle Gun Buy-Back Program. In Martha Plotkin, Ed., *Under Fire: Gun Buy-backs, Exchanges, and Amnesty Programs*.

Carnegie Council on Adolescent Development

1995 *Great Transitions*. Washington, DC: Author.

Carney, Frank, Hans W. Mattick and John D. Callaway

1969 *Action on the Streets*. NY: Association Press.

Clark, Kenneth

1965 *Dark Ghetto: Dilemmas of Social Power*. NY: Harper and Row.

Cohen, Albert K.

1955 *Delinquent Boys: The Culture of the Gang*. Glencoe: Free Press.

Cohen, Lawrence and Marcus Felson

1979 *Social Change and Crime Rate Trends: A Routine Activities Approach*. *American Sociological Review* 44: 588-607.

Collins, James F.

1989 *Alcohol and Interpersonal Violence: Less Than Meets the Eye*. In N. Weiner and M. Wolfgang, Eds., *Pathways to Criminal Violence*. Newbury Park, CA: Sage.

Cook, Thomas D. and Donald T. Campbell

1979 *Quasi-Experimentation: Design and Analysis Issues for Field Settings*. Chicago: Rand-McNally.

Cook, Philip J.

1991 *The Technology of Personal Violence*. In Michael Tonry and Norval Morris, Eds., *Crime and Justice*, Vol. 14. Chicago: University of Chicago Press.

Cook, Philip J. and Mark H. Moore

1995 *Gun Control*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Curry, G. David and Irving A. Spergel

1988 *Gang Homicide, Delinquency and Community*. *Criminology* 26: 381-405.

1993 *Gang Involvement and Delinquency Among Hispanic and African-American Adolescent Males*. *Journal of Research in Crime and Delinquency*. 29: 273-91.

Dicken, C., R. Bryson and N. Kass

1977 *Companionship Therapy: A Replication in Experimental Community Psychology*. *Journal of Consulting and Clinical Psychology* 45: 637-646.

Dunworth, Terence, Peter Haynes and Aaron J. Saiger

1997 *National Assessment of the Byrne Formula Grant Program*. *Research In Brief*. Washington, DC: National Institute of Justice

Esbensen, Finn-Aage and David Huizinga

1993 *Gangs Drugs and Delinquency in a Survey of Urban Youth*. *Criminology* 4: 565-589.

Farrington, David P.

1997 *Evaluating a Community Crime Prevention Programme*. *Evaluation* 3 (forthcoming).

FBI (Federal Bureau of Investigation, U.S. Department of Justice)

1994 *Crime in The United States, 1993*. Washington, DC: USGPO.

Felson, Marcus

1994 *Crime in Everyday Life*. Thousand Oaks, CA: Pine Forge Press.

Fingerhut, Lois and J.C. Kleinman

1990 International and Interstate Comparisons of Homicides Among Young Males. *Journal of the American Medical Association* 263: 3292-3295.

Fo, W.S.O, and C.R. O'Donnell

1974 The Buddy System: Relationship and Contingency Conditioning in a Community Intervention Program for Youth with NonProfessionals as Behavior Change Agents. *Journal of Consulting and Clinical Psychology* 42: 163-169.

1975 The Buddy System: Effect of Community Intervention on Delinquent Offenses. *Behavior Therapy* 6: 522-524.

Fowler, Floyd J., Jr. and Thomas Mangione

1986 A Three-Pronged Effort to Reduce Crime and Fear of Crime: The Hartford Experiment. In Dennis Rosenbaum, editor, *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

Gold, Martin and Hans W. Mattick

1974 *Experiment in the Streets: The Chicago Youth Development Project*. Ann Arbor, MI: Institute for Social Research.

Goldstein, Arnold P., B. Glick, & W. Carthan

1989 *The Prosocial Gang: Implementing Aggression Replacement Training*. Thousand Oaks, CA: Sage.

Goldstein, Paul

1989 *Drugs and Violent Crime*. In N. Weiner and M. Wolfgang, Eds., *Pathways to Criminal Violence*. Newbury Park, CA: Sage.

Goodman, G.

1972 *Companionship Therapy: Studies in Structured Intimacy*. San Francisco, CA: Jossey-Bass.

Green, B.C.

1980 *An Evaluation of a Big Brothers' Program for Father-Absent Boys: An Eco- Behavioral Analysis*. PhD Dissertation, New York University.

Hagedorn, John

1988 *People and Folks: Gangs, Crime and the Underclass in a Rustbelt City*. Chicago: Lakeview Press.

Hawkins, J. David, Richard F. Catalano and Associates

1992 *Communities That Care: Action for Drug Abuse Prevention*. San Francisco, CA: Jossey-Bass.

Hawkins, J. David, Michael W. Arthur, and Richard Catalano

1995 *Preventing Substance Abuse*. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

Hill, K.G., J.D. Hawkins, R. Catalano, R. Kosterman, R. Abbott and T. Edwards

1996 The Longitudinal Dynamics of Gang Membership and Problem Behavior: A Replication and Extension of the Denver and Rochester Gang Studies in Seattle. Paper Presented to the American Society of Criminology, Chicago.

Hirsch, A.

1983 Making the Second Ghetto: Race and Housing in Chicago, 1940-1960. Chicago: University of Chicago Press.

Homel, Ross

1994 Personal Communication

Hope, Tim

1995 Community Crime Prevention. In Michael Tonry and David P. Farrington, Eds., Building a Safer Society. Crime and Justice, Vol. 19. Chicago: University of Chicago Press.

Howell, James C., Editor

1995 Guide for Implementing the Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders. Washington, DC: OJJDP.

Forthcoming Promising Programs for Youth Gang Violence Prevention and Intervention. (Draft) In Rolf Loeber and David P. Farrington, Eds., Report of the Study Group on Serious, Violent, Chronic Juvenile Offenders. Washington, DC: OJJDP

Huff, Ronald C.

1989 Youth Gangs and Public Policy. *Crime and Delinquency* 35: 524-537.

Jackson, Pamela Irving

1991 Crime, Youth Gangs, and Urban Transition: The Social Dislocation of Postindustrial Economic Development. *Justice Quarterly* 8: 379-97.

Jones, M.B and D.R. Offord

1989 Reduction of Anti-Social Behavior in Poor Children by Nonschool Skill Development. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 30: 737-750.

Kanter, Rosabeth Moss

1977 *Men and Women of the Corporation*. New York: Basic Books.

Kelling, George L. and Catherine M. Coles

1996 *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities*. NY: Free Press.

Kennedy, David M., Anne M. Piehl, and Anthony A. Braga

1996 *Youth Gun Violence in Boston: Gun Markets, Serious Youth Offenders, and a Use Reduction Strategy*.

Kinlock, Timothy

1991 PhD dissertation, University of Maryland.

Klein, Malcolm

1968 *From Association to Guilt: The Group Guidance Project in Juvenile Gang Intervention*. Los Angeles: University of Southern California.

1971 *Street Gangs and Street Workers*. Englewood Cliffs, NJ: Prentice-Hall.

1995 *The American Street Gang: Its Nature, Prevalence and Control*. NY: Oxford University Press.

Lavrakas, P.J. and S.F. Bennett

1989 *A Process and Impact Evaluation of the 1983-1986 Neighborhood Anti-Crime Self- Help Program: Summary Report*. Evanston, Ill: Northwestern University, Center for Urban Affairs and Policy Research.

Liebow, Elliott

1967 *Tally's Corner*. Boston: Little, Brown.

Lemann, Nicholas

1991 *The Promised Land: The Great Black Migration and How It Changed America*. New York: Alfred A. Knopf.

Lizotte, Alan, et al.

1996 Paper Presented to the American Society of Criminology, Chicago, November.

Logan, J. and H. Molotch

1987 *Urban Fortunes: The Political Economy of Place*. Berkeley, CA: University of California Press.

McCord, Joan

1978 A Thirty-Year Followup of Treatment Effects. *The American Psychologist* 33: 284- 289.

1992 *Understanding Motivations: Considering Altruism and Aggression*. In J. McCord, Ed., *Facts, Frameworks, Forecasts: Advances in Criminological Theory*. New Brunswick, NJ: Transaction.

Massey, Douglas S. and Nancy A. Denton

1993 *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, Mass: Harvard University Press.

Messner, Steven and K. Tardiff

1986 *Economic Inequality and Levels of Homicide: An Analysis of Urban Neighborhoods*.

Criminology 24: 297-318.

Miczek, Klaus A., Joseph F. DeBold, Margaret Haney, Jennifer Tidey, Jeffrey Vivian, and Elise M. Weerts.

1993 *Alcohol, Drugs of Abuse, Aggression, and Violence*. In Reiss, Albert J., Jr. and Jeffrey Roth, Eds., *Understanding and Preventing Violence*. Vol. 3. Washington, DC: National Academy of Sciences.

Miller, Walter B.

1962 *The Impact of a "Total-Community" Delinquency Control Project*. *Social Problems* 9: 168-191.

Moore, Mark H.

1980 The Police And Weapons Offenses. *Annals of the American Academy of Political and Social Sciences* 452: 22-32.

Moore, J. P.

1996 The 1995 Youth Gang Survey. Report to the OJJDP. Tallahassee: National Youth Gang Center.

Powers, E. and H. Witmer

1972 *An Experiment in the Prevention of Delinquency: The Cambridge-Somerville Youth Study*. Montclair, NJ: Patterson Smith [Original publication 1951].

Quetelet, L.A.J.

1842 *A Treatise on Man and the Development of His Faculties*. Edinburgh: W. and R. Chambers.

Reiss, Albert J., Jr.

1986 Why Are Communities Important in Understanding Crime? In Albert J. Reiss, Jr. and Michael Tonry, *Communities and Crime*. *Crime and Justice: A Review of Research*. Vol. 8. Chicago: University of Chicago Press.

1988 Co-Offending and Criminal Careers. In Michael Tonry and Norval Morris, Eds., *Crime and Justice*, Vol. 10. Chicago: University of Chicago Press.

Reiss, Albert J., Jr. and Jeffrey Roth, Editors

1993 *Understanding and Preventing Violence*. Washington, DC: National Academy of Sciences.

Rocheleau, Ann Marie, George L. Kelling, Wesley G. Skogan, Jeffrey R. Roth, and Dennis J. Rosenbaum

1996 *Evaluation of the Bureau of Justice Assistance Comprehensive Communities Program: Interim Report*. Cambridge, Mass.: BOTEC Analysis Corp.

Roehl, Janice A., Robert Huitt, Mary Ann Wycoff, Antony Pate, Donald Rebovich, and Ken Coyle

1996 *National Process Evaluation of Operation Weed and Seed*. Research in Brief. Washington, DC: National Institute of Justice.

Roncek, Dennis and P. A. Maier

1991 Bars, Blocks and Crime Revisited: Linking the Theory of Routine Activities to the Empiricism of Hot Spots. *Criminology* 29: 725-53.

Rosenfeld, Richard

1995 *Gun Buybacks: Crime Control or Community Mobilization*. In Martha Plotkin, Ed., *Under Fire: Gun Buy-backs, Exchanges, and Amnesty Programs*. Washington, DC: Police Executive Research Forum.

Sampson, Robert

1986 Crime In Cities: The Effects of Formal and Informal Social Controls. In Albert J. Reiss, Jr. and Michael Tonry, *Communities and Crime*. *Crime and Justice: A Review of Research*. Vol. 8. Chicago: University of Chicago Press.

Sampson, Robert and Casey Groves

1989 Community Structure and Crime: Testing Social-Disorganization Theory. *American Journal of Sociology* 94: 774-802.

Sampson, Robert and Janet Lauritsen

1993 Violent Victimization and Offending: Individual, Situational and Community-Level Risk Factors. In Reiss, Albert J., Jr. and Jeffrey Roth, Eds., *Understanding and Preventing Violence*. Vol 3. Washington, DC: National Academy of Sciences.

Schinke, Steven P., Orlandi, Mario A. and Kristin C. Cole

1992 Boys & Girls Clubs in Public Housing Developments: Prevention Services for Youth at Risk. *Journal of Community Psychology OSAP Special Issue*: 118-128.

Schuerman, L. and Solomon Kobrin

1986 Community Careers in Crime. In Albert J. Reiss, Jr. and Michael Tonry, Eds., *Communities and Crime. Crime and Justice: A Review of Research*. Vol. 8. Chicago: University of Chicago Press.

Shaw, James W.

1994 Community Police Against Crime: Violence and Guns. Ph.D. Dissertation, University of Maryland.

Shaw, Clifford R. and Henry McKay

1942 *Juvenile Delinquency and Urban Areas*. Chicago: University of Chicago Press.

Sherman, Lawrence W.

1995 *The Police*. In James Q. Wilson and Joan Petersilia, Eds., *Crime*. San Francisco: ICS Press.

Sherman, Lawrence W., James W. Shaw and Dennis P. Rogan

1995 *The Kansas City Gun Experiment*. Research in Brief. Washington, DC: National Institute of Justice.

Skogan, Wesley

1986 Fear of Crime and Neighborhood Change. In Albert J. Reiss, Jr. and Michael Tonry, Eds., *Communities and Crime. Crime and Justice: A Review of Research*. Vol. 8. Chicago: University of Chicago Press.

1990 *Disorder and Decline*. NY: Free Press.

Spiegel, Irving A.

1986 *The Violent Gang in Chicago: A Local Community Approach*. *Social Service Review* 60.

1995 *The Youth Gang Problem: A Community Approach*. NY: Oxford University Press.

Spiegel, Irving and S.F. Grossman

1995 *Little Village Gang Violence Reduction Program*. Paper Presented at the National Evaluation Conference, National Institute of Justice, Washington, DC.

Taylor, Ralph, Stephen Gottfredson and Sidney Brower

1984 Block Crime and Fear: Defensible Space, Local Social Ties and Territorial Functioning. *Journal of Research in Crime and Delinquency* 21: 303-331.

Taylor, Ralph and Stephen Gottfredson

1986 Environmental Design, Crime, and Prevention: An Examination of Community Dynamics. In Albert J. Reiss, Jr. and Michael Tonry, Eds., *Communities and Crime. Crime and Justice: A Review of Research*. Vol. 8. Chicago: University of Chicago Press.

Thompson, D.W. and L.A. Jason

1988 Street Gangs and Preventive Interventions. *Criminal Justice and Behavior* 15: 323- 333.

Thornberry, Terence P.

Forthcoming Gangs and Serious, Chronic and Violent Offenders. Draft. In Rolf Loeber and David P. Farrington, Eds., *Report of the Study Group on Serious, Violent, Chronic Juvenile Offenders*. Washington, DC: OJJDP

Thornberry, Terence P., Marvin D. Krohn, Alan J. Lizotte, and Deborah Chard-Wierschem.

1993 The Role of Juvenile Gangs in Facilitating Delinquent Behavior. *Journal of Research in Crime and Delinquency* 30: 55-87.

Thrasher, Frederic

1936 The Boys' Club and Juvenile Delinquency. *American Journal of Sociology* 41: 66-80.

Tierney, Joseph P. and Jean Baldwin Grossman, with Nancy L. Resch

1995 *Making a Difference: An Impact Study of Big Brothers/Big Sisters*. Philadelphia, PA: Public/Private Ventures.

Toby, Jackson

1957 Social Disorganization and Stake in Conformity: Complementary Factors in the Predatory Behavior of Hoodlums. *Journal of Criminal Law, Criminology and Police Science* 48: 12-17.

Torres, Dorothy

1981 *Gang Violence Reduction Project: Fourth Evaluation Report*. Sacramento, CA: California Youth Authority.

Tyler, Tom

1990 *Why People Obey the Law*. New Haven: Yale University Press.

Wilson, James Q. and Kelling

1982 Broken Windows: The Police and Neighborhood Safety. *Atlantic Monthly* 249: 29-38.

Wilson, William Julius

1987 *The Truly Disadvantaged*. Chicago: University of Chicago Press.

1996 *When Work Disappears: The World of the New Urban Poor*.

Woodson, Robert L.

1981 *A Summons To Life: Mediating Structures and the Prevention of Youth Crime*.

[Home](#)

Chapter Four

FAMILY-BASED CRIME PREVENTION

by Lawrence W. Sherman

Family risk factors have a major effect on crime. Family based crime prevention can directly address those risk factors, with substantial success. The more risk factors they address, perhaps, the better. The earlier they start in life, it seems, the better. Programs for infants and young children may be most cost-effective in the long run, even if they are expensive in the short run. Combining home-visit parental support with preschool education reduces crime committed by children when they grow up. Rigorously evaluated pilot projects with tightly controlled prevention services are consistently effective. Family problems later in life are more difficult to address, especially family violence by adults. But it is still possible. The potential of early, adolescent and adult family-based crime prevention is held back only by our failure to invest in more research and development. The need for testing programs that can work on a large scale is particularly great.

Most of these conclusions have been reached independently by diverse scholars from diverse disciplines (Yoshikawa, 1994; Tremblay and Craig, 1995; Hawkins, Arthur and Catalano, 1995; Crowell and Burgess, 1996; Kumpfer, Molgaard and Spoth, 1996; Wasserman and Miller, forthcoming). Given the normal disagreements among social scientists, the level of consensus about these conclusions is striking. But of all these conclusions, the need for further careful evaluations is the strongest point of agreement. Evaluating the varieties of possible transitions from a small pilot test of a program to a large-scale operation is a step that is frequently left out, as it was in the case of Head Start (Lazar, 1992, and Zigler, 1992, both as cited in Yoshikawa, 1994). There is no government institution fully prepared to deliver family-based prevention of the kind found effective in the scientific literature. Making the most out of what we know already will require even more knowledge about how to go from pilot tests to full operations.

Much more is known about making families better at child-raising than about preventing family violence. A recent review of the effectiveness of criminal sanctions in combatting domestic abuse concludes that the evidence in favor of these programs is either weak or absent (Fagan, 1995). Batterer's counseling, mandatory arrest, special prosecution and victim advocacy programs all remain essentially unevaluated. While theoretical inferences support such programs as battered women's shelters to reduce danger during the high-risk aftermath of an incident reported to police, there is no assurance that any of these programs actually increase long-term victim safety. Court orders of protection and other legal steps advised by victims' advocates may even increase risk of serious injury to victims. Mandatory arrest for misdemeanor spouse assault without prosecutorial action or court treatment has been found to be either ineffective or criminogenic in repeated controlled trials, although it is effective in communities of strong social capital.

Perhaps least is known about the extent to which the same family-based programs can prevent both family violence and delinquent acts by children in the family. One home-visit program for infants, for example, reduced child abuse, which is both a crime of domestic violence and a risk factor for later delinquency of abused children. The potential for broadening the outcome measures and objectives of family-based crime prevention is important for public policy analysis. It has great potential, for example, in helping to design a program that might work on a much broader scale than the pilot tests to date, most of which are limited to a few hundred participants or less. It is also one more good reason to invest more heavily in research and development.

This chapter briefly reviews the variety of family-based crime prevention programs. It then considers a few of the major research issues in evaluating and designing family-based prevention. Five major areas of research are then examined in detail, each in relation to an ecological context where families seek or receive help affecting crime and risk factors: homes, pre-schools and schools, clinics, courts, and other contexts. The chapter concludes with a scientific summary of what works, what doesn't, and what's promising, with assessments of what is known about the effectiveness of federally funded programs and suggestions for improving effectiveness through better evaluations.

VARIETIES OF FAMILY-BASED CRIME PREVENTION

Family-based crime prevention is an unintended beneficiary of the vast research enterprise on human development. Much of what we know about it comes from evaluations of programs established for other purposes. Many of these human development programs are highly elaborated, each with its own terminology, literature, and professional community. As programs intended to improve parents' child-rearing skills, children's academic skills, or children's mental health, they have often resulted--almost coincidentally--in reduced crime. This fact underlines the importance of defining prevention not as intention, but as result. It also shows how basic to human experience the factors affecting the risk of crime can be.

Several analyses of risk factors for both serious and general delinquency conclude that family factors are important. While serious crime is **geographically** concentrated in a small number of high crime communities, it is **individually** concentrated in families with anti-social parents, rejecting parents, parents in conflict, parents imposing inconsistent punishment, and parents who supervise their children loosely (Tremblay and Craig, 1995: 158). Several analysts conclude that these risk factors are cumulative, and that the more of them a prevention program can address the better (Coie and Jacobs, 1993; Yoshikawa, 1994; Tremblay and Craig, 1995; Wasserman and Miller, forthcoming). This hypothesis is consistent with much of the literature, and not falsified by any direct test. Perhaps the best way to explore it is to evaluate rigorously prevention programs addressing different numbers and combinations of risk factors.

Risk Levels and Prevention Strategy

The basic structure of family-based prevention programs depends upon strategic choices with public safety, budgetary and political consequences. The basic choice is between **universal** and **targeted** programs (Institute of Medicine, 1994). Universal programs are offered to, or even imposed upon, all families. In several European countries, for example, all families with newborn children are required to admit trained nurses to their homes to visit the baby. This program applies to everyone without regard to any risk factors. **Targeted** programs are of two kinds. One kind is "**selective**," in which families (or individuals) identified as being at high risk are offered or mandated to receive a service intended to prevent the onset of harm. The other kind of targeted program is called "**indicated**." In the case of crime and delinquency, indicated programs are offered to prevent recurrence of crime by children already manifesting crime or crime risk factors. Because the term "targeted" in crime prevention policy is increasingly unacceptable to African-Americans as too resonant of racially discriminatory practices, this report will substitute the term "focused" to denote the same concept.

The choice between universal and focused programs is complex. Focused programs may make more efficient use of scarce resources, but universal programs may attract greater resource levels per family. It may not be necessary to allocate resources equally to all families within a program. But it may well be necessary to have the program itself be universal in order to make a very high cost investment politically palatable. The failure of Head Start to obtain full funding, for example, may be linked directly to the fact that it is seen as a program for poor children, rather than for all children.

Families with high levels of crime risk factors may also be more likely to accept universal programs than focused ones. This may be particularly important for more intrusive interventions into family life, such as frequent home visitation. Any possible stigma of such intrusion may be limited by the universal character of the program. To the extent that risk factors in some geographic areas are correlated with race, focused programs may be even more problematic. But programs applying to all children and all families avoid any implication of discrimination.

Even though this report generally concludes that crime prevention can be most effective when scarce resources are focused on concentrations of risk factors, family-based crime prevention provides an important exception. What makes sense across cities and even schools may not work at the level of family life. The state's relationship to the citizenry is most sensitive in the institutional setting of the family. Interpreting the policy implications of the scientific evidence reviewed in this chapter can be accomplished most usefully with the issue of universal versus focused programming in mind. **The "elasticity" of demand for such programs may be such that the more expensive they become through universal access, the more likely they are to be fully funded.**

Figure 4-1

Family-Based Crime Prevention by Ecological Context

Ecological Context	Program	Prevention Agent (s)	Delivery
HOME or	Regular visits for emotional, informational, instrumental and educational support for parents of preschool (or	Nurses, Teachers, Para- professionals, Preschool	Universal Selective Rarely indicated

	older) children	Teachers	
	Foster care outplacement for the prevention of physical, sexual abuse or neglect	Family services, Social worker	Indicated
	Family preservation of families at risk of outplacement of child	Private Family, preservation teams	Indicated
	Personal alarm for victims of serious domestic violence	Police	Indicated
	In-home proactive counseling for domestic violence	Police, Social Workers	Indicated
PRESCHOOL or	Involvement of mothers in parent groups, job training, parent training	Preschool teachers	Universal selective
SCHOOL or	Parent training	Psychologists. Teachers	Indicated Selective; some universal
or	Simultaneous Parent and Child Training	Psychologist, Child Care Workers, Social Workers	Indicated selective
CLINICS	Family Therapy	Psychologists, Psychiatrists, Social Workers	Indicated, Selective
	Medication--psychostimulants for treatment of hyperactivity and other childhood conduct disorders	Psychiatrists, Psychologists, Pediatricians	Indicated
HOSPITALS	Domestic Violence Counseling	Nurses, Social Workers	Indicated
	Low-Birthweight Baby Mothers' Counseling & Support	Nurses, Social Workers	Indicated
COURTS	Prosecution of Batterers	Police, Prosecutors	Indicated
	Warrants for Unarrested Batterers	Police, Prosecutors	Indicated
	Restraining Orders or "Stay-Away" Orders of	Police, Prosecutors,	Indicated

	Protection	Judges, Victims' Advocates	
	Hotline Notification of victim about Release of Incarcerated Domestic Batterer	Probation, Victim Advocates	Indicated
BATTERED WOMEN'S SHELTERS	Safe Refuge during high-risk 2-7 days aftermath of domestic assault; counseling; hotlines	Volunteers; staff	Indicated

The Ecology of Family-Based Prevention

Despite the potentially greater appeal of universal programs, Figure 1 reveals a striking fact: almost all family-based crime prevention is currently offered on a focused basis. Absent an indicated reason to intervene in family life, American government generally leaves families alone. In contrast to many other western nations, the United States performs almost no universal monitoring of families in the home.¹

This pattern creates a distinct ecology of prevention which treats families very differently in different places (Stinchcombe, 1963). The state imposes requirements on the disease-prevention vaccinations children must receive in hospitals and medical clinics, for example, but does not generally empower public health agents to invade the home to deliver vaccinations. The authority of the school teacher is great in a school building, but ambiguous when the teacher visits a private home by parental consent. The realm of the possible in family-based crime prevention programs is defined largely by the ecological context in which the programs might be delivered, and the authority vested in the government to intervene in family life associated with each of those contexts.

These contexts, as presented in Figure 1, include schools, preschools, hospitals, clinics, courts and battered women's shelters, as well as the home itself. All other contexts are in some sense merely windows on the home, opportunities for dialogue between the state and the family that can shape the results of family life for public safety. Hospitals and schools are places where crimes in the home are often detected and reported to police, who then have legal standing to investigate events in the home. They are also places where advice and instructions about reducing risk factors can be given. Absent the indication of existing problems or high risk, however, there are no universal crime prevention mechanisms comparable to medical vaccines.

This chapter is therefore a review of the effectiveness of programs within one strategic realm of family-based crime prevention: **focused** interventions. This represents an existing choice not to develop universal programs. It does not, of course, show whether focused programs are more or less effective than universal programs might be. In order to answer that question, it is necessary for a large-scale program of research and development to compare universal and targeted programs for their relative effectiveness. To the extent that universal programs might detect and prevent more problems than targeted programs, their value remains a major untested hypothesis in family-based crime prevention.

EVALUATING FAMILY-BASED CRIME PREVENTION

Scientific evaluations of family-based crime prevention programs face at least three distinctive problems, compared with other institutional settings. Perhaps foremost is the long time horizon often needed to measure the effectiveness of prevention programs. Also important is the possible variation in effectiveness by intensity or accumulation of risk factors. There are also unique problems in measuring crimes committed by family members against one another, in relation to both privacy and safety for research subjects and accuracy of measurement.

Long Time Horizon

A basic premise of developmental crime prevention is that what happens during infancy can affect the odds of crime two or three decades later. Giving this theory a fair test requires a very long time horizon. Sustaining the test over the time required creates problems of cost, management, and interpretation.

The problem of cost is not as great as it seems. Numerous birth cohort studies of delinquency have been funded intermittently over decades, keeping track of where to find the research subjects for repeated interviews and official record checks (Farrington, Ohlin and Wilson, 1987). The current OJP limitation of grant periods to two years poses more of a management problem than a cost problem, creating uncertainty about commitments to employ key staff and other planning issues. Relaxing that limitation for five- and ten-year projects would ease those difficulties, and help encourage more tests of developmental crime prevention strategies. The major problem this creates in interpreting available evidence is that there are so few long-term studies to examine.

The problem of management is perhaps more critical to interpretation of long-term findings. The two longest running tests of developmental crime prevention are both reputed to be very well managed programs (Berrueta-Clement et al, 1985; Lally, et al, 1987). Critics have raised the problem of generalizing from the results of small, well-managed programs to large, bureaucratically administered programs. The key question is how accurately we can predict that a long-term program serving tens of thousands of families will have the same effects as a short-term test program serving several hundred families for 3 to five years. In order to answer that question, we require research designs testing much larger scale programs over a longer period of time. That requires not only much greater cost, but a separate political process necessary to sustain the resources for the time horizon required. For example, ten years worth of birth cohorts might be needed to see if the long-term effects of a program operating during the enthusiasm (or confusion!) of an initial launch were the same as a program that was three, five, eight or ten years old.

Finally, the issue of interpretation is compounded by the speed with which our society is changing. By the time the results are in from a two-decade old test, the context of the program may have changed in important ways. Perhaps more qualified preschool teachers were available in the early 1960s than today, for example. Or perhaps the concentration of poverty in inner cities is so much worse in the 1990s than in the early 1960s (Wilson, 1996) that crime prevention benefits found in an earlier study would not stand up to today's more intense risk factors. Early feedback from measures of protective factors (like school conduct assessment) and child abuse might help solve this problem, providing both short- and long-term feedback. Conversely, short-term child abuse interventions such as Olds et al (1986) provide excellent opportunities for long-term followup of delinquency prevention, and even domestic violence prevention. Generating and funding such followup research should be a high priority for OJP. Similarly, short-term followups of drug abuse prevention programs merit much longer term followups, to see whether other factors cancel out early effects of interventions.

Cumulative Risk Factors and Contextual Data

This report's concern for the interdependency of crime prevention institutions is not widely shared in crime prevention research. Many clinic-based studies, for example, do not report precise data on the neighborhoods from which the research subjects are drawn. It is one thing to say that the children are from families on welfare or have teenage mothers. It is another thing altogether to report that 35% of the families in the sample reside in neighborhoods with adult unemployment rates in excess of 70%, and with 60% of households in the census tract below the poverty line (see Chapter two). Very few individual-level experiments report community-level data in the degree of specificity needed to begin to synthesize results and draw broader conclusions about program effectiveness.

Family-based prevention programs may work well in areas of high risk, but only up to a point. For example, clinic-based parent training for parents of aggressive elementary school children may work in all neighborhoods in Oregon, but not in many neighborhoods in Chicago. If there is a tipping point beyond which a parentally focused program may not work, it cannot be identified from the literature without more precise measurement. There is also a problem of consistency of the treatment itself across cities and treatment staff. That may interact, in turn, with the accumulation of risk factors. Some treatment staff or clinics may have greater capacity or experience to deal with concentrated risk factors than others.

Resolving the interaction of risk level with treatment effectiveness requires systematic attention and costly cross-site scientific designs. Planned variations in staff capacity, neighborhood social factors and family variables must be structured into the research design. Controlled experimentation with treatments across sites, as distinct from comparing naturally occurring variation in local treatment capacity, is required to bring a scientific methods score up to level 4 or 5. There is little precedent for this kind of research. But without it there will remain major limitations in generalizing from single-site experiments.

Measuring Crime in the Family

The issues of privacy and retaliation in measuring crimes within families pose a great challenge for research. Continuing disagreements about the interpretation of existing measures have afflicted even the strongest of research designs (Fagan, 1996). The central problems are low completion rates of personal interviews with victims of family crimes who have been treated, low or inconsistent reporting rates of subsequent crimes to police, and unwillingness to disclose crimes committed in the family during interviews in the home while other family members are present (NCVS study).

In several sites of the NIJ spouse assault replication project (SARP), for example, there are different results found from victim interviews and official reports to police. While victim interview data showed that arrested offenders had committed fewer repeat offenses than offenders randomly assigned to a warning, the official data showed the opposite (Dunford, et al, 1990; Berk et al, 1992). In other cities the victim data showed no effect of arrest while the official data showed some evidence of a backfiring effect (Hirschel, et al, 1990; Sherman, et al, 1991). But a major difference between these data was the completion level: official data covered 100% of the sample while the victim interview rates were as low as 23%, and averaged 41% in sites reporting a deterrent effect from victim interviews. Thus the effects of arrest may have interacted with victim willingness to be interviewed, biasing the sample towards victims who had enjoyed a protective effect from arrest.

The measurement theory challenging official data on family violence is that experimentally assigned criminal sanctions may encourage victims to call police more readily, whereas experimentally assigned warnings may discourage victims from calling police. Thus the higher rates of reported reoffending with the arrested subjects is arguably due to a measurement artifact. This theory does not explain why there are fewer repeat offenses reported about **employed** offenders randomly assigned to arrest compared to those assigned to a warning, and why the measurement artifact would only apply to unemployed offenders. A further theory could suggest that partners of employed males are less likely to call police than partners or unemployed males after an arrest has been made for fear of the employed batterer's losing his job. But none of these theories have been tested directly.

Possible solutions to these problems may lie in focusing scarce resources on prevention and measurement of injuries treated in hospital emergency rooms. Hospital cooperation with data collection on an anonymous basis could then provide more reliable measures of domestic violence (Sherman and Strang, 1996), although even then questions will remain.

PREVENTION AT HOME

Perhaps the most promising results in all areas of crime prevention are found in the evaluations of home visitation programs. While these programs are often combined with other institutional elements, such as preschool, there is a large and almost uniformly positive body of findings on this practice. Other prevention programs delivered in the home context, such as personal alarms for domestic violence victims and family preservation services, have been subject to far less research. These programs, however, generally operate on an indicated basis after crime problems have developed rather than on the selective basis of the home visitation programs. Combining these two findings may suggest even more reason for testing universal home-based prevention programs, to see if possible benefits of child-centered programs may be extended to family crimes involving adults.

Home Visitation Programs

Home visitation varies enormously in dosage levels, content, skill, and context. Yet there are common effects reported across all these variations. These common effects may be linked to a common core of treatment content, for which dosage levels may matter more than other dimensions. The common core of home visitation is a visitor who cares about child-raising sitting down in a home with a parent and a child. Visitors can be nurses, social workers, preschool teachers, psychologists or paraprofessionals. They can provide cognitive information, emotional support, or both. They can actively teach parents, with hands on the children. Or they can passively watch and listen, merely giving parents a good listening to. They can be trained in health (like nurses), human development (like psychologists and social workers), cognitive and social skills instruction (like preschool teachers) or some mixture of these subjects (like paraprofessionals). They can be experienced or novice, enthusiastic or burned out, assertive or hesitant. But no matter who they are or what they do, they provide a bridge between the parent, usually a mother, and the outside world.

Figure 2 summarizes the results of 18 different evaluations of programs that included a home visitation component. The Figure and this discussion draws primarily on the material in Yoshikawa's (1994) review, as well as Tremblay and Craig's (1995) and the draft OJJDP review prepared by Wasserman and Miller (forthcoming). Based on the limited information provided in the secondary reviews, the primary studies appear to merit level 4 to 5 scientific methods scores by the standards of this report, although some might drop to a 3 if they suffer large attrition problems. All of them show positive effects of home visits on

either some measure of crime by children when they enter adolescence (N = 2 experiments), child abuse during or shortly after the period of home visits (N = 5 experiments), or risk factors for delinquency (N = 10 experiments, 1 meta analysis). While the meta-analysis of Head Start evaluations (McKey, et al, 1985) shows that the measured effects wear off, that analysis includes the lowest dosage of home visits of any of the experiments: as few as two per year. In contrast, the substantial reductions in later delinquency in the two long-term followup studies are associated with weekly home visits for periods up to five years.

Figure 4-2

Evaluations of Home Visitation Programs

(All studies ranked Level 4 or 5 on Scientific Methods Score)

(Secondary Review Sources: Yoshikawa, 1994 unless otherwise indicated; Tremblay & Craig, 1995; Wasserman & Miller, Forthcoming)

Primary Source of (Secondary Child source if not Yoshikawa)	Effects	N of Visits, Time	Visitors, Visited	Other Service	Age
EFFECTS ON CRIME					
1) Berrueta-Clement et al 1984 High/Scope Preschool	Lower adult arrests by age 24 Exp = 7% Control = 31% (N = 121)	Weekly, 2-3 years, 30 weeks per yr (60 to 90 visits)	Teachers, High risk African-American children & their mothers	Pre-school; Parent Groups	3-5
2) Lally, et al 1987 Syracuse University Family Development Research Program	Lower arrests by age 15 Exp = 6% Control = 22% (N = 119)	Weekly, 5 years (260 visits)	Paraprofs, Low income, mostly African-American children & their mothers	Pre-school; pre-natal	0-5
3) Olds, et, al, 1986, 1988 University of Rochester Prenatal/Early Infancy Project	Lower Child Abuse by age 2 Exp = 19% Control = 4% (N = 300)	Bi-weekly over 122 weeks from late pregnancy (up to 60 visits)	Nurses, first born infants of high-risk low income white mothers	Doctor Visits	0-2
4) Barth, mos Hacking & Ash 1988	Lower child abuse removals from home of exps. (N = 50)	Bi-weekly over 26 weeks after birth (12 visits)	Paraprof, children of mothers at risk for abusing them	Taught Parent Skills	0-6
5) Gray, et al, 2.5 1979	Fewer Injuries of Experimentals	Weekly over an average of 130	Nurses, children and high risk	Doctor visits	0- yrs

	(N = 50)	weeks	mothers		
		(130 visits)			
6) Infant Health yrs Program (Tremblay & Craig)	Less child abuse & neglect of experimentals (N = 985)	? 3 years	? , High risk children	pre- school	0-3
7) Larson 1980 15 Montreal Home Visitation Study (Wasserman & Miller)	Fewer Injuries of Experimentals (N = 95)	10 visits, most effect from 1 in pregnancy, 9 over 15 mos.	BA Psychologist, infants of Canadian mothers in Montreal	--	0- mos.
EFFECTS ON CRIME of RISK FACTORS Child	Effects	N of Visits, Time	Visitors, Visited	Other Service	Age
8) Seitz, et al 2.5 1982 years Yale Child Welfare Project	Less anti-social behavior in school at age 10 by exp boys (N = 30)	Mean = 28 visits over 2.5 years	nurse, social worker or psychologist, low ses first-borns and mothers	Doctor Visits	0-
9) Johnson & YRS Walker 1987 Houston Parent-Child Development Center	Less anti-social behavior in school at age 10 by exp children (N = 113)	25 visits first year of life for experimentals	Paraprofessional, Low ses only children of Mexican-American families	Pre- school and parent classes 2d YR	1-3
10) Wasik et al mos 1990 Project Care	Higher cognitive scores up to 54 mos. with Home visits + cognitive day care than with only home visits (N = 62)	Biweekly from 0-3; monthly 4-5 months of age	Teachers and paraprofs, infants of low ses parents	see column 2	0-5
11) Achenbach et mos al 1990 Vermont Intervention Project	Experimental children had greater cognitive skills by age 7 (N = 56)	11 home visits, 0-3 mos	Reg. Nurse, Low Birth weight children	None	0-3
12) McKey et al yrs	Head Start	Varies, minimum	Preschool	Pre	3-4

1985	Meta-analysis shows effects wear off (N= 26 studies)	2 visits per year	teachers; children of families in poverty	school	
13) Gutelius et al 1977 3 years	Experimental children higher on cognitive scores to 3 yrs. (N = 95)	Yr 1=18+ visits Yr 2=12+ visits Yr 3= 8+ visits	Nurses, first children of unmarried mothers	None	pre- to
14) Barrera et al 1986 Yr	Experimental mothers more responsive to age 1 LBW child (N = 83)	Weekly 0-4 mos Biweekly 5-9 mos Monthly 10-12 mos	Paraprof, Mothers of LBW infants	None	0-1
15) Ross 1984 Yr	Mothers more responsive, children better cognition age 1 (N = 80)	Biweekly 0-3 mos Monthly 4-12 mos	Nurses, low ses families with LBW infants	None	0-1
16) Jacobson & Frye 1991 natal	Exp. Mothers and Infants more attached at age 1 (N = 46)	Monthly in pregnancy Weekly 0-2 mos Monthly 3-12 mos	Paraprof, firstborn children of low-ses mothers	None	Pre- to 1 Yr
17) Lieberman et al 1991 years	Exp. children less anxious at age 2 (N = 93)	Weekly (52)	Social Worker (MA, MSW), low ses anxious and secure Hispanic children	None	1-2
18) Lyons-Ruth et al 1990 mos	Exp. mothers and infants more attached at 18 mos (N = 76)	Weekly from intake at 0-9 mos up to completion at 18 mos	Paraprof and MA level; children of high risk mothers	None	9-18

While the two long-term experiments both included preschool programs (also called "day care" in some studies), positive effects were found in 11 of the experiments from home visitation without preschool. Some of the home visitations included doctor's office visits or some other contexts for instruction and observation outside the home, but most did not. None of the five experiments showing that home visitation reduced child abuse included involvement in preschool.

The consistent finding of beneficial effects of home visits without preschool is important for several reasons. One reason is theoretical: it shows that the visits are not simply a spurious correlate of the effects of preschool programs on both the children

and their mothers, who in some studies are heavily involved in the preschool programs and who show beneficial effects themselves in reduced welfare support and longer time between pregnancies. The fact that one trial (Wasik, et al, 1990) found stronger effects from home visits with cognitively oriented day care than from home visits to comparison families (of which over half were in some other kind of day care) does not contradict the independent effects of home visits. Yoshikawa (1994) and others have concluded that home visits are likely to be more effective in combination with early education, but the empirical evidence may be still too preliminary to reach a conclusion either way.

Even if home visits were more effective in combination with other prevention efforts, the evidence of their independent effect has practical implications. The Hawaii state Healthy Start program, for example (U.S. Advisory Board, 1995: 129), which reaches over half of all Hawaiian newborns, operates on a \$7 million annual budget as a home visit program only. The evidence reviewed in Figure 2 suggests that the Hawaiian program is likely to be effective at reducing child abuse, as would federal funding of home visit programs nationally. Whether they would be effective at preventing delinquency or serious crime in later life by the children visited cannot be determined without longer-term studies. Child abuse and neglect is a risk factor for delinquency, however, associated in one prospective study with a 50 percent increase in prevalence and a 100% increase in frequency of adolescent arrests (Widom, 1989). Thus if the results of the home visitation experiments can be generalized to other settings, they could clearly reduce a delinquency risk factor.

The effect sizes in these evaluations are particularly impressive. Both of the long-term delinquency prevention effects are on the magnitude of a relative reduction of three-quarters less prevalence of official criminal histories. Similarly, the Rochester University study found a 79% relative reduction (4% compared to 19%) in child abuse. It is unlikely that an effect of this magnitude could be replicated nationally across all child abuse cases because the same effect size is not observed in low-risk as in high risk families. Such large effects are also unlikely to persist beyond the first two years of life. But applying the effect size to the estimated 675,000 physical child abuse cases annually would reduce that number to 142,000, or prevent 533,000 serious crimes (Reiss and Roth, 1993: 228). If the 1 million neglect cases are included as well, then an additional 800,000 serious crimes might be prevented by home nurse visitation. Perhaps the most immediate question in advancing the capacity to generalize from controlled trials to national effects is the generalizability of the Rochester University results from a rural white upstate New York sample. A long-term trial of a similar approach among 1,100 African-American families in Memphis (National Research Council, 1993: 172) may soon report crucial results on this point.

Foster Care and Family Preservation

Families in which child abuse is proven pose a major dilemma between family preservation and prevention of recidivism. The many documented deaths and injuries of children after prior reports of abuse underline the seriousness of the dilemma. But the potential benefits of keeping thousands of families together must be weighed against the cost. The current state of the evaluation science of these two alternatives does not allow precise estimation of the costs and benefits. But a recent review of the evidence by a National Academy of Sciences panel finds that the larger problem is not the choice between family preservation and foster care. The problem is that in so many cases neither course is taken.

The review found a national survey showing that more than one-third of confirmed cases of child maltreatment received no therapeutic or support services (McCurdy and Daro, 1993, as cited in National Research Council, 1993: 268). This result occurs after 50 percent of the reported cases of maltreatment are found unsubstantiated, and the child protective services agency is required to decide whether children can remain safe in the home during treatment of the family. The officials making these decisions are often understaffed, with poor training and high turnover. In 1991 in New York City, for example, 77 percent of the workers investigating child abuse reports transferred to other agencies, resigned or were laid off (Dugger, 1992, as cited in National Research Council, 1993: 268).

When children are placed in foster care due to abuse, it is not clear what their risks of further abuse become. Few studies of abuse rates of the estimated 200,000 children placed in foster care each year distinguish between abuse of the estimated 50% of children who were maltreated before going into foster care and the other half who were not (Tatara, 1989, 1992, as cited in National Research Council, 1993: 271). Studies comparing rates of abuse in foster care to other settings are methodologically weak. One study almost two decades old did find that reported abuse by all foster parents is lower than that by the general population, and much lower than rates of re-abuse by abusive parents (Bolton, et al, 1981, as cited in National Research Council, 1993: 230). But even if foster care creates a protective factor against further abuse, many cities report major shortages in the availability of foster parents relative to the numbers of children judged to need it (Kammerman and Kahn, 1989, as cited in National Research Council, 1993: 271).

When children are left in their family homes after documented maltreatment, they may or may not be at higher risk of further abuse and later delinquency. A review of four major federally funded studies of the effectiveness of treatment across 3,253

families with abuse and neglect problems found that even early and costly services are "not very successful" (Cohn and Daro, 1987, as cited in National Research Council, 1993: 255). Yet the scientific literature in this area is characterized by many of the limitations of general concern in this report (National Research Council, 1993: 254):

the research generally does not include controlled experiments, has limited sample size, uses questionable measures to assess performance, and common assessment strategies have not been used across different interventions, making it difficult to know what works for whom.

The scientific methods used to evaluate family preservation programs have been stronger, but the results have been no more encouraging than for standard in-home treatment. Family preservation are often intense (20 to 30 hours per week), brief (often 6 weeks) programs designed to prevent foster care placement through a variety of strategies. These include strengthening family bonds, improving family skills, and providing stability in crisis situations. Rigorous experimental and quasi-experimental designs evaluating these programs show equivocal results, both on prevention of outplacement and longer-term outcome measures (National Research Council, 1993: 264-65). The studies have not yet disaggregated the problem by different kinds of family problems, which could produce different results. The National Research Council Panel on Child Abuse and Neglect concluded that these programs are of unknown effectiveness. But the strategy remains popular because of its significant costs savings, an estimated \$27,000 in tax dollars for each outplacement prevented. No estimate of the risks of death and injury associated with that cost saving are available.

Domestic Violence Alarms and Visitation

Two home-based strategies for secondary prevention of domestic violence have shown increasing use over the past decade. Personal radio alarms are indicated for extremely serious cases, while home visitation has been employed as a followup strategy after police response to a domestic disturbance call.

The personal alarm is usually a small panic button worn as a necklace. Pressing the button directly activates a message at police headquarters to dispatch a police car on an urgent basis to the home of the wearer, who uses it to signal that a batterer is on the premises (Sherman, 1992: 242; Farrell, 1995: 518-19). While the system is expensive to maintain, it can be allocated rationally based upon known risk factors. Police serving the Liverpool, England area rotate the available alarms across the most recent and highest-risk victims of serious attacks, based on their finding that repeat attacks were most likely to occur within thirty days after the last attack. This finding of highest risk of repeat victimization in the first 24 hours and first 30 days after the last incident has been replicated in a sample of 40,000 cases in an around Melbourne, Australia (Strang and Sherman, 1996), and is an important basic research finding of indirect evidence in support of the use of personal alarms. Unfortunately, the many documented cases of domestic homicide of women who had been issued alarms shows that the system is not foolproof. While it seems unlikely to increase the risk of attack, there is no impact evaluation presently available to address the question of whether alarms are safe and effective.

The strategy of home visitation after a police contact for domestic violence or disturbances also focuses on the high-risk time period in the immediate aftermath of a police response to a domestic disturbance in the home. The strategy has been evaluated in three tests using strong scientific methods. An NIJ-funded Dade County (Florida) police experiment in the late 1980s randomly assigned four responses to misdemeanor assault cases in which there was legally sufficient evidence to make an arrest: arrest, warning, arrest with followup visitation, and warning with followup visitation. The design was thus two separate controlled tests of followup visitation by police, one test following an arrest and one test following a warning (Pate, et al, 1991). The home visits consisted of a police detective reviewing the family's history of domestic violence problems, their legal options, and social service agencies to which the detective could refer them for further assistance. The visit was a one-time treatment, with no attempt to provide a theoretically based psychological treatment. The very rigorous test of the strategy found no effects of home visits on several diverse measures of repeat domestic violence over a six-month followup period, including police offense reports, arrest reports, and victim interviews, analyzed by prevalence, frequency, and time to failure. The results were the same for visits after an arrest and visits after a warning.

A second controlled experiment included both arrest cases (21%) and non-arrest cases (79%) in the same sample randomly assigned to receive home visitation (or not) by two person police-social worker teams (Davis and Taylor, forthcoming). The home visits were observed by researchers as lasting from ten to thirty minutes, depending on the victim's receptiveness and whether the batterer was present. The team tried to educate the victim, and the batterer if present, about the seriousness of domestic violence and encourage the family to seek change through the courts or other services. Specific information was provided about how to go to court for restraining orders, and to social services including battered women's shelters, substance abuse treatment, relocation to another address, and home security. No difference in repeat violence between experimentals and controls were reported in victim interviews (response rate = 72%), but homes assigned to the experimental group generated

twice as many domestic calls to police. The authors interpret this as evidence that visitation increases reporting but not violence; an alternative interpretation (untested in the analysis) is that visitation increased repeat calls, with the homes with no victim interviews accounting for a substantial portion of the total increase in the experimental group.

However the data are interpreted, there are now three strong tests of the police home visits strategy for preventing domestic violence. All three of the tests falsify the hypothesis that this strategy is effective.

Figure 4-3

Effects on Domestic Violence of Proactive Home Visitation after Reactive Police Contacts

Study	Scientific Methods Score	Home Visitation Providers	Results
Pate et al 1991	5 (N= 447)	Police Detectives	Visits after a warning had no effect on repeat violence over a 6 month followup period as reported by victim interviews or documented in official records
Pate et al 1991	5 (N= 442)	Police Detectives	Visits after an arrest had no effect on repeat violence over a 6 month followup period as reported by victim interviews or documented in official records
Davis and Taylor forthcoming	5 (N= 436)	Police-social worker teams	Visits in domestic violence public housing "hot spots" had no effect over a six month followup period on repeat violence reported by victims; calls to police about domestic incidents from experimental group almost twice as high as from control homes

PREVENTION LINKS BETWEEN PARENTS AND PRESCHOOL OR SCHOOL

Outside the home, the preschool and the school provide major opportunities for family-based crime prevention. Many of the prevention effects associated with early infancy home visits are impossible to separate from the simultaneous provision of a strong linkage between parents and preschool. As children age, the school takes over more of the child's day (see Chapter Five), but many schools continue to seek parental involvement in reducing a child's behavioral risk factors for delinquency. Without duplicating the coverage of school-based prevention in the next chapter, this section explores the evidence on family-based prevention delivered through school settings.

Developmentally, the family-school linkage can begin as early as infants are left in educationally enriched day care for even part of the day. For children whose parent or parents are employed, the availability of such care can be a crucial factor allowing the parents to work. For children who have at least one parent out of the labor force, the link to day care or preschool

can be an important means of helping that parent find work. The daily structure of commuting to a child care center, and of spending part of each day or week there, can help establish patterns essential for participation in mainstream society. Effects of maternal participation in preschool in studies reviewed by Yoshikawa (1994) included increased employment, reduced welfare dependency, and increased time between giving birth. To the extent that these effects were also linked to home visitation, however, the greatest certainty about generalizing from these results lies in framing them as a combined preschool-home visitation effect.

School setting programs for parent training and family-based prevention with older children also combine several different treatments. The recent review by Tremblay and Craig shows generally positive effects of these programs on delinquency or, more often, risk factors for delinquency with indicated or selective samples. Many of the evaluations suffer from small samples, short (or no) followup periods, and other methodological weaknesses. But the consistency of the results suggests that school-family outreach to train parents of problem children could be an effective means of preventing delinquency in certain kinds of areas.

Children at Risk. Unfortunately, the results of the moderately strong evidence in Figure 4-4 were not confirmed by a very strong test of a very expensive program linking schools and families of very high-risk youth to a wide range of services in very high risk neighborhoods. The Urban Institute's four-year NIJ-funded evaluation of the Children at Risk program in Austin (TX),

Figure 4-4

Effects of Parent Training in School Settings

(Secondary Review Source: Tremblay and Craig, 1995; Scientific Methods Not Scored)

Primary Source	Type	Sample	Treatments	Effects
Tremblay et al 1994	Indicated	160 boys aged 7 years at outset	2 Years of parent training, social skills training	6-Year Followup showed lower self-reported (ES= .25) and official (ES = .07) delinquency, better school adjustment
Hawkins et al 1992	Universal	1,659 boys and girls aged 6 at outset	4 years of training of parents, teachers, students	5 month followup showed lower self-reported delinquency (ES= .16), better parenting, attachment to family & school
Pepler et al 1991	Indicated	40 boys & girls aged 8 years	12 weeks of parent and student training	3 month followup showed better control over some disruptive behaviors, not others
Horn et al 1990	Indicated	42 boys & girls aged 7 to 11 years	12 weeks of parent training and child self-control	8 month followup showed better social control, less hyperactivity and

			therapy	conduct problems
Kolvin et al 1981	Selective	574 Children age 7 years	3 to 15 months of parent counseling, group therapy	20 to 32 month followup showed less anti-social behavior and neurotic problems

Bridgeport (Conn), Memphis, Savannah and Seattle was a randomized trial with 671 experimentals and controls, plus 203 youth in comparison neighborhoods (Harrell, 1996). Eligible subjects were referred to the program between ages 11 and 13 while attending 6th or 7th grade at the middle school in the study neighborhood in each city, where they were required to live. Referrals from school, police or courts were based on indicators of at least three school risk factors (such as truancy), one family risk factor (such as parental violence), or one personal risk indicator (such as prior arrests or gang membership). Service protocols were locally determined in each site, including some help from each of the following services: social work, family services, tutoring or educational services, recreational after-school and summer programs, mentoring, gifts and special events, community policing and juvenile courts. Half the sample was African-American and one third was Hispanic. Funding from private and DOJ sources for the program cost between \$11 and 20 million.

The preliminary findings from the evaluation so far have shown that these intensive and expensive interventions combined had virtually no effect. The findings are based on self-reported behavior by the experimental and control adolescents, with a 75% response rate after four years from the original randomly assigned sample. No differences were detected in attrition patterns by treatment group, which gives the analysis a scientific methods score = 5. The interviews show no difference within the high-risk areas between experimentals and controls on self-reported delinquency, drug use in the past month or entire lifetime, or sexual activity. A small difference in weapon carrying favored the treatment group. Further analyses still to be reported include officially measured crime and delinquency from police and court records, which will cover 100% of the experimental sample and not just the survey respondents (Harrell, 1996). Thus the conclusions could change. Even with the best possible results from official data, however, further findings on the effectiveness of services costing about \$35,000 per child will be unable to provide clear evidence of effective crime prevention.

The CAR findings from self-reported delinquency do not provide much guidance on how to prevent crime effectively in the places where prevention is needed the most. But the negative findings may not generalize to lower-risk families, adolescents, schools or neighborhoods. Figure 4-3 suggests that multi-treatment school outreach to parents might be effective with other samples. Similar results suggest the same about family therapy clinics working with families of children showing risk factors, either in the clinical setting or with the clinicians working with families in the home.

PREVENTION IN CLINICS

One key factor in the Children at Risk evaluation may have been the low parental involvement with the adolescent (Harrell, personal communication, 1996). Where parents can be successfully engaged in the question of how to raise their children more effectively, the results may be more encouraging. Figure 4-5 summarizes Tremblay and Craig's review of twelve evaluations of family therapy. Only one of these has a delinquency measure, but that one finds a prevention effect of moderate effect size. The other studies, while weaker, consistently report reductions in risk factors associated with family therapy by clinics.

Figure 4-5

Effects of Family Therapy Interventions By Clinical Staff

(Secondary Review Source: Tremblay and Craig, 1995; Scientific Methods Not Scored)

Primary Source	Type	Sample	Treatment	Effects
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Therapy Delivered in Clinics

Kazdin et al 1992	Indicated	97 boys & girls around 10 years old at outset	6 to 8 months of cognitive-behavioral parent training	1-Year Followup showed lower self-reported delinquency (ES=.25), anti-social behavior and parental stress
Dishion et al 1992	Selective	58 boys and 61 girls aged 10 to 14 at outset	12 weeks of parent training, self-regulation	During treatment child's Anti-social conduct and parent's negative discipline declined; home conduct worse
Yu et al 1986	Indicated	35 boys aged 7 to 12 years	20 weeks of parent and student training in problem-solving	During treatment boys improved on problem-solving, externalizing and social competence
Horn et al 1990	Indicated	42 boys & girls aged 7 to 11 years	12 weeks of parent training and child self-control therapy	8 month followup showed better social control, less hyperactivity and conduct problems
Kolvin et al 1981	Selective	574 Children age 7 years	3 to 15 months of parent counseling, group therapy	20 to 32 month followup showed less anti-social behavior and neurotic problems

Clinical Therapy Delivered at Home

McNeil et al 1991	Indicated	30 children X = 4.9 years old	14 weeks parent training	less aggression & opposition by children during treatment
Packard et al 1983	Indicated	34 mother-child pairs, child age X = 4.3	2 weeks of parent training	11 week followup showed less problem behavior
Shure & Spivak 1979	Indicated	10 boys, 10 girls age X = 4.3	3 months of Social problem-solving and parent	Less impulsivity, better problem-solving during treatment

			training	
Webster-Stratton et al 1988, 1990	Indicated	171 fathers & mothers of children aged X = 4.5	4 months of parent training	3 year followup showed better parenting, less child hyperactivity
Strain et al 1982	Indicated	40 boys & girls aged 3 to 5	17 weeks child & parent training	3 to 9 year followup showed less oppositional behavior and more compliance
Dadds et al 1987	Indicated	24 families with children aged X = 4.2	6 weeks of parent training, problem-solving	6 month followup showed less oppositional, more compliance behaviors by children
Strayhorn and Weidman 1991	Selective	84 children aged X = 3.7 years	5 months parent training	1 year followup shows better parenting, less hyperactivity, no effect on hostility

A recent analysis by Kumpfer (forthcoming) also shows beneficial effects of parent training in "clinics" more broadly defined, including recreation rooms of public housing and other apartment complexes. Kumpfer's work attends to the practical issues of incentives and transportation in obtaining high parental attendance rates at training sessions focused on prevention of substance abuse by both parents and children; when such issues are properly addressed, she even finds high attendance rates in high-risk areas.

PREVENTION IN COURT

When prevention practices in all other settings fail, families often rely on the criminal justice system to stop the crime. This is especially true for problems of family violence. Compared to what is known about human development and developmental crime prevention, however, the science of domestic violence has little knowledge to offer for effective policymaking. But the opportunities for advancing evaluations of legal efforts at violence prevention are great, once the limitations of the current state of knowledge are fully understood.

The basic science of domestic violence and the law offers several well-known facts (Crowell and Burgess, 1996): domestic violence is widespread and highly under-reported to authorities. When police are called, they find no evidence of actual physical violence in over half of all "domestic" calls, and make no arrests in the majority of cases where such evidence is available. The vast majority of arrests that are made are for misdemeanor assaults with limited evidence of injury, for which prosecutors drop charges in the majority of the cases (Sherman, 1992). While the suspect is gone from the scene when police arrive in 40% of the cases in which police do have sufficient evidence to arrest, few courts or police agencies bother to issue arrest warrants unless the victim requests one by making a burdensome trip to court. Rising arrest rates for simple assault in the early 1990s has placed even more workload pressure on courts and prosecutors, for which there is some evidence that the odds of prosecution per arrest will decline. Odds of conviction per arrest for misdemeanor domestic assault are as low as 1 percent, with odds of incarceration per arrest as low as zero per 400 cases (Sherman, 1992: 337).

The prevention program often recommended in response to these facts of under-enforcement of the law is full, or fuller, enforcement. The premise of this policy is two-fold, both moral and empirical. The moral premise is that full enforcement is

the proper response to all crimes, from drug possession to homicide, even though there is ample evidence that under-enforcement of the law by 50 percent or more cuts across both felonies and misdemeanors of almost all kinds (Reiss, 1971; Black, 1980; Smith and Visher, 1981). From this perspective, the crime prevention effects of fuller enforcement are not dispositive.

Fuller enforcement is also claimed, however, to have preventive effects. The empirical premise is that increasing certainty and severity of punishment will create either general or specific deterrence of domestic violence. "General" deterrence refers to prevention of crimes by people in the community generally regardless of whether they have been caught and punished for a crime. "Specific" deterrence denotes the preventive effects of punishment on people who have been caught. Both hypotheses are widely accepted as true by legislators, but hotly debated by evaluation scientists (Zimring and Hawkins, 1973; Blumstein, et al, 1978).

Rigorous scientific impact evaluation evidence is unavailable about most of the criminal law strategies for preventing domestic violence (Crowell and Burgess, 1996; Fagan, 1996). Police have been the component of the legal system most willing to engage in rigorous impact evaluations. Other agencies of the criminal justice system have repeatedly refused to allow careful testing of their effectiveness; prosecutors in Milwaukee and judges in Minneapolis are just two examples over the past decade. As a result, a great deal is known about the effects of one police decision, while little is known about most other criminal justice practices.

The National Institute of Justice has pioneered in supporting rigorous tests of domestic violence responses. This include the six offender-present and one offender-absent experiment in arrests for misdemeanor domestic assault (Scientific Methods Score = 5), reviewed in Chapter Eight. These studies find no consistent support for the specific deterrent hypothesis, in the general absence of any referrals, prosecutions or convictions after an arrest; they do find arrest is effective for employed offenders (Sherman, 1992) and absent offenders for whom police issue a warrant (Dunford, 1991). A frequent conclusion from these findings is that arrest must have followup actions in order to be effective. That hypothesis, however, remains untested. So does the general deterrence hypothesis that mandatory arrest in a city will prevent domestic violence city-wide. The hypothesis that allowing victims to decide whether or not an arrested batterer should be prosecuted will prevent violence, however, has also been tested by an NIJ-funded controlled experiment (Scientific Methods = 5). The Indianapolis Domestic Violence Prosecution Experiment (Ford, 1993) randomly assigned cases in the prosecutor's office to a policy of either "no-drop" or victim decision. The victim decision policy produced a lower repeat violence rate, also falsifying the hypothesis that full enforcement offers greater prevention.

The hypothesis that mandatory referral of arrested batterers to counseling or therapy will help prevent repeat violence has also been tested with NIJ support, although with weaker scientific methods than the evaluations described above. This test provides moderately strong evidence of a negative effect. Harrell (1991) found in a matched comparison of arrested batterers referred to court ordered treatment and those not referred to treatment that the treated group had higher repeat violence rates. Crowell and Burgess (1996: 122), however, cite several weaker studies that find the opposite conclusion. The strongest design appears to be Goldkamp's (1996) evaluation of the Dade County Domestic Violence Court program combining substance abuse treatment with domestic violence counseling, a randomized experiment not yet reported with significance tests or other statistics (SMS = 3); preliminary results suggest a reduction in same-victim domestic violence by offenders in the combined treatment, compared to offenders given only one or the other treatment approaches. The effects of court-ordered treatment seem likely to vary widely by the specific approach to treatment, the skills of the individual therapists, the background of the batterers, and other factors making it difficult to generalize from a few weak evaluation designs (Fagan and Browne, 1993).

Most domestic violence evaluations have been focused on noninjurious violence, and very little is known about the prediction or prevention of serious injury. One of the major practices to be evaluated is the effectiveness of court orders of protection. According to an NIJ-funded study by the National Center for State Courts (1996) in Wilmington, Denver and the District of Columbia, women who seek orders of protection suffer very high rates of serious injury prior to obtaining the order. According to a matched control evaluation of women granted orders in Denver and Boulder, the one-year recidivism rates are lower against women who obtain the orders (Harrell, et al, 1993), thus supporting the full enforcement deterrence hypothesis. In the absence of any other reported impact evaluations of restraining orders, this level three study makes the use of such orders at least "promising."

PREVENTION IN OTHER SETTINGS

The effects of practices in other settings on families and their crime risks may be quite substantial. Churches, employers, landlords and neighbors may all play roles that are not yet well understood. This section addresses only a few of the other settings affecting families: battered women's shelters, hospitals, and gun shops.

Battered Women's Shelters. The number of battered women's shelters in the US was recently estimated at 1,200 (Plichta, 1995, cited in Crowell and Burgess, 1996: 101). These shelters, and 600 other related programs, offer a wide array of services to families and women suffering intimate violence. The core of a shelter's service, however, is providing a safe haven during the high risk period in the immediate aftermath of a domestic violence incident (Farrell, 1995; Strang and Sherman, 1996). There is evidence that current levels of this service are insufficient to meet the demand; an estimated 300 women and children per week were turned away from New York City shelters in March of 1995 due to lack of space (O'Sullivan et al, 1995, as cited in Crowell and Burgess, 1996: 102).

Whether shelters actually reduce violence against women is an important question for evaluation. The logical basis for predicting that result is the reduction of risk after the passage of time with the offender unable to gain access to the victim. Berk et al (1986), however, found quasiexperimental (Scientific Methods Score = 4) evidence that unless the shelter clients took other steps to seek help beyond staying in the shelter, their rates of repeat violence after leaving the shelter were actually higher than a similar group who had not gone to a shelter. Among women who did take additional steps, however, the shelter stay had a measured protection effect against repeat violence lasting about 6 weeks. The relatively small sample size (N = 155) and Santa Barbara (CA) site for this analysis (N = 155) may limit the generalizability of the findings, but the results suggest the clear need for impact evaluations of all crime prevention programs.

Hospitals. Little is known about the identification and reporting of family violence in hospitals. A recent NIJ grant to the Illinois Criminal Justice Information Authority will examine the possible data collection opportunities in hospital emergency rooms, which could lead to operational indicators as well as research findings. A clear interpretation of the number domestic violence cases reported to police is impossible as long as increased reports might reflect growing confidence in the police, rather than more violence in the home (Davis and Taylor, forthcoming; Sherman and Strang, 1996). Hospital measures over time may provide a community with its most reliable indicator of progress or decline in the effectiveness of its efforts to deal with the problem.

Gun Shops also play a crucial role in family violence, and most of some 2,000 domestic homicides a year. The 1996 Lautenberg Act imposed a federal ban on gun ownership among persons convicted of domestic violence misdemeanors. We may estimate the likely effect of implementing this law by noting that an estimated 100,000 to 150,000 persons are convicted annually of domestic violence misdemeanors.² Moreover, the risk of a domestic homicide is approximately eight times higher among people who have had police encounters for misdemeanor offenses than among people who have not in Milwaukee, and 18 times higher in Victoria (Melbourne), Australia (Strang and Sherman, 1996). While this risk is nonetheless a very low 1 in 33,000 person-years, it still amounts to 5 murders per year among people newly convicted of domestic violence. If the prior convictions were included for 20 years, that could amount to 100 murders per year committed by persons previously convicted of domestic violence misdemeanors. How many of those murders would be prevented by the Lautenberg law is impossible to predict. But the indirect evidence on risk factors suggests that the law does address a major risk factor for serious domestic injury and death.

CONCLUSIONS: WHAT WORKS, WHAT DOESN'T, WHAT'S PROMISING

This section discusses the following conclusions, and their research and policy implications:

What Works

- o Long-term frequent home visitation combined with preschool prevents later delinquency
- o Infant weekly home visitation reduces child abuse and injuries
- o Family Therapy by clinical staff for delinquent and pre-delinquent youth

What Doesn't

- o Home visits by police after domestic violence incidents fails to reduce repeat violence

What's Promising

- o Battered women's shelters for women who take other steps to change their lives

- o Orders of Protection for battered women

The Effectiveness of DOJ-Funded Local Prevention Programs

Over the last three decades, the Congress has left family-based crime prevention largely in the hands of other federal agencies besides the Department of Justice (DOJ). This began to change with the rising concern over domestic violence in the 1980s.³ The passage of the Violence Against Women Act (VAWA) as Title IV of the 1994 Crime Act was a major increase in the role of DOJ in the family (although the VAWA also addresses crimes committed by strangers). Most recently, the Office of Justice Programs has identified infant home visitation as an important strategy to include in comprehensive community prevention programs such as Weed and Seed and various OJJDP initiatives. The evidence suggests that DOJ's increasing responsibility for national crime rates logically draws it to the major risk factors for crime, which must clearly include the family.

In what may be a period of transition towards more explicit focus on family-based prevention, Congress has created a number of funding programs that offer opportunities to develop that role. These may be divided into developmental and family violence prevention. The developmental programs are funded primarily by OJJDP and the Executive Office of Weed and Seed with discretionary funds, while the family violence funding is concentrated in the Violence Against Women Grants Office.

Safe Kids, Safe Streets (OJJDP, with VAWGO and EOWS). This funding program will provide about \$1.4 million per year for five years to each of six communities. Informed by much of the research reviewed in this chapter, the program is specifically aimed at prevention of child abuse and neglect and related risk factors for delinquency. The strategies supported by the program include family strengthening, mental health services and treatment. A national process evaluation is underway to determine exactly what strategies each site selects, and a national impact evaluation is planned for future years.⁴ To the extent that the local grantees elect to employ approaches to family based prevention reviewed in this chapter, there is evidence that the funding can be effective in preventing crime. To the extent that the local grantees focus on the highest risk pre-adolescents in the highest-risk neighborhoods, however, the preliminary results from the Children at Risk Program may indicate that the state of the prevention art is not yet up to such a severe challenge (Harrell, 1996).

Title V Incentive Grants for Local Delinquency Prevention (OJJDP). This program distributed \$20 million in FY 1995 for local programs encouraged to adopt the Communities That Care model (Hawkins, et al, 1992). The program was initially developed and field tested by OJJDP in the early 1980s, and has established a substantial record of evaluation results. The CTC model recommends consideration of parent training as well as family therapy for high-risk adolescents and early childhood home-based and center-based strategies. This review finds all those approaches can be effective.⁵

Operation Weed and Seed (EOWS). This program is currently planning to conduct a field test of the Rochester University model of early infancy home nurse visitation. The location of such a test within Weed and Seed neighborhoods would provide an excellent replication of the original Elmira study. Results from the Memphis replication currently underway could also inform the Weed and Seed approach to this model, which has such strong evidence of reducing child abuse among high-risk rural white families.

Congressional Action on Universal Home Visitation. The evidence reviewed in this chapter suggests that substantial crime prevention effects could be obtained from greater federal investment in early infancy and pre-school home visitation. For reasons discussed in this chapter, a **universal** approach to such a program is more likely to succeed than a selective approach based upon risk factors. The latter approach is more cost-efficient but potentially stigmatizing. While further research is needed to compare the crime prevention benefits of early prevention to costly federal programs such as prison construction, such research could inform the Congress of where it can find the maximum crime prevention for each taxpayer dollar. While appropriations for Head Start have never been able to meet the demand for the program, that may reflect its use on a selective basis. A universal home visitation program that promises to reduce crime may be more feasible than fully funding Head Start. Controlled testing of visitation with and without Head Start, however, is required in order to determine whether visitation alone can create lasting benefits without reinforcement for both parent and child through the pre-school environment.

Universal home visitation for children may also have the benefit of helping to prevent or at least detect domestic violence. Visitation has been found ineffective in the immediate aftermath of a police response. But it may well be effective at reducing unreported cases, especially in families where police are never called. While this would not be a central goal of universal early infancy visitation, it could be a side benefit. That hypothesis also provides a linkage between DOJ efforts to prevent crime developmentally and among members of the family.

STOP (Services, Training, Officers, Prosecutors) Formula Grants (VAWGO). By far the largest OJP expenditure on

issues affecting crime in families is the STOP Grant funding program, which distributed \$23 million in fiscal 1995 and has been appropriated \$145 million for FY 1997.⁶ This money, which addresses all violence against women and not just family violence, is appropriated on the basis of population. How the money is used is up to the states, within the broad initial guidelines of 25% allocations to each of three areas (Burt, 1996: vi): law enforcement, prosecution, and victim services. Much of it appears to go for training, model policies, equipment, and other support materials.

To the extent that this funding can be effective in reducing family violence, it could be more so if the funds were allocated on the basis of some crime risk indicator. Possible criteria include the number of women murdered by men in each state, or total women murdered (which would have less reporting bias than other crimes against women like rape). Like police patrol funding (see Chapter Eight), the population based formula may put the money equally in places that need it desperately and places that do not.

As the major source of federal funds that could be used to combat family violence, STOP might provide a vehicle for increasing prosecution and adjudication of domestic violence arrests. The full enforcement hypothesis remains an unanswered question, even though there is clear evidence that it is not supported with certain kinds of offenders. In order to test the effects of higher levels of prosecution and sentencing, the funding required for the extra courtroom work must be provided. A review of the FY 1995 grant awards made by the States, however, suggests that the funds are not being used to support increased volume of court case processing--unlike the competitive Grants to Encourage Arrest Policies. Most of the purposes are for support services such as training. The effects of training of police and prosecutors on crime prevention have not yet been evaluated. But the effects of increased prosecution are also unknown. The general absence of scientific tests of most local practices in domestic violence prevention provides very little guidance to Congress, DOJ and the states on how this funding can be spent most effectively to prevent domestic violence.

Grants to Encourage Arrest Policies (VAWGO). A review of grant award abstracts for the FY 1996 grants suggests that these grants are supporting diverse local programs. The most direct operational activity is increased capacity for prosecution, with DOJ funds used to hire prosecutors and bring charges in cases that would otherwise be dropped. Some jurisdictions even commit to 100% prosecution. Thus the program may provide a realistic possibility in many communities to link arrest to a high certainty of prosecution, a response that has never been evaluated but which could be very different from arrest alone. Until evaluations of that kind are conducted, the effectiveness of increased prosecution a crime prevention practice will remain unknown.

These grants also support training, data bases and other approaches designed to increase arrests made by police officers. Here again, the current state of evaluation science has little guidance to offer one way or another about any expenditures to encourage domestic violence arrests. The potential value for impact studies across a range of options for such programs would be to identify those which appear most cost-effective.

Rural Domestic Violence and Child Abuse Enforcement Assistance grants (VAWGO). The absence of scientific evidence on the effectiveness of local practices in rural areas, and with child abuse cases, also limits the assessment that can be made of this funding based on scientific evidence. The 1993 National Academy of Sciences Panel found the problem of child abuse to lack rudimentary science on many of these questions. To the extent that the Olds et al (1986) experiment prevented rural child abuse successfully, the Congress may wish to open the scope of acceptable funding for this program to include prevention as well as enforcement. Alternatively, the use of nurses legally obligated to report abuse might qualify as child abuse enforcement. If local programs funded by DOJ use their money in that fashion, it seems reasonably likely to be effective in rural white low-income communities or families.

National Stalker and Domestic Violence Reduction. This \$6 million three-year program establishes a data base as part of the National Crime Information Center that will cover various offenses and offenders in domestic and family violence and stalking. In addition to the data base funding from the STOP Block grants, these funds will help create the capacity for implementing the 1996 Lautenberg Act extending the Brady Bill to misdemeanor domestic violence. While the latter Act prohibits persons convicted of such misdemeanors from owning a gun, there is currently no data base available in most states to identify such persons. This gap results from the absence of special statutes for "domestic" offenses, which are generally prosecuted under generic laws against assault. Whether a misdemeanor assault conviction reflects domestic violence is not a part of the court record, and can only be determined retrospectively by examining police records. The latter are often kept in paper files rather than computers, making the task very difficult in retrospect. But if new data bases can capture the data prospectively, it may be possible to implement the law with these funds by the 21st Century. It seems unlikely to happen without these DOJ funds.

No empirical test of the effect of a handgun ban for domestic violence misdemeanor has ever been conducted. Ongoing NIJ

evaluations of the Brady bill may provide some idea. Other uses of the data bases created by VAWA funding could have even greater preventive effect, such as public access to a registry of convicted batterers. Such a registry could have a far greater deterrent effect than arrest alone, and could also help warn potential victims to avoid relationships with previously convicted batterers. Whether any of these hypothesized effects would occur, however, can only be determined by a program of rigorous research and development.

Office of Victims of Crime. This office, funded by fines collected by federal courts, provides grants in support of some of the local practices reviewed in this chapter. Support for battered women's shelters is a notable example. The potential value of these programs in preventing crime suggests that this Office might be included in the overall scope of DOJ crime prevention activity.

Improving Funding Effectiveness Through Better Evaluations

As the Congress recognized in its passage of the Violence Against Women Act of 1994, the research agenda for family-based crime prevention is substantial. A great many key questions about local practices remain unanswered, while tens of millions of cases are processed annually. This final section considers three high priority areas: home visitation, police arrest policies, and orders of protection.

Early Infancy Home Visitation. This Chapter's primary recommendation is the same as the 1993 Report of the National Research Council (1993) on Child Abuse and Neglect:

"Research on home visiting programs focused on the prenatal, postnatal, and toddler periods has great potential for enhancing family functioning and parental skills and reducing the prevalence of child maltreatment." (National Research Council, 1993: 191-92). "The panel recommends that evaluations of home visiting programs include descriptions of what goes on in visits..and direct observations of home visitors in action." (NRC 1993: 193).

The theoretically powerful early infancy visitation model raises a host of unanswered questions about its effectiveness. Before formulating or proposing a national policy, DOJ needs to procure randomized experiments testing the basic model under different conditions: high and low crime neighborhoods, different training for the visitors, different frequency and length of visitation, and different combinations of other interventions such as preschool with parental involvement. The funding of visitation programs as part of existing DOJ programs creates an opportunity to implement this proposal. The absence of a randomized controlled trial, however, would gravely limit what can be learned from an impact evaluation. The feasibility of a rigorous experiment has been demonstrated in Elmira and Memphis, and DOJ can build upon that precedent.

Police Arrest Policies. Given the growing use of arrest for domestic violence and the continuing debate over the interpretation of the previous NIJ experiments, it would be very helpful to continue the program of research that produced them. Collaborative experiments with prosecutors and courts would seem to be the highest priority, to test the hypothesis that full enforcement by the criminal justice system is an effective prevention approach. Alternative sanctions, such as reintegrative shaming conferences (Braithwaite and Daly, 1993), also need to be tested against more customary measures like probation and fines. Even stigmatic shaming such as court-ordered display of bumper stickers or t-shirts proclaiming the offender to be a batterer (Kahan, 1997) could be tested against its theoretical competition in reintegrative shaming (Braithwaite, 1989). More sophisticated research designs can also now be employed to control for contextual effects of neighborhood labor force participation rates, rather than the less policy-relevant individual employment status.

Orders of Protection. Given the high risks of serious injury suffered by many domestic violence victims who receive orders of protection, the need for further research is great. The most theoretically promising strategy for further testing would be a randomized trial of the personal panic alarm in a big city jurisdiction. A large city would minimize the ethical problems with the creation of a control group, since there would be far too many victims for most jurisdictions to give them all a panic alarm. Randomized tests of women who volunteer for an evaluation of a randomized trial based upon informed consent may also lead to a strong test of orders of protection without any additional tools, which is by far the most common condition under which they are issued.

NOTES

¹This discussion is limited to government, rather than a broader range of institutions, by the content of the available research.

All of the available program evaluations examine the effects of government programs, broadly defined to include schools and publicly supported health care. Other institutions, such as churches and charities, no doubt provide crime prevention services (also broadly defined) to families. But in the current social structure of American life, it seems unrealistic to expect private resources to fund the level of intervention that research suggests is needed to appreciably reduce serious crime rates. While churches and other private groups may be ideal for administering such efforts under government contracts, the level of resources associated with the evaluated programs far exceeds those likely to be raised from solely non-public sources.

²This calculation employs the FBI count of 1.86 million arrests for all assaults in 1995, less 75% for non-domestic assaults, adjusted by the arrest probability of 22% for domestic and 13% for non-domestic assaults observed in the Indiana University police observation study (Oppenlander, 1982), and multiplied by a conviction probability estimate of 20% given a domestic arrest (Sherman, 1992).

³Attorney General's Task Force on Family Violence, Report. 1984.

⁴OJJDP Fact Sheet #38, June 1996.

⁵OJJDP, 1995 Report to the Congress: Title V Incentive Grants for Local Delinquency Prevention Programs.

⁶This program is not just focused on families, but aims to prevent all forms of violence against women including stranger violence. Since most violence against women is caused by relatives and intimates, however, much of these funds are appropriately focused on family violence.

REFERENCES

Achenbach, T.M., V. Phares, C. Howell, V.A. Raugh, and B. Nurcombe

1990 Seven Year Outcome of the Vermont Intervention Program for Low-Birthweight Infants. *Child Development* 61: 1672-1681.

Barth, R.P., S. Hacking and J.R. Ash

1988 Preventing Child Abuse: An Experimental Evaluation of the Child-Parent Enrichment Project. *Journal of Primary Prevention* 8: 201-217.

Berk, Richard, Phyllis J. Newton, and Sarah F. Berk

1986 What A Difference A Day Makes: An Empirical Study of the Impact of Shelters For Battered Women. *Journal of Marriage and the Family* 48: 431-490.

Berk, Richard A., Alec Campbell, Ruth Klap, and Bruce Western

1992 The Deterrent Effect of Arrest in Incidents of Domestic Violence: A Bayesian Analysis of Four Field Experiments. *American Sociological Review* 57: 698-708.

Barrera, M.E., P.L. Rosenbaum, and C.E. Cunningham

1986 Early Home Intervention With Low Birth-Weight Infants and Their Parents. *Child Development* 57: 20-33.

Berreuta-Clement, J.R., L.J. Schweinhart, W.S. Barnett, A.S. Epstein, and D.P. Weikart

1985 *Changed Lives: The Effects of the Perry Preschool Program on Youths Through Age 19*. Ypsilanti, MI: High Scope Press.

Black, Donald

1980 *The Manners and Customs of the Police*. NY: Academic.

Blumstein, Alfred, Cohen, Jacqueline, and Daniel Nagin (eds).

1978 *Deterrence and Incapacitation: Estimating The Effects of Criminal Sanctions on Crime Rates*. Washington, DC: National Academy of Sciences.

Bolton, F.G., R.H. Lanier, and D.S. Gia

1981 For Better or Worse? Foster Parents and Foster Children in an Officially Reported Child Maltreatment Population. *Children and Youth Services Review* 3: 37-53.

Braithwaite, John

1989 *Crime, Shame and Reintegration*. Cambridge: Cambridge University Press.

Braithwaite, John and Kathleen Daly

1993 *Masculinities, Violence and Communitarian Control*. Paper Presented to the National Conference on Violence. Canberra: Australian Institute of Criminology.

Burt, Martha

1996 *The Violence Against Women Act of 1994: Evaluation of the STOP Block Grants to Combat Violence Against Women*. Washington, DC: Urban Institute.

Coie, J.D. and M.R. Jacobs

1993 The Role of Social Context in the prevention of Conduct Disorder. *Development and Psychopathology* 5: 263-275.

Crowell, Nancy A. and Ann W. Burgess

1996 *Understanding Violence Against Women*. Washington, DC: National Academy of Sciences.

Dadds, M.R., S. Schwartz, and M. Sanders

1987 Marital Discord and Treatment Outcome in Behavioral Treatment of Child Conduct Disorders. *Journal of Consulting and Clinical Psychology* 55: 396-403.

Davis, Robert C. and Bruce G. Taylor

Forthcoming *A Proactive Response to Family Violence: The Results of a Randomized Experiment*. *Criminology* 1997.

Dishion, T.J., G.R. Patterson, and K.A. Kavanagh

1992 An Experimental Test of the Coercion Model: Linking Theory, Measurement and Intervention. In J. McCord and R.E. Tremble, Eds., *Preventing Anti-Social Behavior: Interventions from Birth Through Adolescence*. NY: Guilford.

Dugger, C.W.

1992 Shortage of Trained Caseworkers Imperils Young Victims of Abuse. *New York Times*. December 28.

Dunford, Franklyn W.

1990 System-Initiated Warrants for Suspects of Misdemeanor Domestic Assault: A Pilot Study. *Justice Quarterly* 7: 631-653.

1992 The Measurement of Recidivism in Cases of Spouse Assault. *Journal of Criminal Law and Criminology* 83: 120-136.

Dunford, Franklyn W., David Huizinga, and Delbert S. Elliott

1990 The Role of Arrest in Domestic Assault: The Omaha Police Experiment. *Criminology* 28: 183-206.

Fagan, Jeffrey

1996 The Criminalization of Domestic Violence: Promises and Limits. Research Report. Washington, DC: National Institute of Justice.

Fagan, Jeffrey and Angela Browne

1993 Violence Between Spouses and Intimates: Physical Aggression Between Women and Men in Intimate Relationships.

Farrell, Graham

1995 Preventing Repeat Victimization. In Michael Tonry and David P. Farrington, Eds., *Building A Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

Farrington, David P., Lloyd Ohlin and James Q. Wilson

1986 *Understanding and Controlling Crime: Toward a New Research Strategy*. New York: Springer-Verlag.

Ford, David

1993 The Indianapolis Domestic Violence Prosecution Experiment. Department of Sociology: Indiana University, Indianapolis.

Goldkamp, John S.

1996 The Role of Drug and Alcohol Abuse in Domestic Violence and Its Treatment: Dade County's Domestic Violence Court Experiment. Executive Summary. Philadelphia, PA: Crime and Justice Research Institute.

Gray, J.D., C.A. Cutler, J.G. Dean, and C.H. Kempe

1979 Prediction and Prevention of Child Abuse and Neglect. *Journal of Social Issues* 35: 127-139.

Gutelius, M.F., A.D. Kirsch, S. MacDonald, M.R. Brooks, and T. McErlean

1977 Controlled Study of Child Health Supervision: Behavioral Results. *Pediatrics* 60: 294-305.

Harrell, Adele

1991 Evaluation of Court-Ordered Treatment of For Domestic Violence Offenders. Washington, DC: Urban Institute.

1996 Findings of the Evaluation of the Children at Risk Program. Paper Presented at the University of Maryland, College Park.

Harrell, Adele, B. Smith and L. Newmark

1993 Court Processing and the Effects of Restraining Orders for Domestic Violence Victims. Washington, DC: The Urban Institute.

Hawkins, J. David, Michael W. Arthur and Richard F. Catalano

1995 Preventing Substance Abuse. In Michael Tonry and David P. Farrington, Eds., *Building A Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

Hirschel, David, Ira W. Hutchison III, Charles W. Dean, Joseph J. Kelley, and Carolyn E. Pesackis

1990 Charlotte Spouse Assault Replication Project: Final Report. Charlotte, NC: University of North Carolina at Charlotte.

Horn, W.F., N. Ialongo, G. Greenberg, T. Packard, and C. Smith-Winberry

1990 Additive Effects of Behavioral Parent Training and Self-Control Therapy With Attention Deficit Hyperactivity Disordered Children. *Journal of Clinical Child Psychology* 19: 98-110.

Institute of Medicine

1994 Reducing Risks of Mental Disorders: Frontiers for Preventive Intervention Research. Washington, DC: National Academy of Sciences.

Jacobson, S.W. and K.F. Frye

1991 Effect of Maternal Social Support on Attachment: Experimental Evidence. *Child Development* 62: 572-582.

Johnson, D.L., and T. Walker

1987 Primary Prevention of Behavioral Problems in Mexican-American Children. *American Journal of Community Psychology* 15: 375-385.

Kahan, Donald

1997 Its A Shame There is None. *Wall Street Journal*, January.

Cohn, A.H. and D. Daro

1987 Is Treatment Too Late: What Ten Years of Evaluative Research Tells Us. *Child Abuse and Neglect* 11: 433-442.

Kammerman, S.B., and A.J. Kahn

1989 *Social Services for Children, Youth and Families in the U.S.* NY: The Annie E. Casey Foundation.

Kazdin, A.E., T.C. Siegel, and D. Bass

1992 Cognitive Problem-Solving Skills Training and Parent Management Training in the Treatment of Anti-Social Behavior in Children. *Journal of Consulting and Clinical Psychology* 60: 733-747.

Kolvin, I., R.F. Garside, A.R. Nicole, A. MacMillen, F. Wolstenhome, and I.M. Leitch

1981 *Help Starts Here.* NY: Tavistock.

Kumpfer, Karol

Forthcoming Report of Family-Based PEPS, Center for Substance Abuse Prevention

Kumpfer, Karol, Virginia Molgaard and Richard Spoth

1996 The Strengthening Families Program for the Prevention of Delinquency and Drug Use. In Ray DeV Peters and Robert J. McMahon, Eds., *Preventing Childhood Disorders, Substance Abuse and Delinquency.* Thousand Oaks: Sage.

Lally, J.R., P.L. Mangione and A.S. Honig

1988 The Syracuse University Family Development Research Project: Long-Range Impact of an Early Intervention with Low-Income Children and Their Families. In D.R. Powell, Ed., *Annual Advances in Applied Developmental Psychology*, Vol. 3: Parent Education as Early Childhood Intervention: Emerging Directions in Theory, Research, and Practice. Norwood, NJ: Ablex.

Lazar, I.

1992 Discussion. In F.L. Parker, R. Robinson, S. Sambrano, C. Piotrkowski, J. Hagen, S. Randolph, and A. Baker, Eds., *Conference Proceedings: New Directions in Child and Family Research: Shaping Head Start in the 90s*. NY: National Council of Jewish Women Center for the Child.

Lieberman, A.F., D.R. Weston, J.H. Pawl

1991 Preventive Intervention and Outcome With Anxiously Attached Dyads. *Child Development* 62: 199-209.

Lyons-Ruth, K., D.B. Connell, H.U. Grunebaum and S. Botein

1990 Infants at Social Risk: Maternal Depression and Family Support Services as Mediators of Infant Development and Security of Attachment. *Child Development* 61: 85-98.

McCurdy, K. and D. and Daro

1993 Current Trends in Child Abuse Reporting and Fatalities: The Results of the 1992 Annual Fifty State Survey. Working Paper 808. April. Chicago, IL: National Committee for Prevention of Child Abuse.

McKey, R.H., L. Condelli, H. Ganson, B.J. Barrett, C. McConkey, and M.C. Plantz.

1985 The Impact of Head Start on Children, Families and Communities: Final Report of the Head Start Evaluation, Synthesis and Utilization Project [DHHS Publication No. 85- 31193]. Washington, DC: USGPO.

McNeil, C.B., S. Eyberg, T.H. Eisenstadt, K. Newcomb, and B. Funderburk

1991 Parent-Child Interaction Therapy With Behavioral Problem Children: Generalization of Treatment Effects to the Social Setting. *Journal of Clinical Child Psychology* 20: 140-51.

National Center for State Courts

1996 The Effectiveness of Civil Protection Orders: Executive Summary. Williamsburg, VA: National Center for State Courts.

National Research Council

1993 Understanding Child Abuse and Neglect. Washington, DC: National Academy of Sciences.

O'Sullivan, C., J. Wise, and V. Douglass

1995 Domestic Violence Shelter Residents in New York City: Profile, Needs and Alternatives to Shelter. NY: Victim Services Agency.

Olds, D.L., C.R. Henderson, R. Chamberlin, and R. Tatelbaum

1986 Preventing Child Abuse and Neglect: A Randomized Trial of Nurse Home Visitation. *Pediatrics* 78: 65-78.

1988 Improving the Life-Course Development of Socially Disadvantaged Mothers: A Randomized Trial of Nurse Home Visitation. *American Journal of Public Health* 78: 1436-1445.

Packard, T., E.A. Robinson, and D. Grove

1983 The Effect of Training Procedures on the Maintenance of Parental Relationship Building Skills. *Journal of Clinical Child Psychology* 12: 181-186.

Pate, Antony, Edwin E. Hamilton and Sampson Annan

1991 Metro-Dade Spouse Abuse Replication Project: Draft Final Report. Washington, D.C.: Police Foundation.

Pepler, D.J., G. King and W. Byrd

1991 A Social Cognitively-Based Social Skills Training Program for Aggressive Children. In D.J. Pepler and K.H. Rubin, Eds., *The Development and Treatment of Childhood Aggression*. Hillsdale, N.J.: Erlbaum.

Plichta, S.B.

1995 *Domestic Violence: Building Paths for Women to Travel to Freedom and Safety*. College of Health Sciences, Old Dominion University.

Reiss, Albert J. Jr.

1971 *The Police and the Public*. New Haven: Yale University Press.

Reiss, Albert J. Jr., and Jeffrey A. Roth, eds.

1993 *Understanding and Preventing Violence*. Washington, DC: National Academy of Sciences.

Ross, G.H.

1984 Home Intervention for Premature Infants of Low-Income Families. *American Journal of Orthopsychiatry* 54: 263-70.

Schure, M.B. and G. Spivak

1979 Interpersonal problem-Solving, Thinking and Adjustment in the Mother-Child Dyad. In M.W. Kent and J.E. Rolf, Eds., *Primary Prevention of Psychopathology*. Hanover, NH: University Press of New England.

Seitz, V., L.K. Rosenbaum, and N.H. Apfel

1985 Effects of Family Support Intervention: A Ten-Year Follow-Up. *Child Development* 56: 376-391.

Sherman, Lawrence W.

1992 *Policing Domestic Violence: Experiments and Dilemmas*. NY: Free Press.

Sherman, Lawrence W., Janell D. Schmidt, Dennis P. Rogan, Patrick R. Gartin, Ellen G. Cohn, Dean J. Collins and Anthony R. Bacich

1991 From Initial Deterrence to Long-Term Escalation: Short-Custody Arrest for Poverty Ghetto Domestic Violence. *Criminology* 29: 821-50.

Sherman, Lawrence W. and Heather Strang

1996 *Policing Domestic Violence: The Problem-Solving Paradigm*. Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Smith, Douglas and Visher, Christy

1981 Street-Level Justice: Situational Determinants of Police Arrest Decisions. *Social Problems* 29: 167-78.

Stinchcombe, Arthur

1963 Institutions of Privacy in the Determination of Police Administrative Practice. *The American Journal of Sociology* 69: 150-160.

Strain, P.S., P. Steele, T. Ellis, and M.A. Timm

1982 Long-Term Effects of Oppositional Child Treatment With Mothers as Therapists and Therapist-Trainers. *Journal of Applied Behavior Analysis* 15: 163-169.

Strang, Heather and Lawrence W. Sherman

1996 Paper Presented to the American Association for the Advancement of Science, Baltimore, MD, February.

Strayhorn, J.M. and C. Weidman

1991 Follow-up One Year After Parent-Child Interaction Training: Effects on Behavior of Preschool Children. *Journal of the American Academy of Child and Adolescent Psychiatry* 30: 138-143.

Tatara, T.

1989 Characteristics of Children in Foster Care. *Division of Child, Youth and Family Services Newsletter (American Psychological Association)* 12: 16-17.

1992 Characteristics of Children in Substitute and Adoptive Care: A Statistical Summary of the VCIS National Child Welfare Data Base. Based on FY 82 through FY 8 Data. March.

Tremble, R.E., L. Kurtz, L.C. Masse, F. Vitaro, and R.O. Pihl

1994 A Bimodal Preventive Intervention for Disruptive Kindergarten Boys: Its Impact Through Mid-Adolescence. Unpublished MS. Montreal: University of Montreal Research Unit on Children's Psycho-Social Maladjustment.

Tremble, Richard and Wendy Craig

1995 Developmental Crime Prevention. In Michael Tonry and David P. Farrington, Eds., *Building A Safer Society. Crime and Justice*, Vol. 19. Chicago: University of Chicago Press.

US Advisory Board on Child Abuse and Neglect

1995 Annual report. Washington, DC: DHHS.

Wasik, B.H., C.T. Ramey, D.M. Bryant and J.J. Sparling

1990 A Longitudinal Study of Two Early Intervention Strategies: Project CARE. *Child Development* 61: 1682-1696.

Wasserman, Gail. A. and Laurie S. Miller

forthcoming The Prevention of Antisocial Behavior. Draft. In Rolf Loeber and David P. Farrington, Eds., *Report of the OJJDP Study Group on Serious, Chronic, and Violent Juvenile Offenders*. Washington, DC: OJJDP.

Webster-Stratton, C.

1990 Long-Term Follow-Up of Families With Young Conduct Problem Children: From Preschool to Grade School. *Journal of Clinical Child Psychology* 19: 144-49.

Webster-Stratton, C., M. Kolpacoff, and T. Hollinsworth

1988 Self-Administered Videotape Therapy for Families With Conduct Problem Children: Comparison With Two Cost-Effective Treatments and a Control Group. *Journal of Consulting and Clinical Psychology* 56: 558-66.

Widom, Cathy Spatz

1989 Child Abuse, Neglect, and Violent Criminal Behavior. *Criminology* 27: 251-271.

Wilson, William Julius

1996 *When Work Disappears: The World of the New Urban Poor*. NY: Alfred A. Knopf.

Yoshikawa, Hirokazu

1994 Prevention as Cumulative Protection: Effects of Early Family Support and Education on Chronic Delinquency and Its Risks. *Psychological Bulletin* 115: 28-54.

Yu, P., G. E. Harris, B.L. Solovitz, and J.L. Franklin

1986 A Social Problem-Solving Intervention for Children at High Risk for Later Psychopathology. *Journal of Clinical Child Psychology* 15: 30-40.

Zigler, E.

1992 Head Start Falls Behind. *The New York Times*, June 27, p. 23.

Zimring, Franklin E. and Gordon Hawkins

1973 *Deterrence*. Chicago: University of Chicago Press.

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LABOR MARKETS AND CRIME RISK FACTORS

by Shawn Bushway and Peter Reuter

I. INTRODUCTION

Employment and crime have a complex relationship. For an individual, they can be substitutes or complements. For example, some people choose crime rather than legitimate work because of an expectation that they can make more money from crime and/or because they find it more rewarding in other ways (Katz, 1989; Bourgois, 1995). On the other hand, the workplace can offer opportunities for certain kinds of crimes that are more difficult to commit elsewhere, such as theft of inventory or selling of gambling services.

The relationship between employment and crime at the community level the relationship is equally ambiguous. Crime in a community is the outcome of the intersection between the propensity to commit a crime and the opportunity to commit a crime. For example, in a given community over time, high employment may be associated with reduced presence of residents and greater wealth, thus increasing criminal opportunities. On the other hand, low employment also provides better legitimate work opportunities for potential offenders, thus reducing their propensity to commit crime. Looking across communities, one can see the same potentially countervailing influences; poor communities offer weak job prospects but also (except for drug markets) financially unrewarding criminal opportunities. At this level, crime rates may depend not on the level of employment but on a much more fundamental set of social and individual characteristics.

Pure theory is not likely then to provide guidance about the strength or direction of the relationship between employment and crime. However it is at least plausible that a strong negative relationship exists. At the descriptive level, those who commit crimes tend to be out of the labor force or unemployed. The communities in which crime, particularly violent crime, is so heavily concentrated show persistently high jobless rates. Increasing employment and the potential for employment for individuals and communities currently at high risk of persistent joblessness may have a substantial preventive effect on crime. Thus a comprehensive assessment of crime prevention programs should include those aimed at increasing employment.

Our review includes any program which aims to increase the employment of individuals or populations at risk of serious criminal involvement. We exclude general economic stimulus policies, (e.g., looser monetary policy aimed at lowering interest rates) though these may in theory reduce crime; such policies are driven by other factors and in any case the evidence on the aggregate relationship between employment and crime is very ambiguous. We include, however, a range of community and individual programs which do not specifically target crime, as indicated by the frequent omission of crime, or even risk-factors for crime, as an outcome measure. Thus much of this review assesses just how well such job-training and creation programs, distinct from those aimed at criminal-justice-involved offenders, actually do at increasing employment for the targeted community or individual. The crime consequences are inferred from our review of the relationship between employment and crime at various levels.

For policy purposes the reciprocal relationship of crime and employment presents a major challenge. Areas of high crime are unattractive for investment. Both property and personnel are at risk; goods are stolen, premises damaged, employees assaulted and customers intimidated. Attracting capital requires a reduction in crime so as to allay the legitimate concerns of investors/employers. On the other hand, crime reduction on a large scale may require the creation of employment opportunities for the large numbers of young adults that are the source of so much of the crime in the area. At the same time, many offenders lack the skills needed to obtain and retain attractive jobs, that is positions that pay enough to avoid poverty (well above the minimum wage for a two-parent, two-child household with only one wage earner) and which offer potential progress and a sense of accomplishment. Thus improving their work force skills may be essential even when capital can be attracted into the community.

Existing programs aimed at reducing crime through employment and/or increasing employment in high crime areas fall into the following two main categories:

- Supply-side programs aim to improve the attractiveness of individuals to employers. Mostly these programs increase the potential productivity of the worker through education or job training. However the category includes programs that take account of the fact that many high risk individuals are handicapped by their location. These programs move people to jobs, either by transportation subsidies or by actually providing access to housing in lower crime communities nearer areas of high employment potential. The latter also may have crime prevention effects by allowing children to grow up in

communities with more employed adult role models.

- Demand-side programs aim to reduce the costs of employment borne by the employer. One way to do this is through wage supplements or subsidized bonds (insuring the employer against theft by the employee) for ex-offenders. Another alternative is community development programs which lower costs for businesses locating in particularly needy communities. The influx of capital into communities characterized by low employment and high crime should generate jobs and thus, by a variety of mechanisms, reduce crime in the community.

Section II briefly surveys the theoretical and empirical literature on the relationship between crime and employment at various levels. Sections III and IV survey supply and demand side programs. Each examines the evaluation evidence on program outcomes: For only a very few evaluations do we have explicit findings on the crime consequences of the intervention; the rest providing only employment measures. Section V then offers an integration of all these findings and Section VI offers conclusions and recommendations.

II. THE RELATIONSHIP BETWEEN EMPLOYMENT AND CRIME

The relationship between crime and employment has been a long standing issue in research, involving a range of paradigms.¹ Fagan (1995) and Freeman (1995) provide recent reviews, particularly focused on understanding how the returns from crime and legitimate work jointly affect the decision to engage in crime. We propose here to give more attention to the multiplicity of relationships between the criminal participation and work opportunities that operate at different levels (individual and community) and at different points in an individual's life-span (school, young adult, adult). Our goal is not to make theoretical contributions but to give a better grounding to an analysis of programmatic and policy options.

Theoretical Perspective

Fagan (1995) and Uggen (1994) have identified four major theoretical explanations for the link between employment and crime: economic choice, social control, strain, and labeling theory.

Economic choice theory (Ehrlich, 1973) posits that an individual makes choices between legal and illegal work based partly on the relative attractiveness of the two options. Moral values still influence actions but are assumed not to change with economic factors. It is, like economic theory generally, about response to changes or differences. If legal work becomes less rewarding or if illegal work becomes more rewarding, individuals may shift to crime and away from legal work. Education plays a role in framing choices; low educational attainment, which now puts young males at risk of frequent periods of unemployment and of achieving only low paying and unsatisfactory jobs, will be associated with high crime participation. This is exactly what Freeman claims happened in the late 1980's: "Given the well-documented growth of [legitimate] earnings inequality and fall in the job opportunities for less-skilled young men in this period, and the increased criminal opportunities due to the growth of demand for drugs, the economist finds appealing the notion that the increased propensity for crime is a rational response to increased job market incentives to commit crime." (Freeman, 1995:177-178.)

Notice that within this theory, the crimes in question are income-generating crimes which are used to replace income gained from legitimate means. The theory offers no account of non-income generating crime. Much violent crime is expressive (e.g., an enactment of drunken anger) rather than instrumental (e.g., aimed at ensuring success of a robbery). However economic theory is not entirely silent on violent crime. Employment should raise the opportunity cost of incarceration (i.e. what the individual loses with his freedom), both through loss of earnings and the loss of work experience; this might deter acts that endanger the individual's freedom.

The economic choice framework allows individuals to engage in both legitimate work and crime simultaneously; this is appropriate as most offenders also maintain some relationship to the workplace over their criminal careers (Reuter et al., 1990). What may be affected by changes in the relative attractiveness of crime and legitimate work is the allocation of time between the two types of income generating activities; better employment opportunities reduce the fraction of time going to crime. Importantly, this theory has further implications beyond a simple contemporaneous choice of legal versus illegal work. The individual, particularly in adolescent years, also has to decide how much to invest in human capital (education and other workforce relevant skills). If the legal labor market opportunities appear weak, a youth is less likely to make adequate investment in acquiring the human capital necessary for success in the legal labor market. As a result, this theory can explain both participation in income-generating crime and under-investment in human capital which reduces legitimate income later.

Control theory claims that employment exerts social control over an individual (Gottfredson and Hirschi, 1990). The absence of employment for an individual leads to a breakdown of positive social bonds for that individual. That in turn is hypothesized to

induce the individual to increase his criminal activity, both violent and income related. This theory, expanded naturally to cover not just individuals but areas, is a key part of William Julius Wilson's analysis of inner city problems. Using a series of carefully constructed studies of poverty areas in Chicago, he claims "many of today's problems in the inner-city ghetto neighborhoods - crime, family dissolution, welfare, low levels of social organization and so on are fundamentally a consequence of a disappearance of work" (Wilson, 1996: xiii). Employment is seen as the main builder of pro-social bonds and institutions in a community and its absence results in large scale disorder.

Anomie is another more aggregate level theory (see Uggen [1994] for a concise summary targeted to this issue). This theory suggests that frustration caused by income inequality and other aggregate level problems will cause individuals to resort to crime out of frustration.

One small area of theory that explicitly includes the idea that crime itself could be criminogenic is *labeling theory* (Lemert, 1951). Individuals who participate in crime acquire stigmatic labels (both to others and to themselves) and are then denied opportunities because of these labels. What is intriguing about this theory is that it suggests the very real possibility of feedback between employment and crime. This feedback suggests that cessation from crime will be difficult once criminal activity has been initiated, particularly if the offender acquires an official record (see Schwartz and Skolnick [1964], Nagin and Waldfoegel [1994, 1995], Bushway [1996]).

Labeling theory points also to a community level connection between crime and employment- joblessness in an area may be caused by past criminal activity of the residents, as well as the converse. In a sense the community or area is "labeled", which makes it difficult for the community to attract investment. This is a point first made forcefully by former NIJ Director James K. Stewart (1986).

These theories, potentially complementary, point to important potential feedback between crime and unemployment. Programs aimed solely at improving an individual's employability (motivated by economic choice) or solely at increasing the number of jobs in an area (motivated by all four theories) are vulnerable, the first to the failure of program graduates to find jobs and the second simply to the difficulty of achieving the goal of providing jobs. In the extreme case, a community including many individuals with low human capital, limited ties to positive social structures and institutions, and negative labels is likely to be characterized by both high crime and low employment, with complex interaction between the two problems. Theory suggests that areas characterized by both high crime and low employment require attention to all three factors: weak social institutions, low human capital and negative labels.

Research on Crime and Employment

We now review empirical research aimed at assessing the relationship between crime and employment,² a necessary bridge between the theories and the program evaluations. This research has been conducted at many different levels of aggregation, including national time-series data, state and local cross-sectional data and individual-level data.

National level. A review by Chiricos (1986) finds that most national level analyses have yielded weak results on the crime-employment relationship. Freeman (1994) claims that this is primarily because of the weakness in the time-series statistical model with national data. One exception is a paper by Cook and Zarkin (1985). They report mixed results from an analysis of business cycles from 1933 to 1982. In general, crime has increased over the last 50 years. However, homicide rates did not vary systematically with the business cycle while the rate of increase in burglary and robbery has been higher during the economic downturns than during the upturns. This is consistent with the idea that low employment leads to an increased propensity to commit property crime while violent crime is driven by other factors. At the same time, they found that auto-theft was actually pro-cyclical--- auto-theft increased faster when the economy improved and more slowly when the economy declined. This is consistent with the idea that the opportunity for auto-theft increases when employment (and hence disposable income) increases. We shall present no other findings at this level of aggregation because it seems to provide least insight into those policy issues with which we are particularly concerned.

Community Level Chiricos does find, however, that at lower levels of aggregation (states, counties and cities) roughly half of all reported studies show a positive and statistically significant relationship between employment and crime, using post-1970 data.³ The fraction of positive results increases to almost 75 percent of all studies when property crimes are analyzed separately from violent crimes.

Individual level Analyses of individual level data have attracted more attention as these data have become available. Studies of the 1945 Philadelphia birth cohort have shown that unemployment is associated with crime (e.g., Wolfgang, Figlio, Sellin, 1972), a finding that is reported in numerous other studies. However the causality is uncertain. Sampson and Laub (1993) argue

that employment per se or by itself does not reduce crime or increase social control; it is only stability, commitment and responsibility that may be associated with getting a job that has crime reducing consequences. Gottfredson and Hirschi (1990) argue that the relationship is essentially spurious, reflection of a common third factor which they call the level of individual social control.

Economic choice theory is further supported by evidence showing that human capital influences earnings, and earnings influence recidivism by ex-offenders (Needels, 1996). Social control theory seems to have relevance, too, within the context of economic choice. Farrington et al. (1986) tie crime more directly to employment by examining the timing of crime and employment over almost 3 years for a sample of teenage males in England. They show that property crimes are committed more frequently during periods of joblessness. However, this relationship held only for those who were predisposed to crime (as reflected by self-reports on earlier criminal activity and moral values); otherwise spells of joblessness did not induce more criminal offending.

This brief review establishes that researchers have measured a relationship between crime and employment, and that a number of mechanisms, operating both at the individual and community level, may explain the relationship. The key remaining question is whether or not programs aimed at increasing employment for at-risk populations can attain that goal and reduce crime.

III. SUPPLY SIDE PROGRAMS

Job Training and Education

The earliest labor market-oriented crime prevention programs followed just this logic -- providing legitimate employment or employment skills to at-risk individuals would reduce their criminal participation. Numerous programs were developed to provide basic education, vocational training and work experience for youth in high crime and high unemployment communities. The federal government spends large sums (\$2.5 billion in 1994⁴) on skills-developing programs aimed at increasing the employment prospects of individuals who are at high risk of being persistently unemployed. Most of these interventions target youth, particularly adolescents, on the reasonable assumption that early interventions have higher pay-off if successful. The other large set of interventions targets those already involved with the criminal justice system, since they are also known to have low human capital.

We will consider these two groups of interventions separately, since the division corresponds to differences in institutions and outcome measures. The programs for youth generally are provided by social service agencies while those for offenders frequently occur in correctional settings. Moreover criminal justice program evaluations almost always include recidivism as an outcome measure, and sometimes do not include employment, while the general population programs always include employment as an outcome measure but rarely crime. Programs are further divided into those aimed at youth, broadly defined, and those aimed at adults; these have different theoretical justifications and programmatic content.

Job Training Programs Connected to the Criminal Justice System

Introduction

Targeting human capital development programs at offenders while in, or just leaving, the criminal justice system has the merit of focusing resources on the highest risk group. It is a human services equivalent of Willie Sutton's famous line about the banks; in this case, we are going where the crime is. Like Sutton's strategy, it also has an obvious weakness; just as banks are well guarded, so offenders in the criminal justice system have already developed behavior patterns that are difficult to reverse with educational programs.

We divide programs by age of the target population: juvenile and adult. That reflects the fact that juveniles seem most suitable for programs that focus on the development of human capital, as is true of education generally; adult programs give more emphasis on reintegration into the workforce. We will also distinguish programs by whether they are in prison or post-release.

Juvenile Offenders⁵

Young offenders are confined in institutions which generally give more emphasis to rehabilitation than do adult correctional facilities. Education and training programs frequently fit into a broad array of habilitation and rehabilitation services generally. Indeed, it is difficult to identify the main effects of these programs alone, precisely because they are imbedded into a bigger set (e.g., cognitive therapy, substance abuse treatment) which may interact with education and training.

Generally the findings are of negligible or modest effects; see Table 6-1. All evaluations point to a problem getting participants to complete the program once started; high drop out rates indicate either that the program was poorly implemented or it was unattractive to many of the participants. Some of the programs also involved a very low level of services for the clients; even if they were well done it would seem implausible that they could have large behavioral consequences.

TABLE 6-1**Criminal Justice System Programs**

Studies	Scientific Method Score	Description of Intervention and Findings
	(Number of cases Treatment/control)	
YOUTH		
Greenwood & Turner 1993, intervention services and activities training. One year follow-up	5	PCYC offers a comprehensive array of including counseling, peer support and skills
Paint Creek Youth Center arrests or self-reported groups.	(73/75)	data showed no significant differences in delinquency between experimental and control groups.
Lattimore, et al. 1990, training, job readiness, and experimental group, compared to Vocational Delivery System	5 (154/130)	VDS involved the use of vocational skills employment skills training. 36% of the of the control group, were re-arrested significant $p < .10$).
Leiber & Mawhorr 1995, skills training, pre-employment months). Youths who received Second Chance program comparison (37% compared to 29%).	3 (57/56)	Rehabilitative strategy that uses social training, and job placement opportunities (4 the treatment intervention are as likely to offending as are the equivalent matched
Piliavin & Masters 1981, for participants for no longer delinquents' post-program Supported Work after program participation; for those over 35, increased	5 (2200 ex-offenders/1400 ex-addicts 1200 youth)	Low-skilled and low-wage rate jobs provided than 12-18 months. Found little effect on employment or on their criminal activity adult offenders and drug addicts, especially employment and reduced crime effects were found.
ADULTS		
Adams, et al.	3	Participation in academic and vocational

programs bore no relation to
1994, PERP
returned to prison did not vary
(5608/ 8001)
non-program inmates.

Berk, et al. 5
unemployment benefits at several
1980, TARP
Membership in any of the
(775/200)
payments of job counseling had no
property or non-property

1976, Baltimore 5
maintenance(3 months), job
LIFE
groups were re-arrested for
(216/ 216)
significant) than control and job
less for other crimes (not

Finn & 3
no effect on employment at
Willoughby 1996,
of being long-term unemployed
JTPA (521/734)
employment.

Hartmann, et al. 3
classes, job club peer support, life
1994, KPEP
successfully completed the program
(156)
than those who did not

Henry 1988, CADD 3
skills along with substance abuse
industry working inmates and
(34/56)
proportion of disciplinary reports

Home Builders 1
carpentry training program for
1996, TRADE
half of program graduates were
(219)
sites; 3 month. recidivism
those of other vocational

Maguire, et al. 3
prison industry for at least 6

reincarceration; the % of inmates who were
significantly across groups of program and

Intervention included the eligibility for
levels of the alternative of job counseling.
three experimental groups eligible for
statistically significant impact on either
arrests.

Treatment groups received either income
placement or both. Financial aid treatment
property crimes 8.3% less (statistically
assistance groups; they were re-arrested 7%
statis. sign.)

Findings suggest that ex-offender status had
termination or follow-up; only the barrier
negatively influenced prospect of

Treatment included employment skills
skills and GED training. Offenders who
were significantly less likely to recidivate
(felony arrest $p < .004$; any arrest $p < .005$).

Provided inmates with job training and
counseling. No difference found between
non-industry inmates with regard to the
per month in prison.

Involves an 8 week pre-apprenticeship
incarcerated adult offenders. Well over
placed in related jobs in 4 out of the 5
results (7.3%) are consistent or better than
programs.

Intervention involved participation in

<p>1988, PIRP differences between the two (399/497) and non-industry participants</p> <p>Menon, et al. 3 and vocational training 1992, Project assistance post -release. It RIO (Evaluation not Tax Credit program and federal clear) prospective employers. Positive and negative and significant impact on offenders.</p> <p>Piliavin & 5 participation on ex-offender employment Gartner 1981, control differential in hrs. Supported Work (1117/1194) recidivism impact.</p> <p>Saylor & Gaes 3 industry, or had received 1996, PREP findings (8 yrs.) show that (over 7000) survival times (time before group; training program subgroup are statistically significant.</p> <p>Spencer 1980, 4 placement, and special Ex-Offender in the Clearinghouse program Clearinghouse (478/478) employment and/or constructive</p> <p>Van Stelle 1995, 4 release transition services STEP were no significant differences (89/42) to arrest after release.</p> <p>Vera Institute 4 opportunities such as job training or 1972, in lieu of tradition court Manhattan Court of operation, the re-arrest Employment was about 50% less than that of Project (214/91)</p>	<p>continuous months. After controlling for groups, the recidivism rates for industry were virtually identical.</p> <p>RIO provides services such as educational pre-release and job search and placement also uses vouchers from the Targeted Jobs bonding as special incentives for significant impact on employment and recidivism, particularly for the high risk</p> <p>Strong positive effect of program declines over time until the experimental- worked per month has disappeared (1 yr); no</p> <p>Treatment group had either worked in prison in-prison vocational instruction. Long-term male prison industry subgroup had 20% longer committing new offense) than comparison had 28% longer survival times: both results</p> <p>Treatment involved career counseling, job counseling services. Ex-offenders enrolled were significantly more likely to obtain activity than those not enrolled.</p> <p>Provides in-prison training, as well as post- such as job placement assistance. There between graduates and controls with regard</p> <p>Offers counseling and vocational academic placement for a period of 90 days disposition. During the initial 23 months rate for the successfully dismissed group the terminated or control groups ($p < .01$).</p>
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No reported results for entire

treatment group vs. control.

Baker and Sadd 5
 opportunities such as job training or
 1981,
 in lieu of traditional court
 Court Employment
 recidivism between the treatment
 Project
 months or after 23 months.

Offers counseling and vocational
 academic placement for a period of 120 days
 disposition. There was no difference in
 and control groups initially, after 12

(410/256)

For example, Lattimore, Witte and Baker (1990) report a randomized control trial, one of the few in the literature, for 18-22 year old offenders in two North Carolina prisons. We classify this as a juvenile population because the subjects are indeed early in their post-school careers but note that they have been serving time in adult correctional facilities. 295 inmates were enrolled in a Vocational Delivery System (VDS) aimed at identifying vocational interests and aptitudes, providing appropriate training for the individual and then helping with post-release employment. Subjects were picked from all inmates in the two institutions who were aged 18-22, committed for property offenses, had IQ no less than 70, were in good health and within 8 to 36 months of an in-state release. Data were available for 154 of the experimental and 130 of the controls at approximately the two-year mark.⁶

No employment results were reported; thus the impact of the program on workplace performance must be inferred from the impact on crime. But "(t)hose participating in the program were more likely than control group members to complete vocational training and other programs. . . . VDS participants were less likely to be arrested following release from prison." (p.117) At 24 months the control group showed a 50 percent recidivism rate (based on arrest records) compared to 40 percent for the experimental group. The difference was only weakly significant (10 percent level) and barely that for tests on other outcome measures. This relatively large effect exists even though only 18% of the people assigned to the VDS program actually completed the program. The completers (i.e. those who received all the services included in VDS) were substantially less likely to be arrested. This combination of high dropout and excellent results for completers is typical of other programs that strive to challenge enrollees. The problem is that researchers do not know whether or not the program completers are the same people who would have succeeded in the absence of the program - therefore looking only at the program graduates leads to selection bias. On the positive side, this study provides evidence that vocational programs aimed at young property offenders could have positive outcomes if implementation and participation problems could be resolved.

Piliavin and Masters (1981) report similar weak findings for youth enrolled in the "Supported Work" program, using a randomized assignment of 861 youth (average age 18) in five sites. The program lasted 12-18 months and provided work experience along with a stipend in a sheltered work environment. Although this program was not officially run through the criminal justice system, we include it in this section because two thirds of the youth had an arrest before entry into the program and 28 percent had been incarcerated, for an average of 20 weeks; they were predominantly Black (78%) and Hispanic (16%).

Both employment and official criminal justice outcomes were reported. The labor market outcome differences were non-significant and small; e.g., at 36 months the experimental group worked 83.3 hours per month, compared to 75.8 for the control group. The crime differences were weakly significant (10 percent level). At 27 months, 30 percent of the experimental group had been arrested, compared to 39 percent of the control group; the difference was larger and had greater statistical significance for those without prior arrest. Although this effect size is relatively large (a 30% difference between controls and experimentals more than 2 years after the program ended), the evaluators concluded that there was no evidence of an effect for youth. As in the VDS case, the evaluators point to failure of most participants to complete the program as one of the sources of error in the study.

Other programs tended to have fewer resources, and the evaluations have weaker designs. Leiber and Mawhorr (1995) used a variety of matched control groups to assess the impact of the Second Chance program on youth who were in court but not yet sentenced to an institution. Second Chance involves 16 weekly group meetings aimed at developing certain social skills, along with a pre-employment training program (including how to conduct an independent job search, interview for a job and demonstrate good work habits). With 85 program entrants (only 57 of whom completed it), the test does not have much statistical power. The findings were of no significant differences in official arrests; the control group actually showed lower recidivism than the experimental group (completers or drop-outs). Again the evaluation pointed to the lack of treatment

integrity. Note that this program also involved more than just training and education.

A recent OJJDP review of correctional educational programs noted the lack of rigorous evaluation of juvenile vocational education programs within the criminal justice system (OJJDP, 1994).⁷ The one "rigorous" evaluation cited by OJJDP is the New Pride program in Denver. New Pride is a community-based program that provides a year of intensive non-residential treatment and training, including participation in an on-site business run by the program. The evaluation consisted of tracking the success of the program participants without any comparison group. This is a poor evaluation design that does not meet minimal standards (less than a "1" on our scale). Widespread replication of this program, while encouraged by its evaluators (James and Granville [1984]), does not appear to be justified by the quality of the evaluation.

Adult Offenders

Though both theory and political rhetoric emphasize juveniles as the most suitable targets for training and education, a large fraction of adult offenders in the criminal justice system have poor educational and job market records. That fact was the original source of interest in the early 1960's in assessing whether recidivism might be reduced by providing these adults with additional educational and job skills. Moreover the life course model of crime suggests that many offenders may be more receptive to work than adolescents.

Secondary reviews from the early 1970's, after these programs had been around for roughly 10 years, were uniformly negative. The Department of Labor's Manpower Administration sponsored research on these programs, and provided a comprehensive review of the research in 1973 (Rovner-Pieczenik, 1973). Despite strong commitment and great enthusiasm by program operators, the study reluctantly reports that very few programs led to a substantial decline in recidivism. By way of explanation, the report highlights problems in persuading correctional institutions to focus on education and post-release objectives. The report also highlights the great educational deficits of the offenders, who are generally high school dropouts reading several years below grade level with no discernible job skills. The author concluded "that we entertain no fantasies about the degree of change which manpower projects for the offender can help to bring about. Some offenders will remain unemployed and unemployable no matter what programs are available." (Rovner-Pieczenik, 1973:77)

These disappointing conclusions were communicated to a much broader audience with Martinson's (1974) widely read review of 231 rehabilitative (including employment-based) programs. Martinson concluded that "with few and isolated exceptions the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism" (p.25). This report has often been held responsible for the decline of the rehabilitative model in corrections (see the chapter on Corrections in this volume) and has limited the research done on these programs.

The sheer numbers of offenders, however, have led correctional officials to continue their efforts to curtail recidivism by reintegrating ex-offenders into the workforce. We found only one recent secondary review of adult offender prison educational programs (Gerber and Fritsch 1993), which (unsurprisingly) is explicitly oriented at rebutting the pessimism of Martinson. Most of the evaluations reviewed compare program enrollees with a matched comparison group of people who did not enroll in the program. These evaluations are subject to selection bias, since people who enroll in the programs are likely to more motivated than those who do not enroll. These motivated people might be expected to do better even without training programs.

Given this caveat, the review found that three out of six studies of pre-college education programs consisting of classroom education had a negative and significant (but small) impact on post-release recidivism. Three out of four programs showed a statistically significant increase in post-release employment. Four out of six college education programs (again primarily classroom education) showed a statistically significant decline in post-release recidivism, although the effect was small, and there is no evidence that college education leads to increased employment outcomes. Finally, four out of six studies found that vocational education consisting of participation in training and prison industry programs leads to a decline in post-release recidivism. Only two out of four studies showed that vocational education actually led to improvement in post-release employment outcomes. In fact, the one study that had some random assignment (Markley 1983) showed that vocational education had no effect on post-release recidivism or employment. The report concludes that while the evidence is mixed (and therefore encouraging), better evaluations which control for selection bias are needed.

Our own review of these programs found that it is difficult often to tell exactly what is involved in a program. For example, one of the better studies of prison industry programs was done by the U.S. Bureau of Prisons (Saylor and Gaes, 1996), following 7,000 individuals. Inmates were considered to have participated in the program if they had participated in industrial work within the prison, or had received in-prison vocational training or apprenticeship training. This program participation is so broad that it is hard to determine which program or program element led to the observed 35% decline in re-arrests (by federal authorities only) for program participants relative to the control group. On the plus side, this seems to be clear evidence that vocational

education in federal prisons helps to reduce crime. This is an important positive contribution. However, the lack of precision makes replication in other prison systems difficult. What program worked, and did it work by increasing employment?⁸

This study also highlights the problem of selection bias. When program participation is open to everyone with no restrictions, it becomes difficult to claim that the non-participants are identical to the participants even if regressions are used to control for observed differences between the groups. Unobserved differences in motivation could account for much of the resulting change in behavior, otherwise attributed to the training/vocational program.

We found one prison-based program which attempted to perform a true randomized experiment to control for selection bias. This program -- Specialized Training and Employment Project or STEP -- was run by the Wisconsin Department of Corrections and evaluated by the University of Wisconsin Medical School (Van Stelle, 1995). This program randomly assigned a well-defined group of offenders to a six-month program prior to release which included participation incentives, classroom and job training in the institution, and post-release employment assistance. This project showed no decline in recidivism after the first year of the program, but the process evaluation stressed the extraordinary difficulty in implementing a program of this intensity within the prison system.

Another approach which avoided prisons entirely was the pre-trial intervention, a major movement during the 1970's. The concept of pre-trial diversions was attached to the labor market in the Court Employment Project. This was evaluated twice by the Vera Institute, first in the late 1960's (Vera Institute 1970) , and then again during 1977-1979 (Baker and Sadd, 1981). In the first less rigorous study, non-serious offenders were offered the opportunity to participate in a 90-day job training and placement program. Successful completion of the program resulted in the dismissal of all charges. Less than half of the participants successfully completed the program. 12 months after the completion of the program, only 15.8% of the successful completers had recidivated, compared to 31% of the non-completers and the control group. Again, the problem of selection bias eliminates the ability to say for sure that the program worked -- the difference between all the program participants (23.6% recidivism rate) and the control group was not statistically significant. Low dosage, problems with implementation and data collection are again cited as part of the reason for the weak results.

By the time the more rigorous study was undertaken almost 8 years later, the program had been assumed into the New York City government and had grown significantly. 410 arrestees were assigned to the program, while 256 controls went through the normal court process. The evaluators found no statistically significant difference between recidivism for the two groups, during the diversion period, twelve months after the diversion or 23 months after the diversion. Partial explanations for the failure of the program include the large disturbance in the program immediately before the evaluation due to New York City's budget crisis. However, the evaluators concluded that there were systematic problems with the structure of the pre-trial diversions. For example, counselors did not believe that it was realistic to change the attitude of offenders towards work in 4 months, especially since participants typically lived in criminogenic environments removed from the world of work. Therefore, the training program was not seen as a route to real employment (and hence non-recidivism) but rather as a route away from jail time. In addition, the evaluators felt that the prosecutors had started using the program to control offenders who would otherwise have their cases dismissed, instead of diverting cases which would not be dismissed away from the courts (Hillsman, 1982).

Another approach concentrates on transitional assistance after an individual leaves prison. Job Training Partnership Act (JTPA) programs have attempted to help ex-prisoners by giving them a) job search assistance, b) remedial education, c) occupational skills, d) work experience, e) on-the-job training, or f) customized training for a particular employer. The one evaluation of these programs (Finn and Willoughby, 1996) looked at all 521 ex-prisoners who enrolled in JTPA training programs in the state of Georgia for one year starting in July 1989. These enrollees were compared to 734 non-offender JTPA participants. The researchers found no sign of any difference in employment outcomes either at program termination or 14 weeks after termination between the ex-prisoners and the non-offenders. This result is hard to interpret. Other studies have shown a consistent difference between ex-offenders and other workers. Perhaps the finding of no difference indicates that JTPA programs have helped eliminate some of the stigma of offending. However, since JTPA programs are generally regarded as only minimally effective at improving employment outcomes, that conclusion is hypothetical at best.

Another large federally-funded program tried in the late 1970's involved the use of income supplements during post-release in order to lessen the need to commit crime for money at a time when it may be particularly difficult to find a job. These randomized experiments known collectively as the Transitional Aid Research Project [TARP] (Berk, Lenihan and Rossi, 1980) showed that no combination of job training and transitional income support could reduce arrest rates. TARP built on a smaller Baltimore LIFE (Living Insurance for Ex-Offenders) experiment, carefully designed and evaluated (Mallar and Thornton, 1978; Rossi, Berk and Lenihan, 1980; Myers, 1982): The LIFE evaluations found that even combinations of job assistance and counseling for one year had no impact on recidivism but that the transitional payments did make a statistically significant difference. Perhaps TARP could not maintain the program integrity of LIFE once the program was expanded.

Despite the failure of TARP, long term follow-up of the Georgia TARP subjects by Needels (1996) demonstrated that the intuition of these programs is still valid - Needels found that the ex-offenders with jobs commit fewer crimes than the ex-offenders without jobs, and those with higher earnings commit fewer crimes than those with lower earnings. Even after 30 years of trying, however, no program -- in-prison training, transitional assistance (both in kind and monetary assistance) or pre-trial diversion -- has consistently shown itself capable (through a rigorous random assignment evaluation) of decreasing recidivism through labor-market orientated programs, inside or outside of prison. These results might exist because offenders are either too deeply entrenched in crime or the criminal justice system is not an effective delivery system for these types of programs.

Offender-based programs come late in criminal careers, simply because incarceration or even conviction tends to come late. There are strong arguments for intervening early. The next subsection reviews programs that are aimed at high-risk youth before they become involved with the criminal justice system.

Job Training and Education Programs for At-Risk Youth

A large number of relatively well-funded governmental programs have tried to boost the labor market performance of at-risk youths (high school drop-outs, kids from poor households or poor communities). Although we do not have total expenditures for all such job training programs, the largest single program, Job Corps, enrolled 60,000 youth at a total cost of \$970 million in 1993, while Title II-C of the JTPA (Job Training and Partnership Act)⁹ enrolled 360,000 youth at a total cost of \$650 million. These programs have undoubtedly attracted the largest amount of government spending of any single labor market category in this review. Encouragingly, there are also many rigorous evaluations, with most studies using some form of randomized experiment (method score 4 or higher); see Table 6-2. In reviewing the findings of these evaluations, we rely primarily on three reviews of the literature: Donohue and Siegelman (1996), Heckman, (1994) and U.S. Department of Labor (1995).

Programs aimed at youth tend to take three forms, arrayed below in order of increasing expense and program intensity.

1) *The provision of summer work or other forms of subsidized employment in either public or private sector organizations.*¹⁰ These programs typically cost about \$1,000 (in terms of 1995 dollars) per participant and lasted about three months. The Summer Youth Employment and Training Program [SYETP] is the Department of Labor's current summer jobs program, providing minimum wage summer jobs and some education to hundreds of thousands of disadvantaged youth, aged 14-21. Less typical is the more intense Supported Work program from the late 1970s, which provided about one year of full-time public sector employment to minority high school drop-outs aged 17-20, with job search assistance at the end of the work period.

TABLE 6-2

Non-Criminal Justice System: At-Risk Youth

Studies	Scientific Method Score (Number of cases Treatment/control)	Description of Intervention and Findings
Summer Jobs/ Subsidized Work		
Ahlstrom & modified academic program. Havighurst arrest, as the experimental 1982, Kansas age of 16 than was the City Work/Study	3 (~100/~100)	Combines work experience program with a There appeared to a negative effect on group was more likely to be arrested by the comparison group (51% versus 36%).
Cave & Quint jobs, workshops and 1990, Career lasting from junior year of Beginnings Experimentals were 9.7% more likely	5 (621/612)	Services of Career Beginnings include summer classes, counseling and the use of mentors high school through graduation.

signif);they therefore worked		to attend college than controls (stat. less and earned less.
Farkas, et al. time school year jobs to 1982, YIEPP School year employment (2778/ 1255) employment increased from about attain its goals of increased school enrollment	4	Guaranteed full-time summer jobs and part-disadvantaged youth who stayed in school. doubled from 20% to 40%, while summer 35% to 45%; however, YIEPP was unable to school enrollment and success despite the requirement.
Grossman & Sipe remediation, life skills, 1992, STEP support. STEP had little (1613/1613) experience and had not altered out-of-school youth.	5	Program lasting 15 months which involves summer jobs over two years and school-year or no impact on youth's educational employment patterns for either in-school or
Maynard 1980, which offers limited term Supported Work up to 12 or 18 months., (570/682) supervision. Up to 18 significantly larger % of treatment significant impact on arrest rate	5	Structured transitional employment program employment at relatively low wage rates for combined with peer group support and close months post-program, there was a group youth employed; there was no of youths.
Summer Youth appears to greatly increase Employment and youth in sites where jobs Training SYETP creates positive Program (SYETP) participants leave their summer	N/A	Provides summer jobs for youth. Program summer employment rates among disadvantaged are provided; have not investigated whether long-term impacts on employment after jobs.

Short-Term Training Programs

Bloom 1994, for disadvantaged youth JTPA services including on-the-job (total of 4777) assistance (an average of increase in earnings was rates.	5	Federal government's major training program which provides on average of 5 months of training, classroom training, and job search 420 hrs of service). After 30 months no found, and there was no decrease in crime
Cave, et al.	5	Provides instruction in basic academic

skills, occupational skills
1993, JOBSTART
and job placement

(988/953)

increase in the rate of GED

In the final two years of

appeared to overtake those of

was not significant.

Wolf, et al. 4
services and job

1982, 70001

(an average of 80-90 hrs.

Ltd. (535/ 440)

up (24-40 months.), there

reported; however, significant

training, training related support services

assistance. JOBSTART led to a significant

attainment, or completion of high school.

the follow-up, experimentals' earnings

controls, but the magnitude of this impact

Provides job search assistance, educational

preparation classes to high school dropouts

Of services are given). On long-term follow-

were no significant earnings impact

positive impact on GED attainment.

Intensive Residential Programs

Mallar, et al. 4
skills training, basic

1982, Job Corps

placement for one year. Average

(4334/ 1457)

earnings increase and a

significant). Also, a large

and college enrollment.

Residential program that provides intensive

education, support services and job

over first 4 years after program exit of 15%

reduction in serious (felony) crime (both

and significant increase in GED attainment

Wolf, et al. 3
resource agencies with youth

1987,

CCC is not an effective

California (943/1083)

participants when they first enter

Conservation

earnings of disadvantaged

Corps.

increased their hours

Combines work sponsored by various public

development activities for up to one year.

way of raising the earnings of all

the labor market; however, it did improve

residential corps members and significantly

worked, post-program.

2) *Short-term training with job placement for out-of-school youth. These programs typically last about six months and cost \$2,500 to \$5,000 per participant.* For example, the federal government's principal program for disadvantaged youth, JTPA, enrolled 125,000 out-of-school youth aged 16 to 21 for five months, during which they received on-the-job training, classroom training and job search assistance. JOBSTART was a large scale demonstration program, designed as a more intensive version of JTPA, lasting seven months and including more classroom training, at a cost of \$5,000 per participant.

3) *Long-term, intensive residential programs providing vocational and life skills training, general education and job placement after graduation.* The most prominent of these programs is Job Corps, a residential program aimed at extremely disadvantaged populations. In 1993 Job Corps enrolled 62,000 new youth in tailored one-year programs that included classroom training in

basic education, vocational skills, and a wide range of supportive services (including health care), at a cost of roughly \$15,000 per student.

Very few evaluations of these programs measure change in criminal behavior, simply because crime prevention is not generally a primary objective and requires substantial and complex additional data collection.¹¹ Crime control is a secondary effect which may happen as the consequence of increased employment, the primary objective. The remainder of this section will briefly review the principal evaluations of these programs, starting with the subsidized work programs.

Subsidized work programs are the cheapest and least intensive of any of the training programs aimed at at-risk youth. Although all subsidized work programs show a decided increase in employment for the targeted population over the time period of the subsidy, no evaluation has shown any long term effect on employment. Not surprisingly, the one evaluation that looked at crime (Supported Work) showed no sustained decrease in crime rates (Piliavin and Masters, 1981). Perhaps more damning, the crime rate of participants in the Supported Work program did not decline while they were working in the subsidized jobs. The conclusions seem robust -- subsidized work does not increase productivity in any appreciable way and these types of jobs do not appear to have the necessary characteristics to be supportive of non-criminal behavior.¹²

The picture is only slightly less gloomy for short-term skill training programs. None of the rigorous evaluations in this category have shown any lasting impact on employment outcomes, although some of the programs show a short term gain in earnings. It is again not surprising then that the one evaluation that looked at crime shows no lasting impact (JOBSTART). A slightly more detailed look at the data show that while there are no employment gains, there are some educational gains from these programs. JOBSTART and other programs effectively doubled the fraction of GED recipients. Although GED completion is in fact correlated with higher earnings, it apparently serves as a credentialing device rather than a training device; i.e. the fact of earning a GED indicates an ability to sustain consistent effort but working toward the diploma does not actually develop skills. This helps explain why the earnings gains showed in these programs are not long lasting. Eventually, those without GED's are also able to acquire similar jobs; it just takes them longer without the GED credentials. These programs are generally unable to increase productivity in any meaningful way within the constraints of a short-term non-intensive program.

The one positive result in this literature is from the long-term residential training program, Job Corps. Job Corps is by far the most intensive and expensive non-military training sponsored by the federal government. The high cost is a consequence of the residential element of the program and its severely disadvantaged population (over 80% are high school dropouts). The most recent Job Corps evaluation in 1982 was not as rigorous as most of the other evaluations in this literature because it was not randomized experiment. It had to use a comparison group drawn from people eligible but not likely to participate in Job Corps because of geographic location. Despite these limitations, the study was carefully done and generally regarded as credible, although Donohue and Siegelman (1996) raise serious questions about the magnitude of the decline in the homicide rate for enrollees.¹³

The evaluation found that four years after graduating, enrollees earned on average \$1,300 more per year than the control group, a difference of 15%. Not surprisingly, these achievements corresponded with real increases in educational achievement. Enrollees were 5 times as likely to get a GED or finish high school, and twice as likely to go to college. Also, there was a significant decline in arrests for serious crimes, especially theft. However, there was also an unexplained increase in minor arrests, especially traffic incidents.

The failure of all but the most intensive job training programs for at-risk youth to have an effect on either employment or crime raises some serious questions about this particular approach. There are several possible explanations:

- 1) The first, and simplest explanation is simply that low dosage programs over a six month period (or less) do not have enough statistical power to make a measurable impact.
- 2) More substantively, these lower dosage programs might not simply be enough to counterbalance a failed academic career that often finds 15 and 16 year olds reading at the 5th grade level. A large amount of training must be exerted in order to raise reading levels four, five and six grade levels.
- 3) Perhaps Williams et al. (1996) have a point in that employment by itself is not enough to stop crime. In fact, employment for youth might be criminogenic -- the low paying, low skill jobs normally taken by youth do not add significantly to human capital, but they do take time away from school activities which could increase human capital.

Points two and three, taken together, suggest that the real, long term answer to this problem for the vast majority of at-risk youth lies not with after-the-fact job training but rather with an effort that makes schooling more meaningful to students before they

drop out of school. The Department of Labor, in following this logic, suggests that the answer lies in connecting training to real jobs to a school environment through the recently enacted School to Work Opportunities Act. The emphasis on the school-to-work transition is supposed to make students and schools more motivated to learn, and decrease dropouts (Rosenbaum [1996]). This belief is based in part on the success of Job Corps in connecting education to success in the labor market. This philosophy of using the school-to-work transition as the instrument for improving the utility of regular schooling is untested. Given the administration's commitment to the idea, we expect evaluations will be completed within the next two years.

It is valuable to note that there have been evaluations of school-based anti-dropout programs that are not based on the school-to-work model. Evaluations of these programs are neither as numerous nor as rigorous as those for job training programs. The evidence also suggests that anti-dropout programs, because they involve working within the complex environments of schools (see the School Chapter in this volume) are extremely difficult to implement. However, two random assignment evaluations have shown that intensive anti-dropout programs have had substantial success in reducing drop-out rates and showing gains in human capital acquisition.

The strongest positive evaluation is for the Quantum Opportunities Program (QUOP), a demonstration program offering extensive academic assistance, adult mentoring, career and college guidance, a small stipend and money set aside for a college fund. Services totaling 1286 hours over four years (equivalent to about 6 hours per week) were provided to children from AFDC families throughout high school, at a total cost per participant of \$10,600. The rigorous evaluation of 100 students in four sites (random assignment, scientific method score = 5) found that 42% of the QUOP students were in post-secondary education versus only 16% of the controls; a total of 63% of the QUOP students graduated from high schools, versus only 42% of the control group (DOL, 1995). This evaluation has no long-term follow-up of employment outcomes. However, the increase in enrollment in college is likely to be a good predictor of improved labor market performance.

In this evaluation, adult mentors were assessed to be the most important element. Apparently the mentors provide the necessary focus and motivation for students to change their behavior and perform better in school. Yet notice that in QUOP, the key elements of the school-to-work philosophy -- direct connections to the labor market, and contextual learning -- were not employed. As in Job Corps, QUOP students were in routine contact with adults who projected a positive attitude about meaningful employment.

It is impossible within the context of the current literature to determine if mentoring or a school-to-work program (or some combination) is better able to change the motivation of the at-risk youth. However, it is clear that individuals need to become focused on obtaining meaningful and productive employment before they will/can take advantage of job training or schooling. We will discuss other ways to change the orientation of youth later in this section.

Job Training for Adults in the General Population

A narrow focus on job training for at-risk youth is perhaps justified within the context of a crime prevention program. Adults who have not offended by age 25 are at low risk of offending. If they have offended by age 25, chances are they will be already be involved with the criminal justice system. However, some people will be out of the criminal justice system, yet still need training in order to find meaningful employment. These older adults may have a reduced propensity to commit crime due to maturation. As a result, the number of crimes prevented by such a training program might be lessened, but at the same time, these individuals may be finally ready to take advantage of training programs that are offered. In reviewing the extensive literature on job training for the general population, Heckman concludes the following:

Employment and training programs increase the earnings of female AFDC recipients. Earnings gains are (a) modest, (b) persistent over several years, (c) arise from several different treatments, (d) are sometimes quite cost-effective. . . . For adult males the evidence is consistent with that for adult women. (Heckman, 1994: 112).

Consistent with these findings, older ex-offenders in the Supported Work program appear more responsive to the program than do younger ex-offenders. In addition, older subjects in the Baltimore Life experiment also recidivated less often relative to their controls than did younger subjects. The authors of the Supported Work program conclude "the evidence in this experiment and elsewhere suggests older disadvantaged workers, including those who are known offenders, may be much more responsive (than younger workers) to the opportunity to participate in employment programs (Piliavan and Masters, 1981:45)."

Housing Dispersal and Mobility Programs

Much of the above discussion has been focused on at-risk individuals, rather than places. But depressed urban areas deserve special attention in this chapter given the simultaneous existence of high crime and low employment in these areas. A decade

ago, William Julius Wilson (1987) identified the movement of jobs from the inner city to the suburbs as the key factor in the growing concentration of African-American poverty and the social problems related to that hyper-segregation. More recently he has argued that only an employment oriented policy can reduce the social problems of these communities (Wilson, 1996). Yet, as we will see in the following section, stimulating true economic development in the inner city through tax incentives or direct capital subsidies has proven very difficult. Substantial economic forces¹⁴ have led to the movement of businesses to the suburbs, and these forces are extremely difficult to counteract (Hughes, 1993).

As a result, policy makers have recently begun to develop ways to change the supply of labor by bringing the people in the inner city to the jobs in the suburbs, instead of bringing jobs to the people in the inner city. One way to do this is to physically relocate inner city residents to the suburbs (housing dispersal programs).

The only published outcome evaluation of the housing dispersal concept is based on what is known as the Gautreaux housing mobility program in Chicago. Starting in 1979, the Gautreaux program has given 6,000 inner city families (primarily single mothers) vouchers that allow them to relocate to low poverty neighborhoods throughout a six county area in and around Chicago. The program, started as the result of a federal court ruling in a housing discrimination case, also allowed families to move within the city of Chicago. Families were assigned to the suburbs or the city based on where there were apartment openings when they became eligible for the program. Because the waiting list was long, and because families were placed at the back of the list when they rejected an opening, very few families rejected an apartment when it was offered, regardless of the location.

Rosenbaum (1992) took advantage of this natural experiment to compare the employment and educational outcomes of the city movers with the suburban movers (scientific method score 4). He found that women who moved to the suburbs were 28% more likely to be employed than the women who moved inside the city, on average 5.5 years after moving. This was true even though the wage gains attributed to the move were the same for all women who worked, regardless of their location. In addition, he found that 9 years (on average) after the move, the children of the suburban movers were doing significantly better than the children of the city movers (scientific method score 3¹⁵). Although criminal activity was not measured, the children of the suburban movers dropped out of high school only 25% as often as the city movers, were in college track courses 1.6 times as often as the city movers, were 2.5 times as likely to attend college, were more than 4 times as likely to earn \$6.50 an hour if working, and only 38% as likely to be unemployed. These results suggest that for children in these environments, relocation can be an effective tool to change their focus towards positive outcomes like meaningful employment.

These large positive results led to significant optimism on the part of policy makers about the benefits associated with simply relocating poor families to non-poverty areas. Several programs modeled on the Gautreaux programs were spawned and now operate in Cincinnati, Memphis, Dallas, Milwaukee and Hartford. In 1992, HUD provided \$168 million to fund Moving to Opportunity as a demonstration program for the housing mobility concept. Moving to Opportunity has 5 sites in large cities -- Baltimore, Boston, Chicago, New York, and Los Angeles -- and is funded for at least 10 years. The project has been set up with a rigorous evaluation component (scientific method score = 4) -- households are randomly assigned to either placement in a suburban location with less than 10% poverty, placement in the central city, or no treatment. About 1,300 families will be given vouchers which allow them to relocate in low poverty suburbs, along with extensive counseling about relocation and assistance in finding a new apartment. Initial evaluations should be available by mid-year 1997.

Despite Gautreaux's apparent success, and the development of programs like Moving to Opportunity, housing dispersal programs have met significant opposition from suburban residents afraid of the impact of poor minority families on their communities. For example, the expansion of Moving to Opportunity to include more than 1,300 families was defeated after it became a political issue in the 1994 election. The Mount Laurel decision in New Jersey, a two-decade-old, court-enforced dispersal strategy, is now being undermined by legislators. In addition, minorities sometimes voice a concern that the dispersal of minorities to the suburb will weaken minority political power (Hughes, 1993). According to Kale Williams, former director of the Gautreaux program in Chicago, part of the success of Gautreaux was because "it hasn't been large enough to threaten anyone and hasn't been concentrated enough to arouse apprehension." Given these problems, it seems politically unlikely that housing mobility programs will ever expand to any significant size or at least cannot politically afford to move large numbers of poor people in specific non-poor neighborhoods.¹⁶

This reality, however frustrating, suggest that perhaps a strategy aimed at integrating workplaces instead of neighborhoods might be easier to implement. This argument suggests that the best approach to the problem of inner city poverty are mobility programs which provide transportation for inner city residents to the suburbs (Hughes, 1993). Such a program recognizes (and takes advantage of) the power of the suburban labor markets to increase residents' incomes while avoiding the political problems associated with housing dispersal. This idea is relatively new, and as a result only a small number of programs are in operation in the United States.¹⁷

However, HUD has funded an \$18 million dollar demonstration program in five sites starting in 1996 and running for four years. The strategy has three main components: a metropolitan-wide job placement service to connect inner city residents with suburban jobs, a targeted commute mechanism to provide transportation to the jobs, and a support services mechanism which will try to ameliorate some of the problems that may arise due to a long-distance commute into a primarily white suburban location. Rigorous evaluation with random assignment will be undertaken by Public/Private Ventures. If successful, this program will form a key component of the welfare reform strategy.

The mobility programs are rooted in theoretically very different approaches to reducing central-city crime. Housing dispersal programs attempt to break up the poverty community. Reverse commuting preserves the community but at a cost: the long commuting causes reduced guardianship and parenting that have potentially negative effects in their home communities. Children also do not benefit in the same way because they continue to live in the same depressed environments. These reverse commuting programs might serve to increase employment and decrease the criminal activity of a particular person, but the programs will probably not have the indirect anti-criminogenic effects of housing dispersal programs.

IV. DEMAND-SIDE PROGRAMS

Bonding and Wage Supplements

All the programs described in the previous section focused on changing individual behavior. Yet perhaps employers feel that certain individuals, particularly ex-offenders, represent a potential risk. A criminal history record appears to be a predictor of low job attachment (in part because of the risk of future arrest and incarceration), poor performance, theft and malingering. To overcome these barriers, a number of demand-side programs offer to compensate employers for incurring the risk of hiring workers with a criminal record.

One class of program directly lowers the employer's wage payments, either with a subsidy or through a targeted job tax credit (i.e. the employer of a particular class of worker is able to deduct the payments or some portion of them, from his taxable income. This reduces the amount that an employer has to pay the worker, the difference being picked up by the government. The programs are transitional and are intended to last just long enough to allow the offender to acquire a work history that of itself will increase future prospects. The second class of program is more indirect and takes the form of subsidized bonding of offenders, thus reducing the cost for the employer of insuring himself against specific crimes, such as inventory theft; such bonding is normally provided by private corporations.

The federal government, however, has offered a very low level of funding for these programs. The Department of Labor discontinued in 1995 the Targeted Jobs Tax Credit, for which the annual budget never exceeded \$10 million, with most of that targeted to other disadvantaged groups. Some state Departments of Corrections (e.g., Texas) do offer wage subsidies. However no evaluation identifies the impact of these on either employment or crime. In addition, some researchers (DOL, 1995) feel that these programs actually hurt ex-offenders by clearly identifying their ex-offender status. While it might be worthwhile to fund an evaluation of the very small Federal Bonding program (\$240,000 total in 1996), the one independent review of the Targeted Jobs Tax Credit was not optimistic that these programs improved employment among ex-prisoners (Jacobs, 1984).

Enterprise Zones

Community development programs use demand-side policies to help particular areas. Although these programs are focused on depressed areas, like housing dispersal programs, community development programs can be used in a wider array of settings. These programs are of particular interest for crime prevention because they propose to help both individuals and neighborhoods. New jobs present more opportunities for legitimate work to compete with illegitimate opportunities often present in these communities. Jobs visibly available in an area would also provide motivation for education and skills training for young people. The economic activity that new or expanded businesses represent can also lead to increased social interactions among residents and strengthen social institutions (churches, business organizations, schools) which can exert a positive influence on individuals who might otherwise revert to crime.

Enterprise zones are one relatively new policy tool focusing tax incentives at generally small, economically depressed geographic areas (Papke, 1993, Erickson and Friedman, 1991). According to Erickson and Friedman (1991) these programs typically employ three different types of program incentives to encourage job development: investment incentives, labor incentives and financial incentives. The investment incentives include credits for property taxes, franchise taxes, sales taxes, investment taxes and other possibly state-idiosyncratic employer taxes (e.g., inventory tax credits). The labor incentives include a tax credit for job creation, for hiring a zone resident or some other disadvantaged person, and for training expenditures. Finally, the finance incentives sometimes include an investment fund associated with the program and preferential treatment for

federal bond programs. These programs are based on the assumption that employers are sensitive to state and local tax incentives in their location decisions. The academic literature shows mixed results about the validity of this claim, although recent evidence suggests that investment is more responsive to state and local taxes than previously thought (Bartik, 1991).

As of 1995, 34 states had a total of 3,091 active enterprise zone programs (median = 16) and the Federal Empowerment Zone and Enterprise Community Program has introduced 106 more zones (Wilder and Rubin, 1996). The state zones are limited in the value of the incentives they can offer, precisely because federal taxes (e.g., corporate profits tax) are so large and cannot be waived by the state. According to Erickson and Friedman (1991), the median zone population for the state programs is about 4,500 persons and the median zone size is about 1.8 square miles. Zone designation is usually based on unemployment rates, population decline, poverty rates, median incomes, the number of welfare recipients or the amount of property abandonment. The federal program amounted to \$640 million in total tax credits in FY 1995.

Since these programs are relatively new, (the median state began its program in 1984) there are few outcome evaluations, most of which are reviewed in Wilder and Rubin (1996); no evaluations of the federal program have yet been conducted. All evaluations consider only the immediate economic outcomes of these programs, and do not examine the larger social implications (such as crime reductions) of the programs; see Table 6-3. Only Bartik and Bingham show an awareness that this is a shortcoming of these evaluations. The evaluations also do not attempt to determine the impacts of individual incentives. Although ideally researchers could identify the most effective tax break, the incentives are typically used in concert, so that the economic growth in any given zone cannot be attributed to any one incentive; nor is it possible to separate out component effects using econometric techniques.

The main theoretical concern about enterprise zones is that they will simply relocate existing jobs rather than create new jobs. In fact, Britain, which pioneered these zones, abandoned its enterprise zone program after researchers found that nearly all jobs in enterprise zones (86%) were due to relocation from neighboring communities. The US experience is somewhat more optimistic - the literature seems to agree that, of all the new jobs found in enterprise zones, roughly 25% are due to relocation, 25% are due to new business and 50% are due to expansion of existing businesses (Wilder and Rubin, 1996). Of course, not all the jobs that appear in the enterprise zone should be attributed directly to the zone incentives. However, the primary modes of evaluation in this field, correlation and before-and-after without comparison group (scientific method score 1 and 2), do not allow researchers to isolate the contribution of the zone incentives.

In addition, most of these studies use data from surveys of zone firms or zone managers; these lack credibility as measures since both groups have an incentive to place a positive bias on the outcomes.¹⁸ These studies generally conclude that the zones increase jobs and investment, although results vary by zone.¹⁹

TABLE 6-3

Enterprise Zones

Studies	Scientific Method Score (Number of cases Treatment/control)	Description of Intervention and Findings
Boarnet & Bogart 1995 employment and business	3 (7/21)	New Jersey EZs have no impact on growth.
Papke 1992 19%.	3 (15/24)	Indiana EZs decrease zone unemployment by
Bostik 1996 business	3 (5/27)	California EZs in small cities increase construction.

that firms responded to reductions in inventory taxes by increasing inventory by 8% and reducing capital machinery by 13%. These changes in inventory and machinery may represent the conversion of firms from manufacturing to more emphasis on distribution, generating a positive impact on employment.

Bostic's study used investment growth rather than employment as the principal outcome measure. He found that the EZs had a significant but small impact on commercial construction permits and an insignificant impact on the number of businesses in an area.

Clearly, additional research is needed to verify the positive impact of enterprise zones on employment and investment. Abt Associates have been commissioned to do an evaluation of the Federal Empowerment Zones and Engberg et al. at Carnegie Mellon are undertaking a comprehensive evaluation of state enterprise zones with controls for selection bias.

Community Development Block Grants

The 1974 Community Development Block Grant (CDBG) Program represents the other major federally funded program aimed directly at revitalizing distressed neighborhoods. Instead of relying on tax credits as incentives, this program provides direct funding to local governments. In 1992, CDBGs provided local jurisdictions with \$3.4 billion to be spent on activities that support any one of three objectives: benefiting low- and moderate-income persons, preventing or eliminating slums or blight, or addressing other urgent community needs. The program funding breaks down broadly into 5 main areas: housing (38%), public facilities (22%), economic development (12%), public services (9%) and acquisition and clearance (6%). Although there are no outcome evaluations of this program,²¹ the sheer size of the economic development component of this program (\$251 million in 1992) demands inclusion in this section.

Most of what follows is based on a 1995 funding process evaluation sponsored by the Department of Housing and Urban Development (Urban Institute, 1995). The evaluation, like those for Enterprise Zones, considers only economic outcomes. A full 78% of the \$251 million economic development grant money was spent on loans and grants to private businesses. Most of the recipient businesses were small, and 37% of these businesses were minority owned. These loans seemed to perform better than the non-geographically targeted Small Business Administration loans. According to the HUD report, these loans were more important to the business activities of the recipients than the EZ tax incentives,²² but neighborhood residents held a comparable number of the newly created jobs under both programs (approximately 30%).

An effort was made to provide a before-and-after study of 250 census tracts in the CDBG program (scientific method score = 2), using a survey on all CDBG funding and census data from 1980 and 1990. This study found a clear relationship between the level of funding and tract income: tracts that saw an increase in income received \$1,247 per capita, tracts that were stable between the two time periods received \$844 per capita and tracts that declined received \$737 per capita. Improvement in low-income tracts usually only occurred through gentrification or out-migration of low income people, but in several instances the arrival of major industrial facilities resulted in an increase in income for the tract residents.²³

In more general terms, the researchers concluded that the existence of an income-mix among neighborhood residents and a healthy commercial district appeared to help development. Within the context of this review, these factors could signal the existence of a certain level of social control which would allow community programs to be effective. Neighborhoods without these factors may not have enough social capital to take advantage of any community-based program.

V. A PROPOSED INTEGRATION

Existing evaluations of interventions aimed at increasing employment for high risk populations provide little positive guidance as to the appropriate direction of labor market policies for more effective crime prevention. The demand-side programs (Community Development Block Grants and Enterprise Zones) have not been subject to rigorous evaluation. Moreover, they involve such a broad array of incentives and funds that it will be hard to determine what might explain any positive findings and thus what is worth replicating. Evaluations of training and education programs, aimed at labor supply, have shown little positive consistency; there are merely hints as to what constitutes a successful program and there are very few findings specifically on crime reductions. Programs aimed at ex-offenders do a little better but again there is a lack of consistent positive findings that allow one to say that specific interventions work for large segments of the eligible population.

The negative findings concerning job training and employment for high risk groups may primarily be explained by the extremely limited nature of most of the interventions that have been tried. Heckman (1994) makes this point nicely with respect to training programs generally. He suggests a mind experiment. Assign a generous annual real rate of return of 10 percent to social programs, higher than is usually observed for investments in education. Interventions that cost \$2,500 per client and are

aimed exclusively at raising the earnings of participants would then be expected to produce annual earnings increases of \$250. This is far too small an amount to lift someone out of poverty (being only about 3% of the required income for an individual) or to improve life prospects enough for most participants that they might make large changes in their decisions about schooling and work.

Not only are small quantities of services provided but the range of risk factors targeted is very narrow. Providing jobs for adults will only weakly compensate for failure to invest in human capital when young. Some theoretically promising interventions have not been tried but merit exploration as a major tool for reducing criminality among young adults. These interventions have to address both the individual dynamics and social ecology of the crime/work choice. The remainder of this section considers the special challenges associated with high crime/low employment areas.

The central argument is simple enough and not original to us. Crime and unemployment are most strongly linked at the community level, at least in urban areas. Persistently very high unemployment rates will generate high crime; that high crime will drive out capital and make jobs increasingly remote. That produces a downward spiral to a low employment/high crime equilibrium which is very stable and highly resistant to small increases in employment or reductions in crime. Interventions have to explicitly deal with crime and employment simultaneously. No evaluated intervention has done so.²⁴

The most important mediating factor in this story may be the motivations of community residents. For example, the isolation of high poverty neighborhoods from the legitimate job market may be critical in accounting for the lack of motivation among youth in these neighborhoods. Rosenbaum (1996), among others, makes this point by observing that youth have difficulty finding employment when they live in impoverished neighborhoods without well-developed job connections. That is exacerbated by geographic isolation from jobs and the possibility of racial discrimination. The perceived returns to continuing in school or in acquiring human capital in other ways is low. This leads to low high school graduation rates and high attrition in training programs, maintaining the under investment in human capital of the previous generation in high poverty neighborhoods.

The claim that improving perceived legitimate employment opportunities will increase school attachment is still not well tested. The available evidence does suggest, however, that school achievement is affected by the achievement of others in the same community. For example, Case and Katz (1991) and Mayor (1991) found that youth are more likely to stay in school or work if a large proportion of their peers do.²⁵ The Department of Labor (1995) review of evaluations used this finding as the basis for a claim that poor neighborhoods should be saturated with a range of interventions intended to alleviate poverty, so that "the employment outcomes of some persons within a community can lead to 'spillover effects' as other people in the neighborhood are influenced by the positive actions of their peers." (p.63).

There is some disagreement on the issue of the importance of neighborhood effects. The evaluation of the JTPA program claims that the "external environmental factors - unemployment rates, population density, . . . had weak effects, if any, on (individual JTPA program) success." (PPV, 1994: 5). However, the same report claims that business involvement with training programs is crucial because "it provides a built-in incentive for participants to feel that their participation is worthwhile." (PPV, 1994, p.14). The tie to business is itself possibly a proxy for community attachment to the labor market.

We believe the community level problem is compounded in two ways by drugs. A large fraction of adult criminal offenders are substance abusers; their involvement with expensive illicit drugs, such as cocaine and heroin, is distinctive. This represents a major employment handicap. Thus workforce oriented interventions will have to deal with the substance abuse problem of potential workers if they are to increase employment and thus reduce crime. Employment is itself possibly a protective factor for substance abuse, increasing the probability of desistance. High risk youth now show more moderate rates of abuse of expensive illicit substances (as reflected in the data from the National Institute of Justice's Drug Use Forecasting program for juveniles) but such risk still needs to be addressed in the context of labor market programs in high risk communities.

Illicit drugs are also a major problem because recent research shows that drug markets in impoverished neighborhoods provide substantial alternative employment to legal markets. For example, Reuter, MacCoun and Murphy (1990) reported that drug selling earned its participants about \$30 per hour in Washington in 1988. Saner, MacCoun and Reuter (1995) found that approximately 30 percent of the 1967 cohort of black males resident in the District of Columbia had been charged with drug selling between the ages of 18 and 24. The existence of attractive alternatives outside the legitimate labor market will complicate any program aimed at attracting individuals to legitimate work opportunity. Also, in contrast to the pre-cocaine-epidemic period, drug selling may now precede drug use; those who sell as juveniles become consumers of their own drugs, making it still more difficult to maintain legitimate employment as adults.

High unemployment neighborhoods generally show high levels of drug selling; this further weakens the ability of individually focused programs to increase employment prospects for men who continually have opportunities to earn substantial amounts in

drug selling. In addition, neighborhoods where many males support themselves through some drug selling will not have many of the social institutions that support legitimate work. This will make it more difficult for individuals in these neighborhoods to make the transition to legitimate work.

We have made this long digression about drugs as a reminder again how important it is to take the community as the central focus for programmatic intervention. Individually oriented programs cannot ameliorate many of the fundamental problems faced by program participants. Similarly, programs like reverse commuting, though they may bring important benefits for individuals, will generate few benefits for the most adversely affected communities. Indeed, as already mentioned, the long commutes involved in such programs reduce still further the extent of adult supervision of children that is such an important component of effective community. Programs like Gautreaux which take households out of the community also paradoxically may worsen the situation of those who remain, since the movers are likely to be among the more forward looking adults in these fragile inner city communities. This of course suggests the attractions of the converse, bringing some middle-class households back into the neighborhoods that are so devastated. But crime is as much an obstacle to that as it is to encouraging employers to relocate in the same communities.

VI. SCIENTIFIC CONCLUSION

We have reviewed here a large variety of programs that might reduce crime by increasing employment and labor market outcomes for high risk populations. Our assessments (using the criteria articulated in Chapter 2) of which program types work, which programs do not work, which are promising and for which we can venture no opinion are contained in Table 6-4.

Table 6-4

Program Conclusions

What works?

1) Short-term vocational training programs for older male ex-offenders no longer involved in the criminal justice system.

What does not work?

- 1) Summer job or subsidized work programs for at-risk youth.
- 2) Short-term, non-residential training programs for at-risk youth.
- 3) Pre-trial diversions for adult offenders which make employment training a condition of case dismissal.

What is promising?

- 1) Intensive, residential training programs for at-risk youth (Job Corps).
- 2) Prison-based vocational education programs for adults
- 3) Housing dispersion programs
- 4) Enterprise Zones

What do not we not know enough about?

- 1) CJS-based programs for juvenile offenders

- 2) Post-release transitional assistance for offenders.
 - 3) Reverse commuting
 - 4) Wage subsidies
 - 5) Bonding programs
 - 6) Community development as done through the Community Development Block Grant Program.
 - 7) School-to-Work programs funded by the School-to-Work Opportunities Act.
-

Programs that Work

The one program type for which the evidence of effectiveness is fairly strong is vocational programs aimed at older males ex-offenders who are no longer in the criminal justice system. We gave little attention to this in the body of the chapter because these programs, though useful, come late in criminal careers. Reducing crime by 35 year olds who have previously been criminally active, will have a modest effect on serious violent crime, which is predominantly committed by younger males. The explanation for the success of these programs may be found in theories of life course events. Age generally increases the desire for stability, lowers the desire for risk and raises concern about the future. JTPA job training, (even for periods as short as 90 days) may have an impact because many of those who enroll are now motivated to seek employment.

What Does Not Work

In contrast, there have been numerous, well-conducted evaluations of well-executed, short-term (many of them summer only) programs aimed at at-risk youth, typically 15-21 year-olds. These have repeatedly found no effect on earnings and crime rates. The high attrition rates we take to be symptomatic of the lack of motivation for many participants, reflecting their perception of weak employment opportunities in early adult life. Without any evidence of impact on other risk or protective factors, we believe that these programs cannot be justified on crime prevention grounds. The two serious evaluations of pre-trial diversion programs suggest that pre-trial diversion programs do not work, at least in part because of the programs tend to get co-opted by the prosecutors for purposes other than the intended purpose of rehabilitating offenders.

Promising Programs

The one class of program aimed at high risk youth for which positive results have been shown is Job Corps, which is both residential and, in terms of expenditures, very intensive (\$15,000 per youth). However there is only one rigorous evaluation (moreover one that has some methodological weaknesses), although another major Job Corps evaluation is in process. Thus we can only classify this type of program as promising. The reasons for its possible success are multiple: it re-socializes the youth by breaking community ties and presenting pro-social role models; its residential requirement reduces the intensity of contacts with anti-social groups and illegal earnings opportunities; its vocational focus and attachment to the labor market provides academic training in a supportive environment.

Prison-based vocational education programs aimed at adults, who constitute the vast majority of the correctional population, are also promising. This again may be explained by the life course model. The current evidence suggests that something works, but no random control trial has found an impact, and few studies have been able to pinpoint exactly what works. Program implementation within a correctional facility and inmate motivation remain major problems. We suggest that the problem of motivation be dealt with by randomly selecting individuals for participation from within a pre-selected pool of motivated individuals.

The last promising programs on the supply side of the labor market are programs that provide dispersed housing for poverty-level households. The Gautreaux program has been found to have had a positive impact on both mothers and children. The program has been operating for many years and fairly large numbers of households (over 6,000 families) have made use of it. Its apparent success in terms of improving educational and employment outcomes for both mothers and children is sufficiently strong that crime reductions can reasonably be inferred. We classify it only as promising because, apart from our formal requirement that there be more than one rigorous evaluation before it be classified as working, the one existing evaluation has

many weaknesses. Results from the multi-site, federally-funded Moving to Opportunity program are scheduled to be available in 1997; this should shed more light on the efficacy of this type of program.

On the demand side, enterprise zones have a mixed record according to the few moderately rigorous evaluations that have been conducted. We classify the program as promising on the grounds that if designed with crime prevention objectives in mind (i.e., as part of a more comprehensive effort) it may include a critical ingredient of what is necessary for making high risk communities safer. The federal government is currently funding a large enterprise zone program - it will be interesting to see if the program evaluators consider both the problems caused by crime in these areas, or look at the crime reduction effects of some of these programs. Current evidence suggests that areas with high crime are less likely to succeed.

Programs About Which Too Little is Known

Table 6-4 contains a list of seven program types about which too little is known for any judgment beyond the broadest sense of theoretical plausibility. We include some programs that have frequently been evaluated and have produced mixed results.

The programs that have not been subject to any rigorous evaluation are: bonding programs, Community Development Block Grants, reverse commuting, school-to-work programs and targeted wage subsidies. Though theoretical arguments can be made for each of them, those arguments seem strongest for CDBGs (see Section V), and school-to-work. School-to-work's focus on avoiding dropout and developing human capital over the long run is an interesting response to the motivation and dosage problems we identified in Section III.

For the remaining three types of programs, a number of conflicting results have been produced. Criminal justice-based programs for improving the employment prospects of juveniles seems to have shaky theoretical premises. Employment concerns are not strong for those under 17 and there is a small but growing literature suggesting that early work gives youth too much autonomy at too early an age by lessening their dependence on family. In addition, time spent working is time spent away from conventional schooling which might lead to more meaningful employment (see Cullen, 1996).

The mixed results from evaluations of transitional assistance for inmates leaving the criminal justice system is harder to explain. Internal doubts about their ability to succeed in conventional society and the external forces that limit them initially to fairly poor jobs combine to create a very difficult transition, especially for offenders without family or friend networks. Transitional aid then seems particularly appropriate. Yet the results from TARP and Baltimore LIFE seem to suggest that motivation (or focus), rather than money is the important issue. Some programs like Project Rio in Texas appear to have success reintegrating offenders using caseworkers, but the program has not been rigorously evaluated.

Bonding and wage subsidies are intended to help with the transition from the criminal justice system to legitimate employment. These components have not been heavily evaluated. There is some concern that wage subsidies and bonding tend to work against offenders by clearly identifying their status to employers.

Program Recommendations

Our program recommendations for OJP are modest, principally because Congress has not directed the department to become involved in funding labor-market-oriented programs outside of the criminal justice system and because such programs clearly have much broader objectives than simply crime prevention. Given the evidence summarized above, we believe that Congress should encourage OJP to continue modest funding of programs that aim at improving the employment prospects of older ex-offenders. The programs do not need to be intensive to be effective and these programs are generally working on the back end of the criminal career. The concept behind Operation Weed and Seed also has some merit -- we defer to Chapter 3 for recommendations on this program. The negative findings concerning the effects of short-term subsidized work and non-residential training programs speak not to OJP programs but rather to efforts funded principally by the Department of Labor.

VII. IMPROVING EFFECTIVENESS THROUGH EVALUATION

We have more recommendations concerning research and evaluation. Congress should encourage OJP to take advantage of on-going offender transition programs in state and federal systems to implement rigorous program evaluations of some of the more promising programs. We also recommend that research efforts be focused on the problem of implementing vocational programs within the prison system. Since it appears from some level 3 studies that vocational programs do have some effect, randomized experiments which control for selection bias while also isolating the effective characteristic of the program are clearly appropriate.

The remaining recommendations focus on opportunities for Congress to encourage OJP collaboration with other federal agencies in examining whether interventions with other social aims also have crime prevention impacts. Other agencies will benefit in two general ways. First, crime reduction should be an important element of cost/benefit estimates. Second, crime prevention considerations may aid program design. We illustrate these by considering three important program classes: welfare reform, school-to-work transitions, and enterprise zones.

Welfare Reform

Perhaps no policy innovation in recent times has attracted such intense analytic interest as the effort to fundamentally alter the long-standing basic federal welfare program, Aid to Families with Dependent Children (AFDC), now converted to Transitional Aid for Needy Families (TANF) and made principally a state responsibility. The center piece of welfare reform is an effort to move women at risk of becoming long-term welfare recipients into employment. This has potentially enormous consequences for their children. If it is successful, a large number of young males will grow up in households that have regular contact with the workplace rather than with welfare checks. On the other hand, if welfare reform fails and large numbers of single mothers become even poorer and more reliant on illegal earnings, this may well have criminogenic effects on their children.

On a number of theoretical grounds, this may have an important impact on youth attitudes toward work and hence the prospect of becoming serious violent offenders. Successful welfare reform could turn out to be the most important social program for crime prevention in recent decades, though the effects will surely not show up for quite some time.

To our knowledge, little attention is being given to the crime prevention consequences of this change. It is important the Congress direct OJP to take advantage of the many large scale research and evaluation efforts that are now being put in place, both by the federal government and by major foundations (e.g., the Annie E. Casey Foundation, which is funding a 5 year \$30 million program at the Urban Institute) to ensure that they assess the extent to which, and the mechanisms by which, welfare reform affects the criminal behavior of the children of women at risk of long-term welfare dependence. Though, as always, crime measures increase the complexity of the measurement task, it is likely that crime will play an important role in the final evaluation of the reform's success.

School-to-Work Transitions

There is growing interest in improving the flow of non-college bound high school graduates into the work force. This has been an area of program innovation again in which Congress has not encouraged OJP to play a significant role. Ensuring that evaluations include crime measures will increase the comprehensiveness of the evaluations and may provide OJP with a major program opportunity.

Enterprise Zones and Community Development Block Grants

A major attribute, arguably the principal attribute, of inner-city communities that makes them unattractive to employers is the high crime rates. Already, OJP is part of a working group cooperating with the consortium of federal agencies that operate the federal EZ and CDBG programs. We believe this cooperation is important to the success of any such comprehensive programs, in part because reductions in crime may be able to explain variations in employment outcomes. Understanding the role that crime control plays in attracting investment is another crucial, but understudied part of community development programs.

One new multi-agency initiative might be an effort to assess whether a large scale job creation program, backed by other crime prevention measures, can make a substantial and lasting difference in high-crime communities. William Julius Wilson concluded that the lack of jobs was the principal source of the decline of the neighborhoods that now account for such a large share of American crime and outlined an ambitious program of interventions to respond to this problem. As even he admits, it is unclear that such a program can be implemented but there is certainly good theoretical argument for trying.

However, this proposition does force us to confront a central paradox of prevention evaluation. Learning occurs through examination of variations in one or a few components but successful interventions aimed at improving labor market outcomes for high risk individuals and communities are likely to involve the simultaneous implementation of a large number of programs. But in a situation where individual interventions seem to have limited promise, testing whether a generous cocktail of programs can succeed may be an important first step.

This insight lays the groundwork for what we believe must be the theoretical bedrock of any successful program aimed at increasing labor market participation in order to decrease crime: **A program must connect a community or individuals to the world of legitimate work so that residents will have the proper incentives to acquire the necessary human capital needed**

for success in that world. Without that connection, any work program is unlikely to succeed in a substantial way.

NOTES

- ¹Employment, like crime, has many dimensions. Jobs vary in wage rates, work satisfaction, and duration. Measured correlation between employment rates and crime may be confounded by failure to measure variation in job quality adequately.
- ²We focus here on employment measures rather than unemployment because in many areas the problem is less formally defined unemployment than low labor force participation rate. In the face of persistent unemployment, discouragement may lead to drop out even from job search.
- ³This may reflect the higher quality of post 1970 data, itself a consequence of the activities of the Law Enforcement Assistance Administration and the investment in computers, among other factors.
- ⁴It is difficult to classify all job training programs in terms of our programmatic interest. For example, Job Training and Partnership Act (JTPA)-Title IIA (\$1 billion in FY 1993) is aimed at economically disadvantaged adults; some of those adults may be involved with the criminal justice system and others may still be young enough to be reasonably classified as “youth” but many may be at slight risk of serious criminal involvement. Given the large number of other JTPA Titles that were more directly targeted at disadvantaged youth, we did not include any of Title-IIA.
- ⁵We identify the targets as offenders rather than ex-offenders because in fact what is known is that they have committed a crime. The ex-offender status is a goal rather than a description.
- ⁶Differences in release date meant that a uniform follow-up period would have excluded significant periods of post-release exposure for some participants.
- ⁷Note once again that the VDS and Supported Work programs cited above are not technically part of the juvenile CJS.
- ⁸These questions are particularly hard to examine because the report provides no data on employment outcomes.
- ⁹JTPA is the main federal funding source for job training programs in the U.S.. JTPA funds a number of discrete program types including a) job search assistance, b) remedial education, c) occupational training d) work experience e) on-the-job training or f) customized training for a particular employer.
- ¹⁰Strictly speaking the provision of a job is not a job training or education program. However many employment skills are learned on the job; employment increases future employability.
- ¹¹Self-report from program participants about crime involves inquiring about sensitive behaviors. Official record checks of criminal histories requires obtaining Privacy Act protected information from a different set of agencies than those providing the other outcome data.
- ¹²This result is supportive of Sampson and Laub (1990) who claim that its not the job but the social bonds of the workplace, bonds that probably are absent in a short-term subsidized work environment.
- ¹³The reported reduction in homicide rates suggests that the control group had extraordinarily high homicide rates compared to their peers, thus making suspect the claimed reduction in homicides for the experimentals. Homicide reductions accounted for a large share of the dollar benefits estimated in the evaluation. On the other hand the figure used for estimating the value of a life for homicides was much lower than reported elsewhere in the literature; it is possible that the errors roughly cancel out.
- ¹⁴Massey and Denton (1993) argue that the strong desire for racial segregation has also been an impetus for the exit of jobs.
- ¹⁵The sample is different for the children and the mothers. The children come from a sample originally composed in 1982. They were reinterviewed in 1989. Only 59% of the original sample could be relocated, and most of those relocated had not moved from the original location. The potential for bias exists because the harder to locate families might vary by suburban or urban

location.

¹⁶Of course, many of the same objectives met by housing dispersal programs could be met by encouraging gentrification of older depressed neighborhoods.

¹⁷Within this area, we noted the absence of any discussion of the role of crime in driving business to the suburbs, or the potential crime prevention effects of new job connections in the suburbs.

¹⁸In an attempt to determine what would have happened if the zones had not existed, these surveys ask zone firms and zone managers how many of the jobs were due directly to the incentives. Obviously, it is in the self-interest of both sets of agents to provide positive answers.

¹⁹The surveys did provide useful insight into the elements of programs which seemed to work best. Bostic (1996) concludes that the incentives provide only marginal incentive for firms to locate in zoning areas. Program success in California depends on supplementing the tax incentives with an active local government or community effort, mainly with marketing. Wilder and Rubin (1996) conclude that places with severe economic blight need additional assistance beyond enterprise zones, and autonomous management of the zone is effective. Finally, Erickson and Friedman (1991) conclude that the most successful state programs restrict the number of zones, use a competitive award process (which pulls together local resources), and provide significant incentives to these limited, targeted areas.

²⁰This result is especially interesting given that a before and after study by Rubin (1990) found substantial effects in New Jersey.

²¹The lack of outcome evaluations is attributed to the flexibility of the programs, the lack of credible evidence about what would have occurred in the absence of the program and the inability to conceptualize and measure clear outcomes at a neighborhood level.

²²A full 80% of recipients said that the loan was crucial to their activity, while EZ incentives are typically important for 30 to 40% of all EZ businesses (Wilder and Rubin 1996).

²³Although these numbers appear to suggest that higher CDGB funding generates improvements, this conclusion is not possible without some other comparison. For example, there may be selection bias, as the result of better organized communities, which are more likely to be improving economically anyway, may do better in the grant application process.

²⁴Operation Weed and Seed, a major OJP program described in Chapter 3, did make an effort to do so. As Chapter 3 discusses, the evaluation was not an integral part of the project, and no results are as of yet available. Difficulty obtaining baseline data after program initiation has made the evaluation particularly difficult.

²⁵Analytically, the problem is to disentangle true peer impacts from the tendency of people with similar unobservable characteristics to live near each other.

REFERENCES

Adams, Kenneth. 1994. "A Large Scale Multidimensional Test of the Effect of Prison Education Programs on Offenders' Behavior." The Prison Journal. 74: 433-449.

Ahlstrom, Winton and Robert J. Havighurst. 1982. "The Kansas City Work/Study Experiment." In Daniel J. Safer, ed., School Programs for Disruptive Adolescents. Baltimore, MD: University Park Press.

Anderson, D.B. 1981. "The Relationship Between Correctional Education and Parole Success." Journal of Offender Rehabilitation. 5: 25.

Anderson, Stephen V. 1995. Evaluation of the Impact of Participation in Ohio Penal Industries on Recidivism. Ohio Department of Rehabilitation and Correction, Bureau of Planning and Evaluation.

Baker, Sally and S. Sadd. 1979. The Court Employment Project Evaluation, Final Report. Vera Institute of Justice.

Baker, Sally and S. Sadd. 1981. Diversion of Felony Arrests: An Experiment in Pretrial Intervention: An Evaluation of the Court Employment Project, Summary Report. U.S. Department of Justice, National Institute of Justice.

Bartik, Timothy J. 1991. Who Benefits from State and Local Economic Development Policies?. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Bartik, Timothy J. and Richard D. Bingham. "Can Economic Development Programs Be Evaluated?" In Richard Bingham and Robert Mier, eds., Significant Issues in Urban Economic Development. Newbury Park, CA: Sage.

Becker, Gary. 1968. "The Economics of Crime and Punishment." Journal of Political Economy .76

Berk, R.A., K.J. Lenihan, and P.H. Rossi. 1980. "Crime and Poverty: Some Experimental Evidence from Ex-Offenders." American Sociological Review. 45: 766-786.

Bloom, Howard. 1993. "National JTPA Study: Origins, Objectives and Issues of Interpretation." Evaluation Forum. Summer: issue 9.

Bloom, Howard, et al. 1994. The National JTPA Study: Overview of Impacts, Benefits, and Costs of Title IIA. Bethesda, MD: Abt Associates.

Boarnet, Marlon G. and William T. Bogart. 1996. "Enterprise Zones and Employment: Evidence from New Jersey." forthcoming in the Journal of Urban Economics.

Bostic, Raphael W. 1996. Enterprise Zones and the Attraction of Businesses and Investment: The Importance of Implementation Strategies and Program Incentives. Washington, DC: Division of Research and Statistics, Board of Governors of the Federal Reserve System.

Bourgois, Phillipe. 1995. In Search of Respect: Selling Crack in El Barrio. New York: Cambridge University Press.

Bowman, William. 1993. Evaluating JTPA Programs for Economically Disadvantaged Adults: A Case Study of Utah and General Findings. Annapolis, MD: Annapolis Economic Research.

Bushway, Shawn. 1996. The Impact of a Criminal History Record on Access to Legitimate Employment. Unpublished Dissertation, Carnegie Mellon University.

Case, Anne and Lawrence Katz. 1991. The Company You Keep: The Effects of Family and Neighborhood on Disadvantaged Youth. National Bureau of Economic Research.

Cave, George, et al. 1993. JOBSTART: Final Report on a Program for High School Dropouts. New York: Manpower Demonstration Research Corp.

Cave, George and Janet Quint. 1990. Career Beginnings Impact Evaluation: Findings from a Program for Disadvantaged High School Students. New York: Manpower Demonstration Research Corp.

Chiricos, Ted. 1986. "Rates of Crime and Unemployment: An Analysis of Aggregate Research Evidence." Social Problems. 34:187-212.

Clark, P.M. 1990. Crime, Employment and Recidivism: A Review of Employment Related Interventions with Criminal Offenders. College Station, TX: Technology and Society Division, Texas Engineering Experiment Station, Texas A&M University.

Clasby, Richard. 1996. Recidivism Rates and UCI Participation. Draper, UT: Department of Corrections, Correctional Industries Division.

Coffey, Osa and Maia Gemignani. 1994. Effective Practices in Juvenile Correctional Education: A Study of the Literature and

Research 1980-1992. Washington, DC: Office of Juvenile Justice Prevention.

Cook, Philip and Gary Zarkin. 1985. "Crime and the Business Cycle." Journal of Legal Studies. 14: 115-28.

Correctional Educational School Authority. 1990. Academic and Vocational Program Completers Released from Prison During Fiscal Year 1986-1988: Employment, Recidivism and Corson, Walter, and Joshua Haimson. 1994. The New Jersey Unemployment Insurance Re-Employment Demonstration Project: Six Year Follow-Up Report. Princeton, NJ: Mathematica Policy Research, Inc.

Corson, Walter and Marsha Silverberg. 1994. The School-to-Work/Youth Apprenticeship Demonstration: Preliminary Findings. Research and Evaluation Report Series 94-E. Washington, DC: U.S. Department of Labor.

Cost Avoidance. Tallahassee, FL: Correctional Education School Authority, Planning Research and Evaluation.

District of Columbia Pretrial Services Agency quarterly Drug Use Among Juvenile Arrestees

Donohue III, John J. and Peter Siegelman. 1996. Is the United States at the Optimal Rate of Crime? Allocating Resources Among Prisons, Police, and Social Programs. Working paper for the American Bar Foundation.

Dreier, Peter and David Moberg. 1996. "Moving From the 'Hood: The Mixed Success of Integrating Suburbia." The American Prospect. Winter: 75-9.

Dynarski, Mark and Linda Rosenberg. 1995. Evaluation of Youth Fair Chance: Summary of Program Characteristics After Year One. Princeton, NJ: Mathematica Policy Research.

Engberg, John and Robert Greenbaum. 1996. "State Enterprise Zones and Local Housing Markets." Ongoing research at Carnegie Mellon University.

Erickson, Rodney A. and Susan W. Friedman. 1991. "Comparative Dimensions of State Enterprise Zone Policies." In R.E. Green ed., Enterprise Zones: New Dimensions in Economic Development. Newbury Park, CA: Sage Focus Edition.

Fabelo, Tony. 1992. Evaluation of the Reading to Reduce Recidivism Program. Austin, TX: Texas Criminal Justice Policy Council.

Fagan, Jeffrey. 1995. "Legal Work and Illegal Work: Crime, Work, and Unemployment." In Burton Weisbrod and James Worthy, eds., Dealing with Urban Crisis: Linking Research to Action. Evanston, IL: Northwestern University Press.

Farkas, George, et al. 1982. Impacts from the Youth Incentive Entitlement Pilot Projects: Participation, Work and Schooling Over the Full Program Period. New York: Manpower Demonstration Research Corp.

Farrington, David P., et al. 1986. "Unemployment, School Leaving and Crime." British Journal of Criminology. 26: 335-56.

Faupel, Charles E. 1988. "Heroin Use, Crime and Unemployment." The Journal of Drug Issues. 18: 467-79.

Ferguson, Ronald and Jason Snipes. 1995. The Process of Youth Development in the Youthbuild Demonstration Project. Cambridge, MA: John F. Kennedy School of Government, Harvard University.

Finn, Mary A. And Katherine G. Willoughby. 1996. "Employment Outcomes of Ex-Offender Job Training Partnership Act (JTPA) Trainees." Evaluation Review. 20: 67-83.

Flanagan, T.J., T.P. Thornberry, K. Maguire, and E. McGarrell. 1988. The Effect of Prison Industry Employment on Offender Behavior: Report of the Prison Industry Research Project. Albany, NY: Hindelang Criminal Justice Research Center.

Freeman, Richard B. 1995. "The Labor Market." In J.Q. Wilson and Joan Petersilia, eds., Crime. San Francisco, CA: Institute for Contemporary Studies.

Gerber, Jurg and Eric J. Fritsch. 1993. Prison Education and Offender Behavior: A Review of the Scientific Literature.

Huntsville, TX: Texas Department of Criminal Justice, Institutional Division.

Gleason, Philip and Mark Dynarski. 1995. Falling Behind: Characteristics of Students in Federally Funded Dropout Prevention Programs. Princeton, NJ: Mathematica Policy Research.

Good, David H. and Maureen A. Pirog-Good. 1987. "Employment, Crime and Race." Contemporary Policy Issues. 5: 91-104.

Gottfredson, Denise C. 1985. "Youth Employment, Crime, and Schooling: A Longitudinal Study of a National Sample." Developmental Psychology. 21: 419-32.

Gottfredson, Michael and Travis Hirschi. 1990. A General Theory of Crime. Stanford: Stanford University Press.

Gray, Tara and Jon'a F. Meyer. 1995. "Expanding Prison Industries Through Privatization." In G. Larry Mays and Tara Gray, eds., Privatization and the Provision of Correctional Services. Anderson Press.

Green, T., J. Richmond, and J. Taira. 1993. POWER Program (Providing Opportunities for Work, Education and Readiness): Final Evaluation Report. Minneapolis, MN: Hennepin County Administrative Support Division, Bureau of Community Corrections.

Greenwood, Peter and Susan Turner. 1993. "Evaluation of the Paint Creek Youth Center: A Residential Program for Serious Delinquents." Criminology. 31: 263-280.

Grey, Doug and Greg Wren. 1992. Pre-release at South Idaho Correctional Institution: Something Works. Boise, ID: South Idaho Correctional Institution.

Grossman, Jean Baldwin. 1992. The Evolution of Youth Employment and Training Programs. Philadelphia: Public/Private Ventures.

Gruber, David and Frazierita Davidson. 1986. State Employment Initiatives for Youth: A Assessment of the Demonstration. Philadelphia: Public/Private Ventures.

Hale, Chris and Dima Sabbagh. 1991. "Testing the Relationship Between Unemployment and Crime: A Methodological Comment and Empirical Analysis Using Time Series Data from England and Wales." Journal of Research in Crime and Delinquency. 28: 400-17.

Hartmann, David, P. Friday, and Kevin Minor. 1994. "Residential Probation: A Seven Year Follow-Up Study." Journal of Criminal Justice. 22: 503-15.

Hayward, Becky and G. Talmadge. 1993. Evaluation of Dropout Prevention and Re-entry Projects in Vocational Education: Draft Final Report. Research Triangle Park, NC: Research Triangle Institute.

Heckman, James J. 1994. "Is Job Training Oversold?" The Public Interest. Spring: 91-115.

_____. 1996. "What Should Our Human Capital Investment Policy Be?" Jobs & Capital. 5: 3-10.

_____, Rebecca Roselius and Jeffrey Smith. 1993. "U.S. Educational and Training Policy: A Re-evaluation of the Underlying Assumption Behind the `New Consensus." University of Chicago Graduate School of Public Policy.

Henry, Patrick. 1988. Effects of Private Industry Participation on Inmates Adjustment Experiences Before and After Release. St. Petersburg, FL: Department of Sociology, Eckerd College.

Hershey, Alan and Linda Resenberg. 1996. School-to-Work Implementation Progress: The State Perspective in Early 1996. Princeton, NJ: Mathematica Policy Research, Inc.

Hillsman, Sally. 1982. "Pretrial Diversion of Youthful Adults: A Decade of Reform and Research." The Justice System Journal, 7/3:361-387.

- Hoffman, P. And B. Meierhoefer. 1979. "Post-release Experiences of Federal Prisoners: A Six-Year Follow-Up." Journal of Research in Crime and Delinquency. 28: 400-17.
- Holzer, Harry J., Richard N. Block, Marcus Cheatham, and Jack H. Knott. 1993. "Are Training Subsidies for Firms Effective? The Michigan Experience." Industrial and Labor Relations Review. 46: 625-636.
- Home Builders Institute. 1996. Project TRADE (Training, Restitution, Apprenticeship, Development and Education) Report. Washington, DC: Home Builders Institute.
- Hughes, Mark Alan. 1993. Over the Horizon: Jobs in the Suburbs of Major Metropolitan Areas. Philadelphia, PA: Public/Private Ventures.
- Jacobs, James B., Richard McGahey, and Robert Minion. 1984. "Ex-Offender Employment, Recidivism, and Manpower Policy: CETA, TJTC, and Future Initiatives." Crime and Delinquency. 30: 486-506.
- James, Thomas S. and Jeanne M. Granville. 1984. "Practical Issues in Vocational Education for Serious Juvenile Offenders." In R. Mathias, P. DeMuro, and R. Allinson, eds., Violent Juvenile Offenders: An Anthology. San Francisco, CA: National Council on Crime and Delinquency.
- Johnson, Candace. 1984. The Effects of Prison Labor Programs on Post-Release Employment and Recidivism. Doctoral Dissertation, Florida State University.
- Johnson, Terry, et al. 1991. Evaluation of the Impacts of the Washington Alternative Work Search Experiment. Unemployment Insurance Occasional Paper 91-4. Washington, DC: Department of Labor.
- Katz, Jack. 1989. The Seductions of Crime. New York: Basic Books.
- Kiss, Dr. Mary Ellen. 1996. Youth Pilot Projects: Multisite Competition. Bowie, MD: Resource Development Group, Inc.
- Lattimore, Pamela K., Ann Dryden Witte, and Joanna R. Baker. 1990. "Experimental Assessment of the Effect of Vocational Training on Youthful Property Offenders." Evaluation Review. 14: 115-33.
- Leiber, Michael J. And Tina L. Mawhorr. 1995. "Evaluating the Use of Social Skills Training and Employment with Delinquent Youth." Journal of Criminal Justice. 23: 127-41.
- Lemert, Edwin. 1951. Social Pathology. New York: McGraw-Hill.
- Levin, Laurie, Bernard McMullan, and Paul Rynders. 1987. Ventures in Community Improvement: Findings from a Four Site Replication Initiative. Philadelphia: Public/Private Ventures.
- Maguire, Kathleen E., Timothy J. Flanagan, and Terence P. Thornberry. 1988. "Prison Labor and Recidivism." Journal of Quantitative Criminology. 4: 3-18.
- Mallar, Charles and Craig V.D. Thornton. 1978. "Traditional Aid for Released Prisoners: Evidence from the LIFE Experiment." Human Resources. 13: 208-36.
- Mallar, Charles, et al. 1982. Third Follow-Up Report of the Evaluation of the Economic Impact of the Job Corps. Princeton, NJ: Mathematica Policy Research, Inc.
- Markley, H., K. Flynn, and S. Bercaw-Dooen. 1983. "Offender Skills Training and Employment Success: An Evaluation of Outcomes." Correctional and Social Psychiatry and Journal of Behavior Technology Therapy. 29: 1-11.
- Martinson, Robert. 1974. "What Works? Questions and Answers about Prison Reform." Public Interest. 35: 22-54.
- Mathematica Policy Research. 1993. Fifth Year Employment Impacts of CET. Princeton, NJ: Mathematica Policy Research, Inc.
- Mayer, Susan. 1991. "How Much Does a High School's Racial and Socioeconomic Mix Affect Graduation and Teenage Fertility

Rates?" In C. Jencks and P. Peterson, eds., The Urban Underclass. Washington, DC: The Brookings Institution.

Menon, Ramdas, Craig Blakely, Dottie Carmichael, and Laurie Silver. 1992. An Evaluation of Project RIO Outcomes: An Evaluative Report. College Station, TX: Public Policy Resources Laboratory.

Moody, Mark, et al. 1994. Evaluation of Maryland's Tomorrow Program: Cohort I and II. Maryland State Department of Education.

Moses, Marilyn C. 1996. Project Re-Enterprise: A Texas Program. Washington, DC: U.S. Department of Justice, National Institute of Justice.

Myers, Samuel. 1982 . "Racial Differences in Postprison Employment." Social Science Quarterly. 655-669.

Myers, Samuel L. 1983. "Estimating the Economic Model of Crime: Employment Versus Punishment Effects." The Quarterly Journal of Economics. February: 157-66.

Nagin, Daniel and Joel Waldfogel. 1995. "The Effects of Criminality and Conviction on the Labor Market Status of Young British Offenders." International Review of Law and Economics, 15:109-126.

_____. 1994. "The Effect of Conviction on Income Over the Life Course." Working Paper, Yale University.

National Institute of Justice. 1991. Post-release Employment Project: Summary of Preliminary Findings. Washington, DC: U.S. Department of Justice, Federal Bureau of Prisons.

Needels, Karen. 1996. "Go Directly to Jail and Do Not Collect? A Long-term Study of Recidivism, Employment and Earnings Patterns Among Prison Releasees." Journal of Research on Crime and Delinquency.33: 471-496.

Office of Juvenile Justice Delinquency Prevention. 1995. Guide for Implementing the Comprehensive Strategy for Serious, Violent and Chronic Juvenile Offenders. Washington, DC: U.S. Department of Justice.

Office of Juvenile Justice Delinquency Prevention. 1994. Effective Practices in Juvenile Correctional Education: A Study of the Literature and Research 1980 - 1992. Washington, D.C., U.S. Department of Justice.

Papke, Leslie E. 1994. "Tax Policy and Urban Development: Evidence from the Indiana Enterprise Zone Program." Journal of Public Economics. 54: 37-49.

_____. 1993. "What Do We Know About Enterprise Zones?." In James M. Poterba ed., Tax Policy and the Economy. Cambridge, MA: MIT Press.

Pezzin, Lillian E. 1995. "Earnings Prospects, Matching Effects, and the Decision to Terminate a Criminal Career." Journal of Quantitative Criminology. 11: 29-50.

Phillips, Llad and Harold L. Votey, Jr. 1987. "The Choice Between Legitimate and Illegitimate Work: Micro Study of Individual Behavior." Contemporary Policy Issues. 5: 59-72.

Piehl, Anne M. 1995. Learning While Doing Time. Cambridge, MA: John F. Kennedy School of Government, Harvard University.

Piliavin, Irving and Rosemary Gartner. 1981. The Impact of Supported Work on Ex-Offenders. Madison, WI: Institute for Research on Poverty and Mathematical Policy Research, Inc.

Report prepared for Manpower Demonstration Research Corp.

Piliavin, Irving and Stanley Masters. 1981. The Impact of Employment Programs on Offenders, Addicts, and Problem Youth: Implications from Supported Work. Madison, WI: University of Wisconsin, Institute for Research and Poverty Discussion.

Public/Private Ventures. 1994. Youth in JTPA: Findings from a 1990 Field Study. Philadelphia: Public/Private Ventures.

Reuter, Peter; Robert J. MacCoun and Patrick J. Murphy. 1990. Money from Crime: The Economics of Drug Selling in Washington, DC. Santa Monica: RAND.

Rosenbaum, James E. 1992. "Black Pioneers--Do Their Moves to the Suburbs Increase Economic Opportunity for Mothers and Children." Housing Policy Debate. 2: 1179-1213.

Rovner-Pieczenik, Roberta. 1973. A Review of Manpower R&D Projects in the Correctional Field (1963-1973). Manpower Research Monograph, no. 28. U.S. Department of Labor: Washington, DC.

Rubin, M. 1990. "Urban Enterprise Zones: Do They Work? Evidence from New Jersey." Public Budgeting and Finance. 10: 3-17.

Rubinstein, Michael. 1995. Giving Youth a Second Chance: The Evaluation of the Alternative Schools Demonstration Program. Washington, DC: Policy Studies Associates.

Sadd, S., et al. 1983. Alternative Youth Employment Strategies Project: Final Report. New York: Vera Institute.

Saner, Hilary; Robert J. MacCoun and Peter Reuter. 1995. "On the Ubiquity of Drug Selling Among Youthful Offenders in Washington, D.C., 1985-1991." Journal of Quantitative Criminology. 11: 337-362.

Saylor, William G. and Gerald G. Gaes. 1996. PREP: Training Inmates through Industrial Work Participation, and Vocational and Apprenticeship Instruction. Washington, DC: U.S. Federal Bureau of Prisons.

Schwartz, Richard D. and Jerome H. Skolnick. 1964. "Two Studies of Legal Stigma." In Howard Becker, ed., The Other Side: Perspectives of Deviance. New York: Free Press.

Silverberg, Marsha. 1995. Facing the Challenge of Change: Experiences and Lessons of the School-to-Work/Youth Apprenticeship Demonstration. Princeton, NJ: Mathematica Policy Research.

Smith, Michael E. and James W. Thompson. 1983. "Employment, Youth, and Violent Crime." In Kenneth Feinberg, ed., Violent Crime in America. Washington, DC: National Policy Exchange.

Smith, Thomas J., Gary Walker, and Rachel Baker. 1987. Youth and the Workplace: Second Chance Programs and the Hard-to-Employ. Philadelphia: Public/Private Ventures.

Spencer, F. 1980. "The Effects of an Experimental Vocational Intervention Model upon Hard-Core Unemployed Ex-Offenders." Journal of Offender Counseling, Services and Rehabilitation. 4: 343-356.

Stewart, James K. 1986. "The Urban Strangler." Policy Review. summer: 6-10.

Taylor, Ronald L. 1990. "Improving the Status of Black Youth." Youth & Society. 22: 85-107.

Tennebaum, Judith. 1996. Southwest Metro Reverse Commute Project: Interim Reports and Preliminary Findings. Minneapolis, MN: Loring Nicollet-Bethlehem Community Centers, Inc.

Thornberry, Terence P., Melanie Moore, and R.L. Christenson. 1985. "The Effect of Dropping Out of High School on Subsequent Criminal Behavior." Criminology. 23: 3-18.

Uggen, Christopher. 1996. "Estimating the `True Effect' of Work on Crime: A Dynamic Analysis of Supported Employment and Desistance." Paper delivered at the American Society of Criminologists meetings.

_____. 1994. "Innovators, Retreatists, and the Conformist Alternative: A Job Quality Model of Work and Crime." unpublished paper, University of Wisconsin-Madison.

U.S. Department of Housing and Urban Development. 1996. Expanding Housing Choices for HUD-Assisted Families. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

U.S. Department of Labor. 1995. What's Working (and What's Not). Washington, DC: Office of the Chief Economist, U.S. Department of Labor.

_____. 1990. Guidebook for the Operation of the Federal Bonding Program. Washington, DC: U.S. Department of Labor, Employment and Training Administration.

_____. 1992. Training and Employment Report of the Secretary of Labor. Washington, DC: U.S. Department of Labor, Employment and Training Administration.

Van Stelle, Kit, Julie R. Lidbury, and D. Paul Moberg. 1995. Final Evaluation Report Specialized Training and Employment Project (STEP). Madison, WI: University of Wisconsin Medical School, Center for Health Policy and Program Evaluation.

Vera Institute of Justice. 1970. Pre-Trial Intervention: The Manhattan Court Employment Project. New York: Vera Institute of Justice.

Walker, Gary and Frances Viella-Velez. 1992. Anatomy of a Demonstration. Philadelphia: Public/Private Ventures.

Walker, R. and D. Greenstreet. 1991. "The Effect of Government Incentives and Assistance on Location and Job Growth in Manufacturing." Regional Studies. 25: 13-30.

White, Thomas, et al. 1993. Maryland's Tomorrow Evaluation: Year Four. Washington, DC: Pelavin Associates.

Wilder, Margaret G. and Barry M. Rubin. 1996. "Rhetoric vs. Reality: A Review of Studies on State Enterprise Zone Programs." Journal of the American Planning Association. Fall: .

Williams, Nicolas, Francis Cullen, John Paul Wright. 1996. "Labor Market Participation and Youth Crime: The Neglect of 'Working' in Delinquency Research." Forthcoming, Social Pathology.

Wilson, Paul R. 1994. "Recidivism and Vocational Education." Journal of Correctional Education. 45: 158-63.

Wilson, William Julius. 1987. The Truly Disadvantaged: The Inner City, The Underclass and Public Policy. Chicago, IL: University of Chicago Press.

_____. 1996. When Work Disappears: The World of the New Urban Poor. New York: Alfred A. Knopf.

Urban Institute. 1995. Federal Funds, Local Choices: An Evaluation of the Community Development Block Grant Program. Washington, DC: Urban Institute, Center for Public Finance and Housing.

Wolf, Wendy, Sally Leiderman, and Richard Voith. 1987. The California Conservation Corps: An Analysis of Short-Term Impacts on Participants. Philadelphia: Public/Private Ventures.

Wolf, Wendy, John M. Kelley, Jerene Good, and Richard Silkman. 1982. The Impact of Pre-Employment Services on the Employment and Earnings of Disadvantaged Youth. Philadelphia, PA: Public/Private Ventures.

Wolfgang, Marvin, Robert Figlio and Thorstin Sellin. 1972. Delinquency in a Birth Cohort. Chicago, IL: University of Chicago Press.

Wren, C. and M. Waterson. 1991. "The Direct Employment Effects of Financial Assistance to Industry." Oxford Economic Papers. 43: 116-138.

[Home](#)

Chapter 7

PREVENTING CRIME AT PLACES

John E. Eck

WHY PLACES ARE IMPORTANT

Most places have no crimes and most crime is highly concentrated in and around a relatively small number of places. If we can prevent crime at these high crime places, then we might be able to reduce total crime. Do we have evidence that this is feasible?

Places have received relatively little attention in crime policy so it is important to define "place." A place is *a very small area reserved for a narrow range of functions, often controlled by a single owner, and separated from the surrounding area*. By small we mean that a location is smaller than a neighborhood or community. Examples of places include stores, homes, apartment buildings, street corners, subway stations, and airports. We will also include mobile places, such as buses, in our discussions.

Concentration of crime at places is predicted by routine activity theory (Cohen and Felson 1979; Felson 1994) and offender search theory (Brantingham and Brantingham 1981). Some of the original evidence for clustering of crime at places was found in Boston (Pierce, Spaar and Briggs 1986) and Minneapolis (Sherman, Gartin and Buerger 1989). Additional evidence for crime concentration at places has been found for specific types of crime. Crow and Bull (1975) noted over 20 years ago that most convenience stores have no or few robberies, but a few have many robberies. In England and Canada a growing body of research has revealed that in high burglary neighborhoods most residences have no burglaries, but a few residences suffer repeated burglaries (Forrester et. al. 1988; Forrester et. al. 1990; Polvi et. al. 1990; Farrell 1995). Among drinking establishments, a few bars have most tavern-related violence (Sherman, Schmidt, and Velke 1992). Ten percent of the fast food restaurants in San Antonio, Texas account for one third of the property crimes at such restaurants (Spelman 1995b). In Kansas City and Indianapolis, gun crimes were found to be highly concentrated at a few places (Sherman and Rogan 1995b). Drug dealing is highly concentrated in a few locations, even in areas with a high volume of drug dealing (Weisburd, Green and Ross 1994; Eck 1994; Sherman and Rogan 1995a). This clustering is most apparent when compared to repeat offending and repeat victimizations. Combining the results from several studies, Spelman estimated that 10 percent of the victims in the United States are involved in about 40 percent of the victimizations, that 10 percent of the offenders are involved in over 50 percent of the crimes, and that 10 percent of the places are sites for about 60 percent of the crimes (Spelman and Eck 1989). Further, the concentration of crimes at a few places is relatively stable over time (Spelman 1995a, 1995b). These findings suggest that something about a few places facilitates crimes and something about most places prevents crimes.

Blocking Criminal Opportunities

The oldest forms of crime prevention were undertaken with the knowledge that making changes to places might prevent criminal events. These changes involve making crime more difficult, risky, less rewarding, or less excusable. This approach is known as opportunity blocking (Clarke 1992; 1995; Clarke and Homel, forthcoming). Opportunity blocking does not have to be done at places. It can also be built into targets (for example, designing anti-theft devices into automobiles [Clarke 1995] or printing holograms and photos on credit cards to curtail forgery and fraud).

Designing methods for blocking crime opportunities is the domain of Situational Crime Prevention (Clarke 1992; 1995). In this chapter we examine opportunity blocking at places, a subset of Situational Crime Prevention. It not only has a much longer history than offender-based prevention measures, it is used much more widely and in more settings than any other form of crime prevention. The vast majority of efforts to block crime opportunities at places are carried out and paid for by businesses, individuals, and local governments. Because places themselves have only recently become a subject for study by criminologists (Eck and Weisburd 1995), the Office of Justice Programs has funded very few explicit place-focused programs or tests of place-focused prevention. We will see that this lack of attention has limited our knowledge about this approach to prevention.

Opportunity blocking at places may have a greater direct effect on offenders than other crime prevention strategies. This is because place-focused tactics might influence offenders when they are deciding to commit a specific crime. Most offender based strategies try to sway offenders weeks, months, or years before they confront a tempting criminal opportunity. If offenders pay closer attention to the situation immediately before them than to the uncertain long term risks of their behavior, then it is quite possible that prevention at places may have a greater impact on offending than increases in penalties or less

tangible increases in risks (e.g., decreases in police response time, increased police presence, or greater numbers of arrests and convictions). Because hotspots of crime are themselves clustered, if crime at these few places can be substantially reduced, communities can be made safer.

Although opportunity blocking takes a different approach than programs designed to change the life-course of potential and existing offenders, these two approaches can work together. Keeping cookies out of sight of toddlers is not only different from instructing them not to take the cookies -- and sanctioning them when they yield to temptation -- it reinforces instructions and sanctions by eliminating the temptation. For people with low self-control and low ability to see long term consequences of behavior (Gottfredson and Hirschi 1990) addressing the immediate circumstances surrounding crime opportunities may amplify the effectiveness of other strategies designed to address the prevalence of such offenders.

The evaluations selected for review in this chapter were required to meet three criteria. First, they must describe crime opportunity blocking at places. Second, they had to examine the manipulation of places, usually intentional changes in which the changes clearly precede any change in crime. Third, each evaluation must report outcome data, typically a measure of crime. We did not examine studies of implementation and management that did not measure an impact on crime. In short, we looked at evaluations of the impact on crime of intentional changes at places.

Over the last decade, police have paid attention to places, or "hotspots," of crime (Eck and Spelman 1989; Sherman and Weisburd 1995). This chapter does not review police efforts at places that relied solely on patrolling, investigations, or other enforcement. These are reviewed in Chapter 8 of this report. We did review evaluations of interventions involving police agencies when the intervention was a tactic that could also have been implemented by other agencies or institutions. Nuisance abatement, for example, has been implemented by police agencies, but it has also been implemented by prosecutors' offices, city attorneys, and citizen groups. In short, who implemented the tactic was of less importance than the fact that the tactic was applied at places.

Table 7-1 summarizes the evaluations examined. When a report described several separate quasi-experiments we treated them as distinct interventions. Two-thirds of the evaluations were conducted outside the United States, particularly in the United Kingdom and Australia. Only six studies were funded by an OJP-related agency. Although the OJP funded evaluations comprise only 15 percent of U.S. interventions, recent efforts by the National Institute of Justice (NIJ) are improving our understanding of places. NIJ's Drug Market Analysis Project helped introduce computer mapping of crime and drug places to police agencies and funded one of the randomized experiments described in this chapter (as well as several evaluations described in Chapter 8, on police prevention). The recent establishment of the Crime Mapping Research Center at NIJ has the potential to increase our knowledge of what works at places.

Violent crimes -- homicide, robbery and assault (no rape prevention evaluations were found) -- were the focus of 31 percent of the evaluations. Three of the six drug dealing prevention evaluations were OJP funded. Over half the evaluations examined serious crime (either a mixture of violent and non-violent crimes, or just non-violent crimes). Thus, 90 percent of the evaluations focused on serious property, personal, or drug crimes. Only 20 percent of the evaluations examined minor offenses, such as property damage, vandalism, minor thefts or incivilities.

As in earlier chapters, evaluations were graded using the scientific methods score (1=correlations between tactics and crime and studies without pre-intervention measures; 2=pre-post designs without control places; 3=pre-post designs with controls or time-series designs with at least five time periods prior to the intervention; 4=studies of interventions in a large sample of places compared to similar places without interventions; and 5=randomized controlled experiments). The modal score was 3, but a substantial number of evaluations only scored 2. There were few studies at either extreme (1 or 5).

Table 7-1: SUMMARY OF EVALUATIONS

Reports Examined	78	Percent of Interventions
Interventions Examined	99	100%
Funded by OJP agency*	6	6%

Setting & Crimes Study

U.S. Setting	40	40%
Violent Crime	31	31%
Drug Dealing	6	6%
Serious Crime	52	53%
Minor Crime	20	20%

Scientific Methods Score

1 -- correlation/cross section	7	7%
2 -- before/after (b/a)	36	36%
3 -- b/a with control & time series	50	51%
4 -- large sample quasi-exper.	4	4%
5 -- randomized experiments	2	2%

Evidence of Crime Change

Down	89	90%
Up	2	2%

* Including predecessor agencies within the Department of Justice.

GENERAL FINDINGS

These evaluations are consistent with the hypothesis that opportunity blocking at places can prevent crime, at least under some circumstances. Ninety percent of the evaluated interventions displayed evidence of crime reduction effects. Often these reductions were large. As we will see, these findings are consistent across a variety of evaluation designs, settings, and interventions. Although few of them have been replicated at a strong level of scientific evidence, there is good reason to invest in further testing of these tactics. Do these tactics displace crime? We will delve into this issue at the end of this chapter, but for now we will state that displacement seldom overwhelms prevention effects.

How much can we conclude about specific types of intervention, at specific places, against specific crimes? The answer is, we usually cannot be confident about what works where. We will discuss this finding in greater detail later in this chapter. We looked at nine types of places in four broad categories: In the following sections we describe the results of evaluations at residential places; money spending places (retail stores, banks and money handling businesses, and bars and drinking establishments); transportation places (public transportation facilities, parking lots, and airports); and other public places (open urban spaces and public coin machines). The nine types of places examined were not selected on theoretical grounds. They were selected because these were the places for which evaluations existed. Clearly, our knowledge about place-focused tactics is limited to a relatively few place types. Within each category we examine look at a variety of crime prevention tactics.

APARTMENTS AND RESIDENCES

Places where people live are the subject of this section. We will examine six types of interventions at residential properties, many of which are in public housing in Great Britain and the United States. Public housing complexes have become notorious for high crime rates in the United States. Dunworth and Saiger (1994) found that public housing complexes in three cities had higher rates of violent crimes and drug arrests than nearby neighborhoods or surrounding cities, but there was a great deal of variation among housing projects within each of the cities. We will see that crime in British public housing estates can also be a problem. First we will look at efforts to reduce crime by restricting movement through apartment complexes. Next we will look at improving security by improving locks and barriers on windows and doors. Third, we will examine property marking. Improving watching of residences is the subject of the fourth section. In the fifth section we will look at the effectiveness of multiple tactic interventions to prevent burglaries at dwellings with a history of burglary. Finally, we will turn our attention to methods to compel place managers to reduce drug dealing on their rental property. Table 7-2 summarizes the evaluations of crime prevention in residential settings.

Restricting Pedestrian Access and Movement

Oscar Newman's *Defensible Space* (1972) stimulated interest in the link between the built environment and crime in residential areas. Newman compared two public housing complexes and asserted that the differences in design were the principal reasons for the differences in crime. The limited number of places observed and the failure to take into account other differences (most notably the age distribution of tenants) suggests that his conclusions may have been overstated (Mawby 1977; Mayhew 1979; Merry 1981; Taylor, Gottfredson, and Brower 1980). Newman expanded on his ideas in a later book (1980). Other studies of the influence of design have compared more sites (Coleman 1985; Poyner 1983; Poyner and Webb 1991). All pointed to the association of design features and crime, particularly features that allow unfettered movement through residential complexes. Two of these evaluations examine changes in residential sites that break up large residential complexes into smaller components.

Newman (1980; 1996) reports on the effect of changes to the Clawson Point public housing complex in the Bronx. The complex was changed by reducing the number of pedestrian routes through the project, creating separate areas within the complex, improving lighting, and enhancing the surface appearance of the buildings. Newman (1996) reports a 54 percent decline in the crime rate and a 62 percent decline in the rate of serious crime (burglary, robbery and assault). No control group was used.

Poyner (1994) describes a retrospective evaluation of the effect of the removal of elevated walkways connecting buildings in a British public housing complex. The walkways were thought to facilitate robberies of residents. He reports a reduction in purse snatching, but no reduction in burglaries. An entry phone was installed at one entrance and this too may have contributed to the decline in purse snatches. Although auto thefts declined, Poyner was unable to determine if this was due to the removal of the walkways or the presence of construction workers while the removal was underway. There was no comparison to control places.

Restricting the movements of pedestrians was also part of a 1991 effort to reduce crime in several of Chicago's worst public housing buildings (Popkin et. al. 1995b). The approach included door-to-door police inspections of all units within the buildings. Ground floor entrances were enclosed in new lobbies and guard stations were installed along with metal detectors. Residents were issued identification cards and asked to present them when entering the buildings. In addition to housing authority and private security guards, the Chicago Public Housing Authority organized tenant patrols. Finally, a set of drug prevention services were provided tenants.

Popkin and her colleagues (1995b) attempted to evaluate this program. They interviewed a sample of residents in two complexes and asked them if conditions had improved, remained the same, or became worse following the interventions. The surveys found that 74 percent and 88 percent of respondents (depending on the complex) said shootings and fighting in their building had declined. It also found that 40 percent and 64 percent of the residents interviewed said drug dealing in their building had declined. These retrospective assessments by residents were a substitute for pre-treatment measures of crime and drug problems. The lack of control groups and true pre-treatment measures of crime, along with the implementation of multiple simultaneous interventions means that we cannot determine if the restrictions on pedestrian access contributed to improvements.

Collectively, these evaluations are suggestive of possible beneficial effects of reducing pedestrian movement through large public housing complexes. The weak designs used to evaluate these interventions temper our confidence in these types of interventions.

Target Hardening

Providing locks and improved security to access points is a commonly used burglary prevention tactic. The installation of improved locks and doors at two English public housing complexes was evaluated by Tilly and Webb (1994). Both studies used a pre-post design compared to a control area. In one complex burglaries declined 59 percent. In the other, burglaries decline over 90 percent relative to the control area.

The displacement of burglars to less protected locations is commonly raised as a threat to the effectiveness of place-focused interventions. Patricia Allatt (1984) has been one of the few evaluators to explicitly test for displacement effects. In addition to identifying the target residences which received improved ground floor entrance security, she examined the residences in the area immediately adjacent to the target area. And she used a control area that was far enough from the treatment area that it would not be contaminated by displacement. She found that burglaries in the target area increased by 9 percent one year after implementation, but in the control area burglaries had increased 77 percent. This suggests the program may have reduced potential burglaries, compared to what they would have been in the absence of the program. Burglaries increased 86 percent in the displacement area, but relative to the control area this was only a 9 percent increase over what could have been expected without the program. Thus, she was able to determine that displacement may have occurred, but was small relative to the overall program effect on the target area.

Target hardening appears to reduce burglaries without major displacement effects. However, with only two studies, more rigorous evaluations would make valuable contributions to our knowledge of what works in place-focused crime prevention.

Property Marking

A third approach to controlling burglaries is to make burglary targets unattractive to offenders. Laycock (1985; 1991) reports on the evaluation of a property marking campaign in two isolated Welsh communities. She reports a 40 percent decline in burglaries at residences where people said they engaged in property marking compared to the control group of non-participating residences. These results might be due to property marking, but the results could also occur if less vulnerable residents participated in the program and more vulnerable residents did not participate. Gabor (1981) also evaluated property marking in a Canadian neighborhood. He found a 75 percent increase in seasonally adjusted burglaries per dwelling unit by comparing the 24 months before the program to 18 months after the property marking. Clearly, with two contradictory studies we cannot be confident that property marking is an effective method for reducing burglaries to residences.

Closed-Circuit Television (CCTV)

CCTV was used in fifteen housing complexes for elderly residents in Manchester, England. Chatterton and Frenz (1994) report a decline in burglary and burglary attempts of 79 percent across all complexes. Again, natural trends in burglary were not reported due to the absence of control places. This single weak study is insufficient as a basis for crime prevention policy. We will return to the use of CCTV in other settings.

Multi-tactic Interventions and Repeat Victimitizations

Crime prevention in residential settings often involves the implementation of a variety of measures. Evaluations of such interventions usually cannot estimate the relative effectiveness of the component parts, but they can show whether prevention is possible. Meredith and Paquette (1992) examined a multiple tactic approach to controlling burglaries in a Canadian apartment building. The program included apartment watch (like neighborhood watch but for apartment dwellers), target hardening, property marking, lighting improvements, and an assortment of other interventions. Reported burglaries dropped 82 percent from the year before to the year after the prevention measures were put in place. No control group was used, so again this drop may have been due to a general trend toward fewer burglaries in the surrounding area.

A growing body of evidence suggests that a few victims are involved in a large proportion of victimizations (Farrell 1995). Most of the research on this topic has been conducted in Great Britain, where programs to reduce burglaries of dwellings have been based these findings. The Kirkholt public housing complex has received considerable attention in England because evaluations indicated that focusing on residences with previous burglaries is effective (Forrester, Chatterton, and Pease 1988; Forrester, et. al. 1990; Pease 1991; Tilly 1993a). A number of interventions were used at each targeted residence, including target hardening and organizing residents in surrounding homes to watch the burgled house. However, two tactics deserves special mention. Like many low income publicly subsidized projects in England, the residences in Kirkholt had coin-operated gas meters. Residents put coins in the meter to get a preset amount of gas for heating and cooking. Officials periodically empty

these meters, but for weeks the meters can contain a great deal of cash. These meters were the target of many of the burglaries in Kirkholt and removing them was an important tactic in the project. Another part of the Kirkholt repeat victimization project was organizing the residents surrounding burgled dwellings to watch the victimized home. This was referred to as "cocoon neighborhood watch" because instead of organizing the entire neighborhood, the police focused only on the people living around at-risk places (Forrester, Chatterton, and Pease 1988; Forrester, et. al. 1990).

The 40 percent decline in burglaries in the first year following the start of the program, and subsequent decline over the next three years (controlling for seasonality and surrounding area burglary trends) cannot be attributed to any single tactic (Forrester, Chatterton, and Pease 1988; Forrester, et. al. 1990). Thus, we do not know which tactics worked.

Another repeat victimization program in Great Britain used a graded response to repeat victimization (Anderson, Chenery, and Pease 1995a; 1995b). Residents that reported a single burglary received a "bronze" response. This included crime prevention advice from the police, cocoon neighborhood watch, and improvement in dwelling security. If a resident was a victim of a second burglary within a year the police stepped up patrolling of the location, and put warning stickers on the dwelling. This was the "silver" response. If a third burglary was reported within a year then the "gold" response was put into place. This included the use of video surveillance of the location and even more intense police patrols. Anderson, Chenery and Pease (1995b) report a 19 percent reduction in burglaries relative to changes in burglary in the surrounding area.

Repeat victimization and crime prevention programs based on repeat victimizations are interesting. Because housing projects in Great Britain and the United States have important differences (the presence of coin-operated gas meters is just one example), research in the United States should be undertaken to determine if repeat burglaries are a problem in the United States, and if repeat victimization responses are effective. The National Institute of Justice is currently sponsoring studies examining repeat victimization.

Reducing Drug Dealing and Crime in Private Rental Places

Despite the fact that the management of private rental housing has only recently been examined as a crime risk factor, we have strong evidence that improving management of rental properties can reduce drug related crime. A study of retail drug dealing locations in San Diego found that smaller apartment buildings were more likely to be selected by drug dealers than the larger buildings, primarily because owners of the smaller buildings had less management resources to control the behaviors of place users (Eck 1994; 1995). Spelman (1993) studied residential locations that had been abandoned by their owners and found that they were magnets for crime. The effectiveness of compelling place managers to control the behaviors of people that use their properties has been the subject of a number of evaluations.

The civil law has been the primary tool used to make owners of private rental property evict drug dealers or make physical changes to their property. Hope (1994) describes three case studies from St. Louis where police officers influenced the changing of ownership of drug houses. Calls for service from blocks with the houses declined 54 percent to 94 percent relative to nearby blocks, suggesting a decline in drug selling.

Most efforts to influence landlords threaten civil action, but do not typically result in the transfer of property ownership or the seizure of property. Nuisance abatement programs threaten court action to seize property unless owners take action to curtail drug dealing. Three evaluations of nuisance abatement programs were found.

Lurigio and colleagues (1993) evaluated an abatement program run by the State's Attorney Office in Cook County, Illinois. They compared the perceptions of residents living near 30 abated properties to the perceptions of residents on nearby untreated blocks. They found no difference in perceptions. If the abatement program did reduce drug dealing or related crime, nearby residents did not notice it. The weakness of this design is that it does not have a true pre-treatment measures of crime, but only perceptions of change.

Green (1993; 1995; 1996) examined changes in drug arrests, police field contacts, and citizen calls around 275 abated drug dealing sites in Oakland, California. Relative to citywide changes in these measures, Green found a 15 percent decline in arrests, a 38 percent decline in field contacts, and a 14 percent decrease in citizen calls.

Finally, Eck and Wartell (1996) report on the results of a randomized controlled experiment using threatened property seizure in San Diego, California. No landlords were taken to court and no properties were seized. Instead, following police drug enforcement, owners of properties in one randomly selected group received a letter from the police ("letter" group). Owners of properties in another randomly selected group met with a narcotics detective and a city codes inspector ("meeting" group).

Owners of properties in a third (control) group received no follow-up contact from the police or the city. Drug offenders who were lease holders were more likely to be evicted from the properties in meeting group. Further, for the six month period following treatment, the properties in the meeting group had a significantly lower number of reported crimes. The letter group also had a decline in crimes, but it was not significantly different from the control group or the meeting group.

Three of the four studies report some reduction in crime or calls for service at treated drug properties or the block around the properties. The three studies that reported the positive findings were more rigorous than the single study showing no results. Thus we can be reasonably confident that holding owners responsible for drug dealing on their property may reduce drug related crime.

Conclusions About Residences

Collectively, there is reason to be optimistic about the efficacy of opportunity blocking tactics in residential settings. As a group, these evaluations -- from the weakest to the strongest -- suggest that improvements in crime reduction can be achieved. Nevertheless, it is difficult to be precise about what works, at which types of residential sites, and against which crimes. One set of tactics, however, does have a limited number of rigorous evaluations. Nuisance abatement is a place-focused tactic that "works." With the evidence available we are relatively certain that holding private landlords accountable for drug dealing on their property by threatening abatement reduces drug related crimes. A weaker body of evidence suggests that reducing the ability of people to move freely about large public housing complexes can reduce crime.

Addressing repeat victimization deserves more attention in the United States but there is insufficient evidence to recommend that this tactic be applied wholesale at this time. Nevertheless, research on repeat victimization prevention in housing and other settings will be useful for public housing authorities, police agencies, and private landlords. Finally, by that standards used in this report, the evidence for target hardening is weak so it is of unknown effectiveness. Of particular concern is the lack of significance tests in target hardening evaluations that could provide evidence that observed crime reductions were not due to chance. More rigorous evaluations need to be conducted to improve our confidence in this tactic.

Table 7-2: RESIDENCES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Allatt 1984	3	target hardening	British public housing	52% reduction relative to controls in burglary
Anderson, Chenery, Pease 1995a; 1995b	3	graded response depending on number of prior burglaries	British public housing (Huttersfield)	19% reduction in burglary relative to control
Chatterton & Frenz 1994	2	cctv including dummy cameras	elderly housing complexes, Manchester, Great Britain	79% decline in burglary and attempt burglary
Gabor 1981	3	property marking	residential dwellings, Canada	75% increase in burglary
Laycock	3	property	public	40% reduction in

1985, 1991.		marking	housing, Great Britain	burglary
Tilly & Webb. 1994	3	improving security of doors and windows	Birmingham pubic housing , Great Britain	59% reduction in burglary
	3	improved door locks and removal of prepayment meters	Bradford public housing, Great Britain	91% reduction in burglary
Forrester, Chatterton, & Pease 1988; Forrester, Frenz, O'Connell & Pease 1990. Pease 1991. Tilly 1993a.	3	removal of pay gas meters; Cocoon neighborhood watch; security survey and hardware installation	Public housing, Great Britain	40% reduction in burglary in one year; continued drop over next three years
Meredith & Paquette 1992	2	crime watch (and target hardening)	apartment building	82% drop in burglary, little drop in other crimes
Popkin, et. al. 1995a; 1995b	1	guards, design changes, enforcement, identification cards, and other changes	Two high rise public housing buildings, Chicago	40% to 64% drop in drug dealing; 74% to 88% drop in shootings and fighting
Newman 1996	2	restricting pedestrian movement and other design changes	Bronx public housing	54% drop in reported crime. 62% drop in burglary, robbery, & assault
Poyner 1994	3	closing walkways connecting buildings and installation of entry phone	London public housing	reported reduction in purse snatches
Eck & Wartell 1996	5	nuisance abatement	private residential rental property, San Diego CA	59% drop relative to controls in reported crime for most stringent intervention, 51%

				drop for less stringent intervention not significant
Green 1993; 1995; 1996	4	nuisance abatement	private residential properties with drug dealing in Oakland, CA	15% decline in arrests, 38% decline in field contacts, & 14% decline in calls
Hope 1994	3	closing or selling of property	3 addresses used for drug dealing in St. Louis, MO	54%, 67% and 95% reduction in calls for service
Lurigio, et. al. 1993	2	nuisance abatement	residential properties in Cook County, IL	no difference between treated and untreated blocks relative to drug dealing

RETAIL STORES

Places that sell goods to the public are frequent crime sites. The theft of goods represents a large proportion of these crimes. Some of these thefts are committed by patrons and some by employees. In addition to thefts, robberies of store clerks and burglaries after store hours can also be problems. In this section we examine all of these crime types. First we will look at convenience store robberies. Much has been written on this topic, but most of it describes correlational studies with very small samples, comparing stores with and without robberies. As we will see, the number of evaluations of interventions is limited. We will then turn to burglaries and robberies in other retail settings. Third, we will examine credit card fraud. The largest group of studies involves shoplifting prevention. Finally, we will look at thefts by employees.

Convenience Store Robberies

Although convenience stores have received considerable attention in the crime prevention literature, robberies of these retail establishments peaked around 1980-81, declined through 1983 and remained stable for the next 10 years at around 16,000 per year. Over the same period, the number of such stores has increased and gas station robberies have trended upward (Bellamy 1996). Comparisons of convenience stores with and without robberies have been carried out for over two decades. These studies attempted to find store features that are associated with few or no robberies. The studies generally suffer from three major scientific problems. First, they usually examine a variety of store features using a small sample of stores. Since these features are often correlated with each other, it is difficult to determine which features are related to robberies. Second, since the store features and robberies are measured at about the same time, it is unclear if the features preceded the robberies (and could possibly have influenced the chances of the crime) or whether the robberies cause store managers to change the store's features. Finally, most convenience stores have no robberies, but a few have many robberies. Crime prevention measures may work in the few stores with repeated robberies but have no influence on the other stores (Crow and Bull 1975). It is not surprising, therefore, that these studies can arrive at contradictory findings.

One of the most debated questions is whether two clerks reduces the risk of robberies. Hunter and Jeffrey (1992) cite a number of studies showing that stores with fewer robberies are associated with two clerks being on duty. LaVigne (1991) provides evidence that the number of clerks is unrelated to robberies. Another study, conducted by Robert Figlio, compared 230 convenience stores with two or more clerks on duty at night, to 346 stores with only one clerk on duty, and examined a subsample of one-clerk stores before and after they shifted to two clerks. The evaluation found no impact on robberies by the switch to two clerks, compared to similar stores that did not increase the number of clerks from one to two. However, for stores with robberies prior to the switch, two clerks did reduce the chances of a robbery (National Association of Convenience

Stores 1991).

The Gainesville (Florida) Police Department evaluated a city ordinance requiring two clerks to be on duty. The police department found that convenience store robberies declined immediately after the ordinance took place (Clifton 1987). Wilson (1990) reviewed the initial evidence and found that a plausible rival explanation for the decline in robberies was the arrest of active offenders responsible for a rash of convenience store robberies just before the ordinance took place. Although the short term reduction may have been due to these arrests, robberies of these stores in Gainesville continued to decline for seven years following the ordinance and the arrests of the repeat offenders (Bellamy 1996). The controversy surrounding this ordinance, and Florida-wide efforts to increase the number of clerks, may have sensitized the convenience store industry and the police to this problem. Thus, many other changes could have created the long term reduction. Changes in stores' operations may also have been responsible for the reduction in robberies. Thus we cannot be certain the decline was due to the two clerk rule.

One of the first randomized experiments in crime prevention was undertaken over 20 years ago to determine if prevention measures in convenience stores reduced robberies. Crow and Bull (1975) matched 120 stores according to previous robberies and other characteristics. These stores were randomly assigned to either a control group or a prevention group. The type of prevention was selected based on site visits, so it was not possible to determine what type of prevention had what effects. The treated stores with two or more previous robberies had 30 percent fewer robberies after treatment than the untreated stores with two or more previous robberies.

In a later convenience store study, cameras and silent alarms did not appear to prevent robberies when 55 convenience stores in Columbus, Ohio and New Orleans, Louisiana receiving these devices were compared to 53 stores in Dayton, Ohio and Baton Rouge, Louisiana not receiving them (Crow and Erickson 1984). In the treated stores signs announcing the equipment were posted. These changes were accompanied by publicity in the treatment areas. No significant changes in robberies were found.

The National Association of Convenience Stores (1991) reported on two other interventions evaluated by Robert Figlio. The installation of interactive CCTV (allowing communication between the clerk and the personnel watching the TV monitor in a remote location) reduced robberies in 189 stores by a statistically significant 31 percent in the first year following the installations. By the second year, the reduction had shrunk to 15 percent, which was not statistically significant. No control stores were used in the analysis. One chain of 81 stores installed color video monitors that were visible to patrons and staff. Robbery rates were reported to have declined by 53 percent a year after installation. Again, no control stores were used.

The convenience store industry has conducted some of the most sophisticated crime prevention experiments available. These studies suggest that there are two types of stores, those with few or no robberies where crime prevention efforts are unlikely to influence future robberies, and a fewer number of stores with several robberies where prevention efforts may be more productive.

Burglary and Purse Snatching in Other Retail Places

Burrows and Speed (1996) report on an effort to curb "wire-cut" burglaries of electronics stores. Since alarm systems in these stores are connected to a remote monitoring station, burglars cut the telephone lines before entering. Electronically monitoring the integrity of the phone lines appears to have reduced losses from these types of burglaries. Unfortunately the authors only show a graph of the data without reporting the figures for burglaries or losses. Trends in wire-cut burglaries were compared to other types of burglaries and indicated that the decline was unlikely to be due to a general decline in burglaries, independent of the preventive tactic studied.

"Ram-raiding" involves crashing a vehicle (often stolen) into the front of a retail establishment and then removing valuable products. The costs of the damage to the store are considerable and often exceed the costs of the stolen merchandise (Jacques 1994). This is a problem in Great Britain, but its extent in the United States is unknown. Jacques (1994) reports that the installation of metal shutters in six large retail establishments cut burglary costs 53 percent (from an average of 20,892 pounds sterling to 9613 pounds sterling). In one store, burglars shifted to a roof entry thus providing evidence of limited displacement in burglary tactics. No control stores were examined.

Thefts from shoppers at retail places can also be a problem. In shopping markets in one British city, women's purses were being taken from their shopping bags. The aisles of the markets were widened to reduce the bumping of patrons that facilitated the thefts. Poyner and Webb (1992) report that a comparison of reported thefts for the three years prior to the changes to the two years after, showed a 44 percent decline in these offenses. Simultaneous changes in nearby markets makes them unsuitable as control places, so we have no evidence about background trends.

Credit Card Fraud

Three evaluations examined attempts to prevent credit card fraud at the point of sales. All three involved staff training and increased attention to customers. Two studies describe providing clerks with more information about potential offenders, either through liaison with law enforcement authorities (Masuda 1993) or by providing computer-aided identification of shoppers wishing to use credit cards to pay for purchases (Masuda 1996). Both evaluations compared pre-program losses to post-program losses, but did not use control stores. Losses declined 82 to 90 percent.

A British experiment in lowering the limit for unauthorized credit card purchases along with improved information exchange about possible offenders may have reduced fraud losses by 25 to 41 percent nationwide, depending on the length of the pre-treatment period used (Webb 1996).

Although these studies did not use strong evaluation designs, they consistently report that tightening restrictions on credit card use and use of information about people with a history of credit card fraud can reduce this crime. Such findings underscore the point that many losses by retailers are due to choices about how to conduct their business. Challenger's (1996) evaluation of refund fraud reduction reinforces this point. Refund fraud involves the return of stolen goods for a refund. The store ends up paying for the merchandise twice, the first time at the wholesale price and the second time at the retail price. Challenger (1996) reports that requiring proof of purchase may reduce the losses from this form of theft. For confidentiality reasons, he does not report the amount of losses for stores involved in the evaluation.

Shoplifting

Here we will look at several methods for preventing shoplifting. Two interventions, electronic article surveillance and ink tags, have received multiple evaluations. Electronic article surveillance (EAS) involves placing tags on merchandise that only clerks can remove at time of payment. If a clerk does not remove the tag and the shopper leaves the store, the tag causes an alarm to sound. EAS technology improves employee surveillance of goods. Ink tags deface the merchandise if it is removed from the store without paying. This destroys the value of the goods to thieves.

Five evaluations of EAS were reviewed and each reported reductions in crime events or shrinkage. All compared crime or shrinkage (unaccounted for declines in inventory) before the installation of EAS to the same measures after, and all used a control store to measure background trends. The reduction in shrinkage varied from 32 percent (Bamfield 1994) to 80 percent (DiLonardo 1996). Farrington and colleagues (1993) report even greater reductions in shoplifting in the two stores they examined (76 to 93 percent). Furthermore, EAS was found to be more effective than security guards (no improvement) or store redesign (50 to 80 percent improvement) (Farrington et. al. 1993). Unfortunately, with one exception (Farrington et. al. 1993) significance tests were not reported so we cannot determine the probability that the reported reductions were due to chance.

Ink tags may also reduce shoplifting, but we have fewer studies and they used weaker evaluation designs. DiLonardo and Clarke (1996) report on two quasi-experiments involving ink tags. Both used repeated inventory counts to measure inventory reduction before and after the installation of the tags. In the first study, 14 new stores were compared to the chain-wide average. Shrinkage was reduced 14 percent in the new stores. In the second study, ink tags were installed in four stores, but no control stores were used. Shrinkage declined by 47 percent. As we will see below, repeated inventory counts have been linked to reduced employee theft, so we cannot be certain that the changes reported in these two ink tag studies are due to the ink tags or the method of measuring shrinkage.

The final shoplifting evaluation is a case study of a single store where the problem was minor thefts by elementary school children. A combination of individual and collective rewards were offered the children for refraining from stealing small items. The period before the program, program period, and a period after the program ended were compared. Shoplifting of targeted items declined by 58 percent and profits increased 42 percent during the program period compared to the periods before and after the program.

Shoplifting appears to be controllable by the use of EAS technology, and possibly ink tags. If more evaluations had used significance tests we could have classified EAS as "works." In the absence of this information EAS must be placed in the "do not know" category. Limited evaluations of other approaches suggest that there may be alternative approaches as well. The single study that examined the value of guards found that they were of no assistance in reducing shoplifting, but as Farrington and colleagues (1993) point out, this may be due to an implementation failure.

Employee Theft

Masuda (1992) examined the effectiveness of increasing the frequency with which articles at great risk of theft are counted. Since the increased inventory counts were unknown to shoppers but were known to store employees, it is reasonable to assume that the 100 percent reduction in shrinkage he found was due to the deterrence of employees. The 85 percent reduction in non-target item shrinkage may be attributable to a diffusion of benefits effect. However, the absence of an uncontaminated control makes it difficult to determine if this reduction was an unexpected program effect or evidence of declining shrinkage independent of the intervention.

Table 7-3: RETAIL STORES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Crow & Bull 1975	5	variety	convenience stores	stores with 2 prior robberies had 30% fewer robberies relative to controls
Crow & Erickson 1984	4	surveillance cameras	convenience stores	No significant change in robberies
National Association of Convenience Stores 1991	4	two clerks	convenience stores	15% reduction in robberies over 2 year period in high robbery stores
	2	cctv	convenience stores	15% reduction in robberies over 2 year period
	2	video monitors for patrons and staff	convenience stores	53% reduction in robberies
Poyner & Webb 1992	2	widening aisles in open market	public market in Birmingham, Great Britain	44% reduction in thefts from purses
Burrows & Speed 1996	3	electronic monitoring of phone lines	electronic retail stores	noticeable decline in wire cut burglaries but amount difficult to determine from chart provided
Jacques 1994	2	metal shutters	electronic retail stores	53% drop in losses due to ram-raiding burglaries
Masuda 1993	2	profiling offenders, training, liaison with	retail store chain	82% decline in credit card fraud losses

		law enforcement		
Masuda 1996	3	computer aided positive identification at point of sales	retail stores	90% reduction in credit card fraud losses
Webb 1996	2	lowering limits for use of credit cards, improved information exchange, and other tactics	point of sales in retail establishment in Great Britain	25% to 41% decrease in credit card fraud losses nationwide
Challinger 1996	3	requiring proof of purchase for refund, and related procedures to prevent refund fraud	retail stores	decline in losses and reports.
Bamfield 1994	3	EAS to prevent shoplifting	retail stores	32% reduction in shrinkage
DiLonardo 1996	3	EAS to prevent shoplifting	retail stores	47% decline in shrinkage over 5 years
	3	EAS to prevent shoplifting	retail stores	80% decrease when installed. When reinstalled over 80% decline repeated.
	3	EAS to prevent shoplifting	retail stores	52% decrease in shrinkage
DiLonardo & Clarke 1996	3	ink tags to prevent shoplifting	retail stores	14% reduction in inventory shrinkage
	3	ink tags replace EAS to prevent shoplifting	retail stores	47% decline in inventory shrinkage
Farrington et.al. 1993	3	uniformed guards	retail stores in Great Britain	No measurable impact on shoplifting
	3	store redesign	retail stores in Great	58% drop in shoplifting at one

			Britain	store and 80% decline in another in target items stolen.
	3	tagging	retail stores in Great Britain	76% reduction in shoplifting at one store and 93% reduction in another in target items stolen.
McNees, Schnelle, Kirchner, & Thomas 1980	3	awards for compliance to prevent shoplifting by elementary school children	single convenience store	58% decline in shoplifting of targeted items. Estimated increase in profits of 42% during program
Masuda 1992	2	increased frequency of inventory counts to prevent employee theft	retail stores	Elimination of shrinkage for targeted products, 85% decline in shrinkage of non-targeted products

BANKS AND MONEY HANDLING PLACES

The robbery of banks and other places that provide money handling services is a serious problem in many countries. In this section we will examine evaluations of security measures in U. S. and Swiss banks, British post offices, and Australian betting shops.

Guards may prevent bank robberies. A study of 236 banks in the Philadelphia area found one less robbery per year at banks with guards compared to banks without them, controlling for the surrounding area, police response time, proximity to major streets, and other prevention measures used. Screens protecting tellers and cameras were not associated with fewer robberies (Hannan 1982). Since these tactics are often found together, the evidence about the effectiveness of any specific measure is weak. Though this is a correlational study, the evaluator made special efforts to control for temporal order. Information about security measures came from surveys administered by the Federal Reserve and only crimes reported after the survey were used in the analysis. Because we can be sure that the interventions were installed prior to the crimes, this evaluation was given a scientific methods score of 2.

Two other studies provide better evidence that screens protect clerks from robberies. A study of over 300 Swiss banks found that banks with screens had a 52 percent lower robbery rate than banks without them (Grandjean 1990). Ekblom (1987, 1988) examined the installation of bullet proof barriers to protect post office clerks. He estimated that the barriers reduced robberies from 55 percent to 65 percent, net of changes in control group robberies. Both studies found evidence for displacement, but even accounting for displacement, robberies declined substantially.

Clarke and McGrath (1990) examined the effects of time-lock cash boxes and safes on Australian betting shop robberies. Relative to control places, robberies may have been reduced by 52 to 139 percent. The results may be highly unstable given that there were three interventions throughout a 10-year period.

An examination of a drop in the number of bank robberies in Victoria, Australia asserts that this was due to the installation of screens protecting clerks, guards, cameras, and other security devices (Clarke, Field, and McGrath 1991). After increasing

from 1979 through 1987, the number of bank robberies dropped to levels similar to those found in earlier years. Similar patterns of growth and rapid decline were found in bank robberies in an adjacent state and in robberies of other businesses. It is unclear whether the protective measures were installed only in Victoria's banks and when they were installed.

We do not know what works to prevent crimes at banks and other money handling places because the scientific methods scores for the interventions are either below 3 or significance tests were not reported. These evaluations suggest the possibility that guards, bullet proof screens, and secure cash containers might reduce crimes, but more rigorous evaluations are needed to draw firm conclusions.

Table 7-4: BANKS AND MONEY HANDLING PLACES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Clarke & McGrath. 1990	3	time-lock cash boxes and safes	Betting shops in Australia	robberies declined 52% to 139%
Clarke, Field & McGrath 1991	1	security screens, and other measures	Banks in Victoria, Australia	drop in bank robberies
Ekblom 1987 1988	3	counter screen barriers in front of clerks	Post offices in London	55% to 65% reduction in robberies
Grandjean 1990	2	bulletproof screens for tellers	Banks in Switzerland	52% reduction in robberies
Hannan 1982	2	security guards, screens and cameras	Banks in Philadelphia, PA area	reduction of one robbery per year for most robbery prone banks due to guards

BARS, TAVERNS AND DRINKING ESTABLISHMENTS

There is a consistent research literature that points to a relationship between the presence of bars and crime in the surrounding area (Roncek and Bell 1981; Roncek and Pravatiner 1989; Roncek and Meier 1991; Block and Block 1995). Despite this reputation, most bars may be relatively crime free while a few may be hotspots of crime (Engstad 1975; Sherman, Schmidt, and Velke 1992; Homel and Clark 1994). The behavior of bartenders and bouncers may be contribute to violence in these places (Homel and Clark 1994) and changes in bar management practices (from server training and changes in legal liability of bartenders) may reduce assaults (Putnam et. al. 1993), drunk driving (Saltz 1987), and traffic accidents (Wagenaar and Holder 1991).

Two Australian programs to reduce violence created agreements among pub managers to improve the training of bouncers, reduce crowds of youths, and improve relationships with police, along with other tactics (Homel et. al. 1997). In one evaluation observers reported a 53 percent reduction in assaults per 100 hours of observation in the first year of the program. The prevention effects decayed over time. Three years after implementation the reduction had declined to 15 percent. No

control pubs were observed (Homel et. al. 1997). The other evaluation examined serious assaults at downtown pubs for the year before and four years after the management accord, and compared these changes to the same period for six other cities in the same state. Serious assaults declined 40.5 percent in the target city but increased 14.3 percent in the control cities (Felson, et. al. 1997).

The consistent results from Australia and the United States summarized in Table 7-5, suggest that changing the management of drinking places is a promising method for prevention of drinking-related offenses.

Table 7-5: BARS AND TAVERNS

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Felson, et. al. 1997	3	code of practice for pubs	bars and drinking establishments in Geelong Australia	60% decline in serious assaults, net controls
Homel, et. al. 1997	2	training for bouncers, code of practice	bars and drinking establishments in Australian town	53% decline in assaults/100 hours of observation 1st year after implemented, but only 15% decline compared to 3 years after
Putnam, Rockett, & Campbell 1993	3	training of alcohol servers and police enforcement	alcohol sales outlets in one Rhode Island community	decline in alcohol related assaults & vehicle crash injuries, relative to control communities
Saltz, 1987	3	changing serving policies and training	Navy enlisted club in California	Over 50% reduction in driving when drunk

PUBLIC TRANSPORTATION

Two types of public transportation have been the subject of evaluations: buses and subways. Evaluations investigated prevention measures directed at four types of crime: crimes against riders; attacks on staff; fare evasion; and vandalism. The types of interventions have been quite varied, ranging from complete system design to volunteer citizen patrols.

Incivilities and Crimes Against the Public

The Washington, D.C. Metro System has been singled out in crime prevention literature as having been designed to prevent crime (LaVigne 1997) and is sometimes contrasted with the New York City subway system which gained a reputation for crime in the 1970's (Sloan-Howitt and Kelling 1990; Dwyer 1991). "Designing in" crime prevention may be effective, but it is difficult to determine if a design is effective. LaVigne (1997) compared the Washington, D.C. Metro to three other urban rail

transit systems and found that it had less crime than the other systems. She also compared subway station crime to crime in the areas above-ground. If the system had no influence on crime then the above-ground crime levels and station crime levels should be correlated. If the system design prevented crime, then there should be no relationship between station and above ground crime. LaVigne (1997) found that, except for assaults, ground level and station crime were not correlated. Although this is not a strong research design, it is the best evidence available that system design influences crime patterns.

To improve passenger confidence in the safety of the New York subway system, an intensive cleanup program was undertaken to remove graffiti from all train cars and stations. Rapid cleanup would deprive vandals of the benefit of seeing their graffiti (Sloan-Howitt and Kelling 1990). By treating the physical appearance of the system, it was hoped that this would make the public feel safe and bring more people into the system. More riders would increase the number of people watching out for each other, and this could drive down crime. This chain of events is expected according to the "broken-windows" hypothesis (Wilson and Kelling 1982). Sloan-Howitt and Kelling (1990) show that graffiti was virtually eliminated, and despite increased police attention to graffiti, arrests for this offense also declined.

A similar effort was carried out by the Victoria (Australia) transit system which includes trains, trams and buses. The Victoria program involved rapid repair and cleaning of vandalized equipment, along with stepped up police enforcement. Carr and Spring (1993) show that train availability increased 45 percent and reported crimes against persons declined 42 percent.

Another comprehensive program to clean up a problematic transit facility has been described by Felson and colleagues (1997). The title of their paper, "Redesigning Hell," suggests the state of disrepair into which the New York Port Authority Bus Terminal had fallen. Sixty-three interventions were made at the terminal, at about the same time. These included closing off spaces, improving shopping, cleaning, increased enforcement, and other measures to remove situations that facilitated offending or increase the number of patrons and their ability to watch each other. Although robberies and assaults declined in the station, they also declined in the surrounding area. Outside crime control efforts or diffusion of crime control benefits to the surrounding area may account for these parallel trends. Annual surveys of patrons that began with the cleanup in 1991 show declines in incivilities and disorder.

Vandalism against buses is another problem in transit systems. Poyner (1988) describes how the installation of CCTV on a portion of a bus fleet was followed by reduced vandalism throughout the fleet. There was also a public information campaign directed at the group of people most likely to be responsible for the damage, school children. Poyner (1988) attributes the diffusion of benefits from the targeted buses to the entire set of buses, to offenders' confusion over which buses had the CCTV. Unfortunately, this evaluation only describes trends in vandalism after CCTV was installed.

Kenney (1986) evaluated the effectiveness of Guardian Angel patrols at stations by comparing crime changes to control stations without these patrols. He found that these citizen patrols had no discernible impact on crime in the patrolled stations. This may be because the base rates of crime in the stations were too low to detect an effect (Kenney 1986).

Webb and Laycock (1992) also found no evidence that the Guardian Angels reduced crime in the London Underground. They did find that the installation of CCTV in London Underground stations reduced robberies 11 to 28 percent, relative to control stations without CCTV. Twenty-two months of data before CCTV installation and 26 months after installation at selected stations were compared.

On the whole, we have limited information about how to prevent incivilities and crime against transit. In part this is due to the difficulty in assessing system-wide designs and comprehensive changes. Selecting a control system and disentangling the effects of multiple interventions is very difficult. Rapid cleanup and repair to deprive offenders of the pleasure of seeing their graffiti appears to be effective, but the evidence to date is weak.

Attacks On Bus Drivers

The two evaluations of attacks on bus drivers provide evidence that these crimes can be reduced. The rise in robberies of bus drivers in the late 1960's and early 1970's prompted New York City officials, along with transportation officials in other U.S. cities, to remove accessible cash that was the target of the robbers. They required passengers to give exact fares and prohibited bus drivers from giving change. Fares were put in secure boxes. Chaiken, Lawless, and Stevenson (1974) reported a 90 percent reduction in bus driver robberies following these changes. The Stanford Research Institute (1970) reported similar results in its review of the effect of exact fare systems in 18 other cities (Clarke 1992, page 216).

If the target of the attack cannot be removed, then maybe it can be protected. A bus company in northern England used two approaches to protect its drivers from assaults by riders (Poyner and Warne 1988). The first was to simplify the fare system so

it would be less aggravating. They also installed protective screens around bus drivers. Assaults on drivers declined 90 percent following the installation of screens. Assaults on all employees fell during this period, but not as much as it fell for drivers (37 percent).

Fare Evasion

Transit systems suffer from people who try to enter without paying the correct fare. Fare evasion can simply mean jumping gates or moving through entries without paying, or it can involve the use of slugs in gates or ticket machines. Three evaluations examined the redesign of gates or ticket machines to curtail fare evasion. All three report evidence suggesting declines in this form of theft. Clarke (1993) reports an increase in ticket sales of 10 percent, relative to control stations where new automatic gates were not installed. Clarke, Cody and Matarajan (1991) show that one form of slug use was totally eliminated by modifying ticket machines so they would not accept a type of coin for which a slug could be substituted. This was a system-wide change so no control stations were available. Finally, Weidner (1997) gives results of the effect on fare evaders of the installation of new gates in the New York City subway. While arrests declined in the target station, they increased in adjacent control stations. Whether this was due to changes in police enforcement, displacement, or background trends cannot be determined from the evidence provided.

Two evaluations examined personnel changes to reduce fare evasion. Increases in ticket takers at a Canadian ferry terminal may have reduced fare evasion by 20 percent, although there were no control sites to assess background trends (DesChamps, Brantingham, and Brantingham 1992). A Dutch effort to reduce fare evasion in three cities decreased fare dodging by 18 to 78 percent. Authorities recruited over 1100 unemployed young people to monitor ticket use on the buses, trains and trams in the three cities. This report (vanAndel 1986) claims that there was also a 60 percent decline in assault on and harassment of patrons. Like the Canadian study, there was no control group.

Conclusions about Transportation System Prevention

Although there are several evaluations of crime prevention in transportation settings, we know relatively little about the effectiveness of these interventions. This is in part due to the variety of crime types that are applicable to transportation systems. It is also due to the number of settings (buses, trains, and stations) within the system, as well as the variety of victims (patrons, staff, and facilities). Thus a large number of studies are needed to learn what works to prevent crime in transit systems. However, there are methodological complications that make learning about crime prevention effectiveness quite difficult. Many of the systems are large and there are few, if any, plausible control settings are available to measure background trends. Places within systems are linked, so internal changes to part of a system can influence crime in other parts of the system. If untreated parts of the system are used as controls, diffusion of benefits or displacement effects can confound the findings. We cannot, therefore, identify, with reasonable certainty, any specific tactic against specific crimes, that can be said to "work" across similar settings in other cities.

Table 7-6: PUBLIC TRANSPORTATION FACILITIES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
LaVigne 1997	1	subway system design	Washington, DC metro subway	system design may prevent crime
Carr & Spring 1993	2	improved cleaning and vandalism repair; patrolling	public transportation system, Victoria, Australia	45% improvement in train availability. 42% reduction in crimes against persons
Felson et. al. 1997	3	63 different tactics implemented about the same time	Port Authority Bus Terminal, New York City	reduction in robberies & assaults but not compared to surrounding area;

				reductions in incivilities
Kenney 1986	3	Guardian Angels	subways	no detectable impact on crime
Poyner 1988	1	cctv	buses	steady decline in vandalism
Webb & Laycock 1992	3	cctv (and other tactics)	stations on London Underground	11% to 28% reduction in robberies
Chaiken, Lawless, & Stevenson 1974	2	exact fare requirement	buses in New York City	90% decline in robberies of bus drivers
Poyner & Warne 1988	2	protective screens for drivers	buses in Cleveland, Great Britain	90% reduction in assaults on drivers
Clarke 1993	3	automatic gates to prevent fare evasion	London Underground	10% increase in ticket sales
Clarke, Cody & Matarajan 1991	2	modification of ticket vending machines	London Underground	elimination of problem of slug use within 4 months of modification
DesChamps, Brantingham, & Brantingham 1992	2	increase in rush hour attendants to check tickets, training in fraud detection	ferry terminal	20% reduction in fare evasion rate
vanAndel 1989	2	recruiting over 1100 young unemployed people as public transit monitors	buses, metro trains and trams in 3 large cities in the Netherlands	18% to 72% decrease in fare dodging depending on city and mode of transport, 60% decline in attack or harassment victimizations
Weidner 1997	3	installation of new fare gates	stations on New York City subway	fare evasions declined in target station

PARKING LOTS AND GARAGES

Evaluations of crime prevention in parking lots and garages examined changes in people who watch cars. These people were often security guards, although one evaluation looked at placing a taxi business near the entrance to a parking garage to increase informal guardianship (Poyner 1991). Another set of interventions used close-circuit television to centralize watching.

Guards and Security Attendants

Four evaluations are available reporting on the effectiveness of adding security guards to parking lots. Four showed reductions in car-related crimes (Barclay et. al. 1996; Laycock and Austin 1992; Poyner 1994; and Poyner 1991) and one found no improvement (Hesseling 1995). Although these studies suggest auto thefts and thefts from automobiles might be prevented by increasing people who watch lots, there are two important caveats. Poyner (1991) notes that parking lot strategies that control access may curb thefts of vehicles, but may be ineffective at controlling thefts from vehicles. The failure of Hesseling (1995) to find a reduction in thefts from vehicles may be due to the way the guards were deployed. Thus, what the guards do may be as important as their deployment. Second, none of these studies examined personal violence against people using parking facilities. In conclusion, because of the mixed results of the evaluations, we do not know if guards or security attendants prevent crimes in parking lots.

Closed-Circuit Television

There are seven evaluations from Great Britain of the effects of CCTV on vehicle crimes (thefts of vehicles, thefts from vehicles, and damage to vehicles), but no evaluations of its effect on other crimes in parking facilities (Poyner 1992; Tilly 1993c). The weakest of the evaluations found no effect (Coventry lots, in Tilly 1993c). The other six evaluations found varying levels of decline in vehicle crimes. In the CCTV parking lots evaluated, thefts from vehicles declined 46 to 94 percent, and thefts of vehicles dropped 18 to 89 percent, depending on the evaluation. We do not know if these results can be replicated in the United States. There is no empirical basis for recommending CCTV to prevent parking lot violence. The results suggest that CCTV should be tested in high vehicle crime parking lots within the United States. Because of the lack of significance tests we must classify CCTV in parking facilities as having "unknown" prevention effectiveness.

Conclusions About Parking Facilities

Evaluations in parking lots and garages outside the United States consistently support the hypotheses that guards and CCTV reduce vehicle-related property crime. Though several CCTV studies had scientific methods scores of 3, they lacked of significance tests. Therefore, CCTV's effectiveness in parking lots is "unknown." These studies do not report on violent crimes in parking lots, including robberies and car-jacking. The highly crime-specific nature of intervention effectiveness suggests that we must be careful drawing inferences about the effectiveness of interventions to places and setting where they have not been tested.

Table 7-7: PARKING FACILITIES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Barclay et. al. 1996	3	security guards on bikes	commuter parking lot	53% reduction in car thefts/ month
Hesseling 1995	3	guards	parking area in Rotterdam	2% increase in thefts from automobiles relative to control
Laycock & Austin 1992	3	security attendant	parking area	52% to 60% in auto theft reduction
Poyner 1994	2	guard	parking area	Reduction in auto thefts. Amount

				cannot be estimated
Poyner 1991	3	restricting foot access, improved lighting, increased guardianship	parking garage	29% increase in thefts from vehicles, 35% reduction in thefts of vehicles
	3	cctv	parking lots	71% & 94% reduction in thefts from cars
Tilly 1993c	3	cctv	parking lots, Hartlepool, Great Britain	75% reduction in theft of autos, 60% reduction in theft from autos
	2	cctv	one parking lot, Hull, Great Britain	45% reduction in damage to autos, 89% reduction in theft of autos, and 76% reduction in theft from autos
	2	cctv	one parking lot, Lewisham, Great Britain	75% reduction in auto crimes
	3	cctv	one parking lot, Bradford, Great Britain	73% to 78% reduction in theft from autos, 49% to 75% reduction in thefts of autos
	2	cctv	one parking lot, Wolverhampton, Great Britain	18% reduction in thefts of autos, 46% reduction in thefts from autos
	2	cctv	5 parking lots, Coventry, Great Britain	no discernible pattern in auto crimes

AIRPORTS

Aircraft hijacking by armed passengers has been a problem since World War I. Wilkinson (1977) has documented the worldwide trends in this problem. From 1948 (when records were first kept) through 1957 there were 15 attempts worldwide and none involved aircraft originating in the United States. In the next decade there were 48 hijackings worldwide (23 of them North American originating flights). In 1968, the number of world-wide aircraft hijackings began an explosive climb. There were 38 that year, and 82 the next. In response, policy makers implemented a number of strategies, including treaties to ensure the return of hijackers and aircraft. By 1973, hijacking attempts had dropped to 22 worldwide and 2 in the United States (Wilkinson 1977).

Since several interventions were put into place over a short time period during the early 1970s, it is difficult to determine which tactics made the greatest contribution to the decline. Sky marshals (armed nonuniformed security guards) were assigned to selected flights beginning in 1970. To thwart parachuting from aircraft, modifications were made to the rear doors of Boeing 727's and DC 9's to prevent them from being opened in flight (Landes 1978). In early 1973, the U.S. and Cuba signed a treaty that required each country to extradite or punish hijackers (Landes 1978).

Landes (1978) attempted to determine the effectiveness of sky marshals and passenger screening. He used a time series analysis of 64 quarter years and 143 incidents. He also controlled for hijacking of aircraft originating from foreign airports to remove world-wide trends in skyjacking and attempted to remove the effects of the Cuba treaty. He provides evidence for an 82 percent decline in U.S. hijacking due to the combined effects of the Cuba treaty, sky marshals, and passenger screening. He then estimated the contribution of the three policies: screening was the cause of a decline of 45 percent, sky marshals created a 28 percent decline, and the remainder (9 percent) was probably attributed to the Cuba treaty.

Two other studies, using annual data for different time periods and weaker evaluation designs, also found large declines in aircraft hijacking in the United States following passenger baggage screening (Wilkinson 1977; Easteal and Wilson 1991). These studies did not attempt to estimate the effects of different hijacking programs.

The variation in aircraft hijacking from year to year and the virtually simultaneous implementation of multiple prevention methods at airports around the world make it difficult to come to definitive conclusions regarding any particular intervention. Nevertheless, the weight of the evidence supports the effectiveness of passenger screening.

These findings are important. First, they demonstrate the potential utility of opportunity blocking against highly determined offenders. Second, they illustrate some of the difficulties of evaluating place-focused prevention (multiple simultaneous interventions, detecting reductions in rare events, and the difficulty of finding control places). And third, they may have implications for other places.

What do these findings about the use of metal detectors to screen for weapons at airports tell us about their deployment at other places? These devices have been used to enhance the security of court buildings, schools, government offices, and public housing. Are they effective? From an empirical perspective, we can only say we do not know. Evaluations are scant and weak. A New York City study of the use of metal detectors found that weapon carrying in schools with metal detectors (n=19) was lower than in schools without the devices (n=96), but there were no differences in assaults within or outside these schools (Centers for Disease Control and Prevention 1993). This evaluation has a scientific methods score of four, and although there was a decline in risk-factors for violence, there was no significant decline in violence. In the residential places section we noted an evaluation of a multi-tactic intervention in a particularly troubled set of public housing buildings (Popkin, et. al. 1996). Metal detectors were a part of this program, but it is impossible to determine what, if any, influence they had because so many other things were implemented at the same time. We cannot, therefore, be confident about the transferability of this tactic to other, very different settings.

Table 7-8: AIRPORTS

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Easteal & Wilson. 1991	2	passenger screening with metal detectors	US Airports and originating flights	64% reduction in hijacking of passenger aircraft
Landes 1978	3	passenger screening with metal detectors	US Airports and originating flights	45% reduction in hijacking of passenger aircraft
	3	sky marshals		28% reduction in hijacking of passenger aircraft

Wilkinson 1977	3	passenger screening with metal detectors	airports	41% reduction in hijacking of passenger aircraft in US, 3% drop world-wide
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OPEN PUBLIC SPACES

The places considered in this section are open spaces in cities, including street corners and segments. Four types of interventions will be examined. The first is the control of problem offenders. The second is improved lighting. The fourth is the use of closed-circuit television (CCTV). Finally, we examine street closures and rerouting.

Controlling Problem Offenders

Two efforts to control public drinking as a means to reduce assaults and incivilities in downtown areas provide evidence that controlling problem offenders may be effective. Ramsay (1990; 1991) reports on the banning of public drinking in one English town. Comparing the year before and the year after the ban (with no control group) he found no changes in assaults, but surveys of people using the area suggest that there may have been a reduction in incivilities. A Swedish effort to reduce disorder at an annual festival reported a decline in drunkenness and disorderly conduct arrests following the prohibition of public drinking, banning high risk offenders, and the closing of a popular camping site (Bjor, Knutsson and Kuhlhorn 1992). This study compared arrests at the previous year's festival to arrests at the festival with the restrictions, without control area comparisons.

Lighting

Lighting campaigns seek to enhance the ability of people to provide protection for each other. In 1979, the predecessor agency of NIJ, the National Institute of Law Enforcement and Criminal Justice, reported on a review of 60 lighting evaluations. The authors of this review concluded:

"Is street lighting an effective approach in the reduction and deterrence of crime? The answer is inconclusive. The paucity of reliable and uniform data and the inadequacy of available evaluation studies preclude a definitive statement regarding the relationship between street lighting and crime." (Tien, et. al. 1979, page 93, emphasis in the original)

Almost twenty years later, we know little more about the effectiveness of lighting.

In the 1980's, a borough in London upgraded all of its street lighting. Atkins, Husain and Storey (1991) compared reported crimes the year before the relighting to the year following for 39 sections of the borough. No control areas were used, so background trends in crime cannot be assessed. No systematic changes in crime were detected. Surveys of residents of one area found no changes in perceptions of security.

A Scottish study of relighting in a Glasgow neighborhood and a small town near Glasgow found that there was a short term reduction in victimizations that varied from 32 percent to 68 percent, depending on how victimization was measured (respondent victimizations, victimization of respondents' children, victimization of other family members, victimization of friends, or car victimization). Reported crime dropped 14 percent. The evaluators compared a three-month period prior to relighting to a three-month period following (Ditton and Nair 1994). No control group was used and the results for the two neighborhoods were combined.

Finally, we need to consider three separate evaluations, with similar designs, undertaken by Painter (1994). She examined lighting improvements on two separate street segments and a footpath, all located in "crime prone" areas within London. Pedestrians were interviewed before and after the lighting improvement. All interviews were conducted after dark and were completed within 6 weeks of the relighting. No interviews were conducted in control areas. Substantial reductions in robberies, auto crimes, and threats were reported in two sites (86 percent, 79 percent). These crimes were eliminated in the third site, but the number of crimes before relighting was small so this could have been the result of other factors.

Not much has changed since Tien and his colleagues (1979) gave their critical assessment of the impact of lighting on crime. In part this is due to the lack of research on lighting, particularly in the United States. However, the limited research on lighting continues to use weak designs (typically without control areas) which fail to substantially reduce our uncertainty about the effect of lighting on crime. We may speculate that lighting is effective in some places, ineffective in others, and counter productive in still other circumstances. The problematic relationship between lighting and crime increases when one considers that offenders need lighting to detect potential targets and low-risk situations (Fleming and Burrows 1986). Consider lighting at outside ATM machines, for example. An ATM user might feel safer when the ATM and its immediate surrounding area are well lit. However, this same lighting makes the patron more visible to passing offenders. Who the lighting serves is unclear.

Closed-Circuit Television

Closed-circuit television (CCTV) enhances the ability of a designated guardian to watch people in an area and to call for police intervention if potential trouble is detected. This is supposed to increase the risks of offending, but only if the CCTV surveillance is well known to the people who use the area. This project was unable to locate any published scientific evaluations of the use of CCTV in urban areas of the United States.

Three CCTV evaluations have been reported in Great Britain (Brown 1995). As deployed, a set of video cameras are posted in center city areas and monitored at a central station. The cameras cover many, but not all locations in the target area. Finding locations with clear unobstructed views, year round, can be difficult. CCTV cameras were installed around the town center of Newcastle-upon-Tyne in late 1992 and early 1993. Using a time series of 23 months prior to the installation of cameras, four months during, and 14 months after, and comparing CCTV covered areas to uncovered areas in the same period, Brown (1995) found that burglaries declined by 18 percent, auto thefts dropped 9 percent, thefts from autos went down 11 percent, and other thefts declined 7 percent. No effect was found for robberies.

Brown (1995) used a similar design to assess the impact of CCTV in Birmingham. He compared reported crime 12 months before, two months during, and 30 months after installation to control areas. Unfortunately, no figures were provided with the reported charts, but visual inspection of the time-series charts provided suggests reductions in robbery, burglary, and thefts. Similar results were reported for another town center in Great Britain, King's Lynn. Four quarters of reported crime before installation were compared to seven quarters after. A control area was used. Again, the data was not given, but visual inspection of the charts suggests reductions in burglary, assaults, thefts from vehicles, and thefts of vehicles. Significance tests were not reported in any of these case studies.

The effectiveness of CCTV in open spaces is unknown due to the lack of significance tests. Given recent interest in the use of CCTV in the United States, this tactic should be given a high priority for rigorous evaluations. Absent evaluation results from installations in the United States, the level of uncertainty about CCTV effectiveness is too high to advocate its use except to test its effectiveness.

Street Closures

Research has suggested that areas with easy access have more crime than areas with street layouts that restrict access (White 1990; Beavon, Brantingham and Brantingham 1994). Oscar Newman (1982) reported on crime and its association with privately owned streets with limited access. He compared these streets in a St. Louis neighborhood to nearby publicly owned, free access streets and found that the private streets had less crime. In this section we will examine five evaluations that support the hypothesis that closing and rerouting automobile traffic can reduce crime.

In 1986 the citizens of Miami Shores, Florida (just outside Miami, in Dade County) voted to increase taxes to fund closing off 67 streets (Atlas and LeBlanc 1994). The closings took place between July 1988 and March 1991. The evaluation compared changes in reported crime within the town to the changes in the same crimes in the surrounding county and Miami. Mean 1986 and 1987 crimes (before installation) were compared to the mean number of reported crimes in 1991 and 1992 (Atlas and LeBlanc 1994). There were no significant changes in reported robberies and aggravated assaults within Miami Shores compared to the two control jurisdictions. Relative to changes in Dade County, reported burglaries significantly declined at least 8 percent. Larcenies and auto theft in Miami Shores also declined significantly, relative to changes in Miami and Dade County.

Newman (1996) reports the results of a street closure program in a Dayton, Ohio neighborhood. The Five Oaks neighborhood is a half-mile square area containing 2,000 homes on a grid street layout. Streets were closed off so that the area was subdivided into small areas and so one could not drive directly through the area. Newman (1996) summarized the City of

Dayton evaluation results. Police-reported crime statistics showed that crime in the city rose one percent, but that total crime in the target neighborhood declined 26 percent, and violent crime declined 50 percent. Significance tests were not reported. Citizen surveys reported that over half of the residents felt crime had declined. Newman also reports that housing values increased after having declined prior to the street closures.

Two efforts to curb prostitution activity in London neighborhoods used road closures and rerouting coupled with increased police enforcement. In the Finsbury Park area police had steadily increased enforcement for two years prior to changes in the street closures. However, with the changes in the streets, "Soliciting and curb-crawling virtually disappeared and the area was transformed from a noisy and hazardous 'red-light' district into a relatively tranquil residential area." (Matthews 1992, page 94). Reported crime declined 50 percent for the 12-month period after the street closures compared to the previous 12 months. Observations of the area suggest that most of the prostitutes left the area but did not displace to adjacent neighborhoods (Matthews 1992).

In the Streatham neighborhood of London, street closures were also used in conjunction with increased police enforcement. Matthews (1993) reports a decline in traffic flow along key streets. Although police enforcement was maintained, arrests of "curb-crawlers" seeking sexual services declined by two-thirds (comparing the first quarter of 1990, after the program, to the first quarter of 1988, before the program began). Interviews of residents suggests a decline in noticeable prostitution activity, although some of this activity may have shifted to the periphery of that area.

The final evaluation of street closures was a retrospective analysis of the Los Angeles Police Department's Operation Cul-De-Sac. In 1990 the Los Angeles Police Department installed traffic barriers on 14 streets in a South Central Los Angeles neighborhood with a high level of drug activity, shootings and homicides. Much of the violence was created by disputes over drug sales locations by local gang members. The barriers were designed to make the driveup purchase of drugs more difficult and prevent drive-by shootings. This effort was part of a larger law enforcement effort to suppress these crimes. Two years following the installation of the barriers, the barriers were abandoned and then removed as the police became embroiled in the controversy surrounding the Rodney King beating.

The evaluation of the Los Angeles Police Department project compared reported crimes in the neighborhood for four quarters before the barriers were installed, the eight quarters while they were being maintained, and 16 quarters after the program was abandoned (Lasley 1996). Reported crime for the four adjacent areas was also examined. If one uses the surrounding beats as control areas, the net effect of the installation of the barriers (before, compared to during) was that homicides decreased 65 percent. In fact, during the two years when the barriers were installed there was only a single killing in the target area. Once the barriers were no longer maintained and were removed (comparing the installed period, to the after period) homicides rose 800 percent, relative to the surrounding area killings. Total violent crimes (homicide, rape, street robbery, aggravated assault and purse snatching) declined from the pre-program period to the two years during the program (8 percent for the first year and 37 percent for the second year) and then rose again after the program fell into disuse. At the same time the surrounding areas remained relatively stable. Lasley attributes most of the decline in violent crime to changes in aggravated assaults. Significance tests were not reported for any of these comparisons.

Closing streets makes offenders' escapes more problematic. In the case of prostitution cruising and drive-by shootings, the offenders are likely to follow a circular driving pattern in their search for targets. By making circular driving patterns more difficult and increasing the chances offenders will find themselves at the end of a dead end street, criminal behavior may be thwarted.

The street closure evaluations used moderately strong designs and their conclusions are consistent with theory and prior research. This gives us confidence that this approach to curbing crime should be classified as "promising." In at least three of the programs (the two London prostitution cases and the Los Angeles drive-by shooting case), the street closures were undertaken along with police crackdowns. Matthews (1992) hypothesizes that street closures and enforcement may be more effective when used together than when used separately and enforcement should be used prior to street changes. This opportunity-blocking tactic for controlling crime in open urban areas deserves more attention by, particularly since it might reduce violence under some circumstances.

Conclusions for Open Urban Places

Four types of tactics were considered in this section. There is limited evidence that controlling offenders, particularly public drinking, might be useful. However, the evaluations are small in number and weak in design, leaving its effectiveness unknown.

Lighting has received considerable attention. Yet, evaluation designs are weak and the results are mixed. We can have very little confidence that improved lighting prevents crime, particularly since we do not know if offenders use lighting to their advantage. In the absence of better theories about when and where lighting can be effective, and rigorous evaluations of plausible lighting interventions, we cannot make any scientific assertions regarding the effectiveness of lighting. In short, the effectiveness of lighting is unknown.

The installation of CCTV in urban areas might be a fruitful area for research, but its effectiveness is unknown. Though several evaluations had scientific methods scores of 3, the absence of significance tests limits what we can claim for the effectiveness of this tactic. We cannot recommend the adoption of this tactic, except for purposes of testing.

Finally, compared to the other tactics examined, street closure evaluations have been conducted with greater rigor. We also have evaluation evidence that is consistent with theory and research. This tactic appears to be promising and deserves greater attention, particularly in high crime areas.

Table 7-9: OPEN PUBLIC PLACES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Bjor, Knutsson, & Kuhlhorn 1992	2	ban on public drinking & high risk offenders & closing of a parking site	Open spaces of downtown area, Sweden	8% reduction in drunkenness arrests 64% reduction in disorderly conduct arrests
Ramsay 1991 Ramsay 1990	2	ban on public drinking	Open spaces of a British downtown area	No change on assaults 33% reduction in insults from strangers
Atkins, Husain, and Storey. 1991	2	lighting	39 sections of London	no systematic effect of lighting
Ditton & Nair 1994	2	lighting	Glasgow neighborhood	32% to 68% reduction in victimizations. 14% reduction in reported crime
Painter 1994	2	lighting	London	86% reduction in street robberies, auto crimes, and threats
	2	lighting	London	78% reduction in street robberies, auto crimes, and threats
	2	lighting	London	100% reduction in street robberies, auto crimes, and

				threats (base rates too small to be meaningful)
Brown 1995	3	cctv	town center, Newcastle upon Tyne Great Britain	decline in burglary (18%), criminal damage (9%), auto theft (7%), theft from auto (11%), other theft up (7%).
	3	cctv	town center, Birmingham, Great Britain	charts suggest reductions in robbery, burglary, and theft but do not allow calculation of reductions
	3	cctv	town center, King's Lynn, Great Britain	charts suggest reductions in burglary, assaults, thefts from autos, and thefts of autos but do not allow calculation of reductions
Atlas, and LeBlanc 1994	3	street closures	Florida town	8% decline in burglary, drops in larceny and autotheft. No change in robbery or aggravated assault
Lasley 1996	3	street barricades	Los Angeles, CA	65% reduction in homicides
Matthews 1992	2	street closures & rerouting	Finsbury Park, London	reduction in prostitution activity
Matthews 1993	2	street closures & rerouting	Streatham, London	reduction in prostitution activity
Newman 1996	3	street closures	Dayton, OH	26% reduction in reported crime and 50% reduction in violent crime

PUBLIC COIN MACHINES

Parking meters and public telephones are the principal subject of this section. These devices occupy small but important places

in cities and are subject to fraud and vandalism. The six studies we will examine here show reductions in property offenses due to changes in the physical structure (target hardening) or operations of these devices.

Two evaluations examined the effectiveness of strengthening the material used in public telephone cash boxes. Target hardening was supplemented by other prevention measures in both instances. In Britain, electronic monitoring of phone booths helped identify attacks quickly and act as a deterrent (Barker and Bridgeman 1994). The evaluators reported a 49 percent reduction in attacks on cash compartment attacks as a result of these changes. Australian evaluators claimed a comparable reduction in vandalism incidents following a combined target hardening and rapid repair program (Challinger 1991). Both studies have weak designs due to their absence of control places.

Fraudulent use of public telephones has been addressed in two studies. In both, new systems were installed that prohibited calls that prior analysis suggested were likely to be fraudulent. At the New York Port Authority Bus Terminal, international calls were blocked, keypads were disabled to prevent routing calls through outside automated systems, and the number of available phones were reduced and relocated (Bichler and Clarke 1997). Calls and number of minutes of phone use declined from the pre-intervention period to the post-intervention period. This is indirect evidence of a drop in fraudulent phone use because one cannot distinguish between reduced legitimate phone use due to increased inconvenience to users and reduced illegitimate phone use.

LaVigne (1994) evaluated the effects of restricting inmate access to phones at Rikers Island, a New York City jail facility. The Department of Corrections restricted inmate phone use to control the costs of fraudulent calls. Not only did phone costs go down, but phone related fights among inmates declined, controlling for overall trends in fights and changes in inmate population.

Finally, Decker (1972) examined the effectiveness of a target hardening method to prevent slug use in parking meters (i.e., installation of meters that reject certain types of slugs and display the last coin inserted). Rates of slug use were measured in 10 areas of New York. Slug use declined in all areas. In another study, Decker (1972) looked at the effectiveness of warning labels on parking meters. He found short-term reductions in slug use for some labels, but overall the labels were less effective than meters that reject slugs.

These evaluations imply that target hardening is a promising method for reducing theft and vandalism. When evaluators looked for displacement effects, they were not found. LaVigne's (1994) evaluation suggests that illegal use of some facilities might stimulate other more serious criminal behavior and blocking minor offenses might reduce other more serious crimes. The Rikers Island evaluation is an illustration of the possible diffusion of crime prevention benefits (Clarke and Weisburd 1994).

Table 7-10: PUBLIC COIN MACHINES

STUDY	SCIENTIFIC METHODS SCORE	TACTIC	SETTING	RESULTS
Barker & Bridgeman 1994	2	publicity, target hardening, electronic monitoring	public telephones in Great Britain	49% reduction in vandalism/theft
Wilson 1988; Challinger 1991	2	hardened coin boxes, and other changes, and rapid repair	Australian public telephones	48% reduction in vandalism
Bichler & Clarke 1996	3	removing international dialing capacity and disabling	Port Authority Bus Terminal, Manhattan	37% reduction in calls and 72% reduction in minutes of phone use. No

telephone
keypads to
prevent pay
phone toll
fraud

displacement found

LaVigne 1994 3 restrictions on inmate phone use and phone system Rikers Island, New York 46% reduction in telephone related fights. 49% reduction in phone costs

Decker 1972 4 installation of slug rejecting parking meters & warning signs on parking meters parking meters in New York reduction in slug use due to changes in meters. Short term reduction with two labels, but no long term effect of any labels

SCIENTIFIC CONCLUSIONS

Blocking crime opportunities at places can reduce crime, under some circumstances. Over 90 percent of the interventions reported evidence of crime reduction following the installation of an opportunity blocking tactic. This evidence is encouraging but it must be tempered by three considerations.

First, we know little about the place- and crime-specific effects of these tactics. That there is a great deal of uncertainty about what works, at which places, against which crimes, should not distract us from the broader finding that opportunity blocking tactics at places can be productive. We will address specific tactics below.

Second, 94 percent of these evaluations are case studies of a very few sites, typically a single site. We cannot treat the 99 interventions as a random sample of all interventions of this type. These may have been evaluations of programs that were far more likely to succeed than is typical. Nevertheless, authors of many of the evaluations asserted that their places were hotspots of crime and had resisted other interventions, such as police enforcement. Thus, the interventions may have tackled tougher problems than would be found at the average place.

Third, many of the evaluations studied the effect of multiple interventions implemented at about the same time. Even when the effects of a single tactic were identified, it was sometimes reported that other changes had occurred that could confound the evaluation results. Thus we might learn that crime was prevented, but we do not know what caused the prevention. The large number of multiple interventions deserves some explanation. Many of the efforts evaluated were the result of some form of problem-solving process in which a specific crime problem was analyzed and a set of appropriate solutions were implemented. This must be contrasted with efforts undertaken to test the efficacy of a particular prevention measure in a particular setting. Problem-specific interventions may have a greater likelihood of success than generic interventions, but we may have more difficulty learning from them. Later we will return to the subject of problem-solving and situational crime prevention.

Fourth, the scientific rigor (as shown by the scientific methods score) supporting the conclusions is usually moderate at best, and is frequently weak. Forty-three percent of the studies did not use control places or measure crime for a minimal number of pre-intervention time periods. Only 6 percent of the evaluations compared the same intervention in at least 20 places and used control places. There were only two randomized controlled experiments among the studies examined. Often evaluators did not report significance levels for crime reductions, so we cannot determine the chances that the results were due to random changes in crime. In summary, a typical evaluation of a place-focused intervention involves a before-after comparison of a prevention tactic at a single location, compared to a roughly similar location or the surrounding area.

The Effects of Displacement are Limited

There is little reason to believe that side effects from place-focused efforts are greater than the intentional effects. Further, some of these side effects enhance prevention, rather than undermine it. There are two side effects: displacement of crime and diffusion of prevention benefits.

One reason for community resistance to place-focused prevention (or any area specific tactic) is the fear of the displacement of crime from the target places to other, presumably safer, locations nearby. Displacement can take on a number of forms. Offenders can change locations. They can change the times of offending. They can change the target of their criminal behavior. They can adopt new behaviors to attack the same targets. And they can switch the type of crime they commit. Fear of displacement is often based on the assumption that offenders are like predatory animals (they will do what ever it takes to commit crimes just as a rat will do whatever it takes to steal food from the cupboard).

In the last 10 years there have been four reviews of the empirical evidence and theoretical underpinnings for displacement. Theoretical explorations based on a rational choice perspective (Cornish and Clark 1986) find no basis for believing offenders always completely displace if they cannot attack their favorite targets (Cornish and Clark 1987; Barr and Pease 1990; Eck 1993; Barnes 1995; Bouloukos and Farrell 1997). Reviews of empirical studies examining place-focused prevention, police enforcement, and other preventive tactics in the United States, Canada, Great Britain, continental Europe, and Australia, find that there is often no displacement, but when displacement occurs it does not overwhelm other gains from blocking crime opportunities (Cornish and Clark 1987; Barr and Pease 1990; Eck 1993; Hesselning 1995). There is no evidence to suggest that these interventions increases crime by displacing it. There have been only a very few examples where something close to 100 percent displacement has been observed (for example, 100 crimes are prevented at one set of targets, but there is an increase of 100 crimes at similar targets). Displacement far less than 100 percent is not uncommon (for example, 100 crimes are prevented against one set of targets but there is an increase of 30 crimes against other targets, yielding a net reduction of 70 crimes). But usually, evaluators who have looked for empirical evidence of displacement have found little evidence of displacement. Concern about displacement is usually based more on pessimism than empirical fact.

It is possible that more displacement would be found if evaluators were more diligent in their search for it. Most prevention evaluations do not report on possible displacement effects and when they do, the evidence used is almost always weaker than the evidence used to support the main findings. Still, if the evidence for limited displacement is weak, the evidence for large amounts of displacement is even weaker.

Prevention Benefits Can Spread

Overlooked in our concern about displacement is the possibility of just the opposite effect, diffusion of crime prevention benefits (Clarke and Weisburd 1994). For example, Scherdin (1992) reported that when magnetic tags were put in books in a university library, book theft declined. But so did the theft of audio and video tapes which were not tagged. Thieves apparently were unaware of which items were protected. We have noted several other examples of possible diffusion of benefits effects in the evaluations examined in this chapter (Felson et. al. 1997; LaVigne 1994; Masuda 1992; Poyner 1988). Evidence for diffusion of benefits is weaker than evidence against displacement, largely because few people have looked for it. Nevertheless, this possibility cannot be rejected on empirical or theoretical grounds. In fact, there are good theoretical reasons to believe diffusion of benefits might be common. Diffusion is the flip side of the coin of crime contagion. Contagion suggests that when offenders notice one criminal opportunity they often detect similar opportunities they have previously overlooked. Crime then spreads. The broken-windows theory (Wilson and Kelling 1982) is an example of a contagion theory. Thus under some circumstances offenders may be uncertain about the scope of prevention efforts and avoid both the blocked opportunities and similar unblocked opportunities. When this occurs, prevention may spread.

There is Much Uncertainty About Place- and Crime-Specific Tactics

Table 7-11 summarizes the place-specific findings described in detail in the body of this chapter. Each evaluated intervention was put into one of four categories. Tactics that "work" had to have two or more positive studies with a scientific methods score of 3 or more and had to report the statistical significance of the findings. Only one tactic, nuisance abatement to control drug dealing and related crime at private rental places, received this classification.

To be classified as "does not work" an intervention had to meet the same qualifications as "works" but the findings reported no relationship between the intervention and crime. The scientific methods used were insufficient to detect tactics that did not work, so we have no tactics in this category. With improved knowledge from more rigorous evaluations some of the tactics in the "unknown" category might move into this category. Most tactics may be effective at some type of place and against particular crimes, but it is unlikely that all tactics are effective at all places against all crimes. The absence of tactics in the

"does not work" category reveals our ignorance.

"Promising" tactics had to have at least one evaluation with a scientific methods score of 3 that used significance tests, and showed that crime declined. If significant tests had been reported some tactics of "unknown" effectiveness might have been classified as "promising." Seven interventions had sufficient scientific evidence to be classified as "promising." Putting metal detectors in this category reveals the limits of the application of standard social science research methods. Few would question the efficacy of metal detectors and passenger screening to prevent aircraft hijacking, but because this tactic has not been widely studied and many of the studies use weak research methods, we cannot put this tactic in the "works" category. We can be far less certain about its effectiveness in other settings. Street closures may be another tactic that is underrated because of a lack of rigorous evaluations, particularly the absence of significance tests.

The "unknown" category contains the majority of interventions. Many of these interventions had multiple studies showing positive effects, but the evaluations had scientific methods scores less than 3, or did not report significance test results. Examples of these tactics include CCTV in open spaces and parking lots, and EAS in retail stores. Other tactics had several weak studies reporting conflicting results. Lighting in open areas is an example of this type of tactic. Finally, some tactics may not prevent crime. Cameras were found to be ineffective at preventing robberies of convenience stores in a single rigorous test. In a less rigorous analysis, cameras were found to be unrelated to bank robberies.

Clearly there is much to learn if we are to develop a set of well-tested interventions that can be applied to specific problems. Most cells in Table 7-11 empty and the places listed are only a small set of places with crime problems. Even when we have tactics that work or look promising, they have only been tested against a limited set of crimes.

Table 7-11: SUMMARY OF PLACE SPECIFIC-FINDINGS

	Works	Does Not Work	Promising	Unknown
Residential	nuisance abatement			target hardening restricting movement guards CCTV cocoon watch property marking
Commercial				
stores			multiple clerks store design	EAS CCTV target hardening frequent inventory counts prohibiting offenders electronic monitoring ink tags guards cameras restricting movement
banking & money				cameras target

handling

hardening
guards

bars &
taverns

server
training

Transport

public
transportation

removing
targets
rapid cleanup
design
informal
watching

parking lots

CCTV
guards
restricting
movement

airports

metal
detectors
guards

**Public
Setting**

open spaces

street
closures

CCTV
prohibiting
offenders
controlling
drinking
lighting

public
facilities

target
hardening

removing
targets
signs

Situational Crime Prevention and Problem-Solving are Promising

This chapter has described what we have learned about the effectiveness of specific tactics to prevent crimes at specific types of places. It is based on the assumption that if know the type of place and the type of crime, we should be able to recommend a specific tactic that can prevent crimes of this type and this place. We have seen limited evidence that this assumption is valid.

There is another approach to addressing crime problems, however, that may also be valid. Rather than look for a generic solution to a specific crime problem at a place, one could undertake a thorough examination of the problem and then craft a unique set of interventions to address this problem. Such an approach is advocated by both situational crime prevention (Clarke 1992) and problem-oriented policing (Goldstein 1990). Many of the evaluations examined multiple simultaneous interventions that addressed specific problems at places. In these projects the selection of tactics was preceded by some form of crime analysis. Their evaluations are examinations of the effectiveness of problem-solving and situational crime prevention. Additionally, one of the two randomized experiments was a study of problem-solving (scientific methods score=5). Stores in the treatment groups did not get a standard intervention, but had an on-site diagnosis and a recommendation of a set of tactics that fit the circumstances (Crow and Bull 1975). Repeat victimization evaluations (Anderson, Cheery and Pease 1995; Forrester, Chatterton and Pease 1988) are also a form of problem-solving because the complex interventions were based on site-specific analysis (both with scientific methods scores=3). It is difficult to determine how many of the studies reviewed in this

chapter should be considered as problem-solving or situational crime prevention efforts, but almost half provide evidence they can be interpreted in this light. This implies that we have relatively strong evidence for the effectiveness of problem-solving and situational crime prevention. At minimum, these complementary strategies are a promising approach to crime prevention.

EFFECTIVENESS OF DOJ PROGRAMS

There is no single program within the Department of Justice that funds place-focused prevention. Instead, place-focused prevention tactics may be scattered throughout a variety of program areas. Within the Byrne Formula Grant Program, place-focused tactics may be funded under the domestic drug control, community crime prevention, property crime prevention, law enforcement effectiveness, and public housing purpose areas. These areas comprises \$151.8, or about 8 percent of all Byrne Funds for fiscal years 1989 through 1994 (Dunworth, Haynes and Saiger 1997). We do not know what proportion of these funds actually went to place-focused tactics, but it is probably very small. Within the Local Law Enforcement Block Grant Program for 1996 through 1997, \$50 million has been allocated to security measures and crime prevention. This comprises about 14 percent of the program total. Once again, we cannot determine how much of these funds go to place-focused crime prevention.

Programs to foster problem-solving and situational crime prevention efforts at places may be effective. The NIJ sponsored the earliest research on problem-solving in Madison, Wisconsin (Goldstein 1990) and Newport News, Virginia (Eck and Spelman 1987). The Bureau of Justice Assistance has funded a number of programs that applied problem-solving, including the Problem-Oriented Approach to Drug Enforcement, the Systems Approach to Crime and Drug Prevention, and the Comprehensive Gang Initiative. The COPS program, with its focus on the police problem-solving with communities, could make good use of place-focused crime prevention. Improving the ability of police and communities to identify and analyze problems and then craft effective prevention methods to alleviate these problems may improve police effectiveness.

Though police problem-solving has received much attention in the United States, the police are not the only social institution that uses problem-solving to prevent crime problems. Improving the ability of small businesses, social organizations, community groups, and non-criminal justice public agencies to craft problem-specific solutions to crime problems would have the effect of democratizing crime prevention. Two types of knowledge are required for such efforts. First, people addressing crime problems at places must know how to go about identifying problems, analyzing the causes of problems, crafting feasible solutions, and determining if the problems have declined. Second, these people need knowledge about what place-focused prevention have been tried and which have been found to be effective. Congressional support for developing both sets of knowledge might improve the ability of private and public institutions to prevent crime.

To the extent that Department of Justice program funds are used to support nuisance abatement to prevent drug dealing and related crime, these funds are probably being used in an effective manner. The Bureau of Justice Assistance has singled out three programs (Boston's Safe Neighborhood Initiative, Lansing's Neighborhood Reclamation program, and Los Angeles's FALCON Narcotics Abatement Unit) involving nuisance abatement as particularly innovative (Bureau of Justice Assistance 1995).

Nuisance abatement points out a very important fact about place-focused prevention. Most place-focused prevention takes place at privately owned locations. If these owners do not employ prevention measures at their places, then mechanisms are required to induce them to undertake relevant prevention measures. Nuisance abatement provides a threat in order to compel the installation of prevention. A positive alternative is landlord training. Landlord training programs provide information to landlords to help them manage their properties and prevent drug dealing. Unfortunately, this positive approach has not been evaluated so we do not know how effective it is, either in absolute terms or relative to nuisance abatement.

IMPROVING EFFECTIVENESS THROUGH EVALUATION AND RESEARCH

Providing citizens and businesses, as well as local governments, with scientifically based information on crime prevention may be more productive than directly funding such programs. Such information can only be provided by a program of rigorous research.

What should a research program look like? First, it must enlist the active participation of the people and organizations that own and control places. Some basic research can be undertaken using police records, other public data bases, and surveys. Most systematic evaluation and experimentation involving changes to the characteristics of places will require the cooperation of the businesses and property owners.

Second, a place-focused research and evaluation program should build a body of theoretically sound and rigorously tested

interventions. The program should address six questions:

1. Where is each type of crime most likely to occur?
2. What place characteristics protect places from crime or facilitate crime?
3. What innovative prevention tactics come from problem-solving and situational crime prevention efforts?
4. What methods for analyzing problems and developing prevention tactics are particularly useful for local decision makers?
5. Which tactics are found effective, based on impact evaluations with scientific methods scores not less than 3?
6. Of those tactics that appear promising based on impact evaluations in single sites, which survive multi-site evaluations with scientific methods scores of 4 and 5?

The Drug Market Analysis Project (DMAP) is a useful example of how demonstration, research and evaluation can work together. In five cities (Jersey City, Hartford, Pittsburgh, Kansas City, and San Diego) NIJ funded the development of advanced computer mapping. These efforts improved police ability to analyze their crime and drug problems and they supported basic research into drug market places and rigorous evaluations of interventions to control drug dealing.

DMAP also addressed another research priority. A place-focused research program should foster improvements in scientific methods used in evaluations. All evaluations should employ control groups or interrupted time-series designs, unless there are overwhelming reasons why such controls cannot be employed. Further, significance tests and effect sizes should be reported. NIJ's new Crime Mapping Research Center has the potential to expand on what was learned through DMAP and to extend our knowledge of effective place-focused tactics.

Special efforts need to be made to address side effects: displacement and diffusion of benefit. These side effects can contaminate control groups and confound evaluation results. If crime displaces into control places then program effects can be overestimated. If crime prevention diffuses into control places then program effects will be underestimated. In neither case can diffusion or displacement effects be estimated. Evaluation protocols for separating control places and displacement/diffusion places need to be required for all federally funded research. Additionally, these side effects should be the subject of research to determine the conditions under which they are most likely to occur and what can be done to reduce displacement and facilitate diffusion.

Several place-focused interventions should be given priority for testing to determine if they are effective at controlling violence. These include street closures around retail drug markets, CCTV at locations that are hotspots for robberies and assaults, landlord training programs to curb drug related violence in apartment buildings, and metal detectors in schools and public housing with high violent crime rates. Research into the relationship between lighting and violent crime needs to be conducted. Such research should examine how offenders use lighting, the circumstances under which lighting facilitates crime, and the conditions under which lighting is associated with low crime rates. Evaluations could then be undertaken at places where this earlier research suggested that lighting improvements might be effective. Finally, studies should examine how repeat victimization, repeat crime places, and repeat offenders are related.

REFERENCES

Allatt, Pat

1984 Residential security: Containment and displacement of burglary. *Howard Journal of Criminal Justice*. 23:99-116.

Anderson, David, Sylvia Chenery, and Ken Pease

1995a Biting Back: Tackling Repeat Burglary and Car Crime. Crime Detection and Prevention Series Paper 58. London: Home Office.

Anderson, David, Sylvia Chenery, and Ken Pease

1995b Preventing repeat victimizations: A report on progress in Huddersfield. Home Office Police Research Group Briefing

Note 4/95. London: Home Office.

Atkins, Stephen, Sohail Husain, and Angele Storey

1991 The Influence of Street Lighting on Crime And Fear of Crime. Crime Prevention Unit Paper 28. London: Home Office.

Atlas, Randall and William G. LeBlanc

1994 The impact on crime of street closures and barricades: A Florida case study. Security Journal. 5:140-45.

Bamfield, Joshua

1994 Electronic article surveillance: Management learning in curbing theft. In Martin Gill (ed.) Crime at Work: Studies in Security and Crime Prevention. Leischester: Perpetuity Press.

Barclay, Paul, Jennifer Buchley, Paul J. Brantingham, Patricia Brantingham, and Terry Whinn-Yates

1996 Preventing auto theft in suburban Vancouver commuter Lots: Effects of a bike patrol. In Ronald V. Clarke (ed.) Preventing Mass Transit Crime. Crime Prevention Studies. Vol. 6. Monsey, NY: Criminal Justice Press.

Barker, Mary and Cressida Bridgeman

1994 Preventing Vandalism: What Works? Crime Detection and Prevention Series paper 56. London: Home Office.

Barnes, Geoffrey C.

1995 Defining and optimizing displacement. In John E. Eck and David Weisburd (eds.) Crime and Place. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Barr, Robert and Ken Pease

1990 Crime placement, displacement, and deflection. In Michael Tonry and Norval Morris (eds.), Crime and Justice: A Review of Research, Vol. 12. Chicago, IL: University of Chicago Press.

Beavon, Daniel J.K., P.L. Brantingham and P.J. Brantingham

1994 The influence of street networks on the patterning of property offenses. In Ronald V. Clarke (ed.). Crime Prevention Studies. Vol. 2. Monsey, NY: Criminal Justice Press.

Bellamy, Lisa C.

1996 Situational crime prevention and convenience store robbery. Security Journal. 7:41-52.

Bichler, Gisela and Ronald V. Clarke

1996 Eliminating pay phone toll fraud at the Port Authority buss terminal in Manhattan. In Ronald V. Clarke (ed.) Preventing Mass Transit Crime. Crime Prevention Studies. Vol. 6. Monsey, NY: Criminal Justice Press.

Bjor, Jill, Johannes Knutsson, and Eckhart Kuhlhorn

1992 The celebration of midsummer eve in Sweden: A study in the art of preventing collective disorder. Security Journal. 3:169-74.

Block, Richard and Carolyn Block

1995 Space, place and crime: Hot spot areas and hot place of liquor-related crime. In John E. Eck and David Weisburd (eds.)

Crime and Place. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Bouloukos, Adam C. and Graham Farrell

1997 On the displacement of repeat victimization. In Graeme Newman, Ronald V. Clarke, and S. Giora Shoham (eds.), *Rational Choice and Situational Crime Prevention: Theoretical Foundations*. Dartmouth, NH: Dartmouth University Press.

Brantingham, Patricia L. and Paul J. Brantingham

1981 Notes on the geometry of crime. In Paul J. Brantingham and Patricia L. Brantingham (eds.), *Environmental Criminology*. Beverly Hills, CA: Sage.

Brown, Ben

1995 CCTV in Town Centres: Three Case Studies. Crime Detection and Prevention Series Paper 68. London: Home Office.

Bureau of Justice Assistance

1995 Ten Years of Innovation: Pioneering BJA Programs. Washington, DC: Bureau of Justice Assistance.

Burrows, John and Martin Speed

1996 Crime analysis: Lessons from the retail sector. *Security Journal*. 7:53-60.

Carr, Kerri, and Geoff Spring

1993 Public transport safety: A community right and a communal responsibility. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 1. Monsey, NY: Criminal Justice Press.

Centers for Disease Control and Prevention

1993 Violence-related attitudes and behaviors of high school students -- New York City, 1992. *Morbidity and Mortality Weekly Report*. 42: 773-77.

Chaiken, Jan M., Michael W. Lawless, and Keith A. Stevenson

1974 Impact of Police on Crime: Robberies on The New York City Subway System. R-1424-NYC. New York: The New York City Rand Institute.

Challinger, Dennis

1991 Less telephone vandalism: How did it happen? *Security Journal*. 2:111-19.

Challinger, Dennis

1996 Refund fraud in retail stores. *Security Journal*. 7:27-35.

Chatterton, Michael R. and Samantha J. Frenz.

1994 Closed-circuit television: Its role in reducing burglaries and the fear of crime in sheltered accommodation for the elderly. *Security Journal*. 5:133-39.

Clarke, Ronald V. ed.

1992 *Situational Crime Prevention: Successful Case Studies*. Albany, NY: Harrow and Heston.

Clarke, Ronald V.

1993 Fare evasion and automatic ticket collection in the London underground. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 1. Monsey, NY: Criminal Justice Press.

Clarke, Ronald V.

1995 Situational crime prevention. In Michael Tonry and David P. Farrington (eds.) *Building a Safer Society: Strategic Approaches to Crime Prevention*. Crime and Justice. Vol. 19. Chicago, IL: University of Chicago Press.

Clarke, Ronald V., Ronald Cody, and Mangai Natarajan

1994 Subway slugs: Tracking displacement on the London underground. *British Journal of Criminology*. 34:122-38.

Clarke, Ronald V., Simon Field, and Gerry McGrath

1991 Target hardening of banks in Australia and displacement of robberies. *Security Journal*. 2:84-90.

Clarke, Ronald V. and Ross Homel

in press "A revised classification of situational crime prevention techniques." In Steven P. Lab (ed.), *Crime Prevention at the Crossroads*. Cincinnati, OH: Anderson.

Clarke, Ronald V. and Gerry McGrath

1990 Cash reduction and robbery prevention in Australian betting shops. *Security Journal*. 1:160-63.

Clarke, Ronald V. and David Weisburd

1994 Diffusion of crime control benefits: Observations on the reverse of displacement. In Ronald V. Clarke (ed.), *Crime Prevention Studies*. Vol. 2. Monsey, NY: Willow Tree Press.

Clifton, Wayland, Jr.

1987 Convenience store robberies in Gainesville, Florida: An intervention strategy by the Gainesville Police Department. Gainesville, FL: Gainesville Police Department. Photocopy.

Cohen, Lawrence E. and Marcus Felson

1979 Social change and crime rate trends: A routine activity approach. *American Sociological Review*. 44:588-605.

Coleman, Alice

1985 *Utopia on Trial*. London: Hilary Shipman, Ltd.

Cornish, D. and R. V. Clarke

1986 *The Reasoning Criminal*. New York: Springer-Verlag.

Cornish, D. and R. V. Clarke

1987 Understanding crime displacement: An application of rational choice theory. *Criminology*. 25:933-947.

Crow, W.J., and J.L. Bull

1975 Robbery Deterrence: An Applied Behavioral Science Demonstration--Final Report. La Jolla, CA: Western Behavior Sciences Institute.

Crow, W.J., and Rosemary J. Erickson

1984 Cameras and Silent Alarms: A study of Their Effectiveness as a Robbery Deterrent. Jackson Hole, WY: Athena Research Corporation.

DesChamps, Scott, Patricia Brantingham, Paul Brantingham

1992 The British Columbia transit fare evasion audit. In Ronald V. Clarke (ed.) *Situational Crime Prevention: Successful Case Studies*. New York: Harrow and Heston.

Decker, John F

1972 Curbside deterrence: An analysis of the effect of a slug rejection device, coin view window and warning labels on slug usage in New York City parking meters. *Criminology*. 10:127-42.

DiLonardo, Robert L.

1996 Defining and measuring the economic benefit of electronic article surveillance. *Security Journal*. 7:3-9.

DiLonardo, Robert L. and Ronald V. Clarke

1996 Reducing the rewards of shoplifting: An evaluation of ink tags. *Security Journal*. 7:11-14.

Ditton, Jason and Gwyneth Nair

1994 Throwing light on crime: A case study of the relationship between street lighting and crime prevention. *Security Journal*. 5:125-32.

Dunworth, Terence and Aaron J. Saiger

1994 *Drugs and Crime in Public Housing: A Three City Analysis*. Washington, DC: National Institute of Justice.

Dunworth, Terence, Peter Haynes, and Aaron J. Saiger

1997 *National Assessment of the Byrne Formula Grant Program*. Research in Brief. Washington, DC: National Institute of Justice.

Dwyer, Jim

1991 *Subway Lives: 24 Hours in the Life of the New York City Subway*. New York: Crown.

Easteal, Patricia Weiser and Paul R. Wilson

1991 *Preventing Crime on Transport*. Canberra: Australian Institute of Criminology.

Eck, John E.

1993 The threat of crime displacement. *Criminal Justice Abstracts*. 25:527-46.

Eck, John E.

1994 *Drug markets and drug places: A case-control study of the spatial structure of illicit drug dealing*. Unpublished Ph.D. dissertation, University of Maryland, College Park.

Eck, John E.

1995 A general model of the geography of illicit retail marketplaces. In John E. Eck and David Weisburd (eds.) *Crime and Place*. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Eck, John E. and William Spelman

1987 *Problem-solving: Problem Oriented Policing in Newport News*. Washington, DC: Police Executive Research Forum.

Eck, John E. and Julie Wartell

1996 *Reducing Crime and Drug Dealing by Improving Place Management: A Randomized Experiment*. Report to the San Diego Police Department. Washington, DC: Crime Control Institute.

Eck, John E. and David Weisburd

1995 *Crime and Place*. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Eckblom, Paul

1987 *Preventing Robberies at Sub-Post offices: An Evaluation of a Security Initiative*. Crime Prevention Unit Paper no. 9. London: Home Office.

Eckblom, Paul

1988 Preventing post office robberies in London: Effects and side effects. *Journal of Security Administration*. 11:36-43.

Engstad, Peter A.

1975 Environmental opportunities and the ecology of crime. In Robert A. Silverman and James J. Teevan (eds.), *Crime in Canadian Society*. Toronto: Butterworth.

Farrell, Graham

1995 Preventing repeat victimization. In Michael Tonry and David P. Farrington (ed.) *Building a Safer Society: Strategic Approaches to crime Prevention*. Crime and Justice. Vol. 19. Chicago, IL: University of Chicago Press.

Farrington, David P., Sean Bowen, Abigail Buckle, Tony Burns- Howell, John Burrows, and Martin Speed

1993 An experiment on the prevention of shoplifting. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 1. Monsey, NY: Criminal Justice Press.

Felson, Marcus

1994 *Crime and Everyday Life: Insight and Implications for Society*. Thousand Oaks, CA: Pine Forge Press.

Felson, Marcus, Mathieu E. Belanger, Gisela M. Bichler, Chris D. Bruzinski, Glenna S. Campbell, Cheryl L. Fried, Kathleen C. Grofik, Irene S. Mazur, Amy B. O'Regan, Patricia J. Sweeney, Andrew L. Ullman, and LaQuanda M. Williams

1996 Redesigning hell: Preventing crime and disorder at the Port Authority bus terminal. In Ronald V. Clarke (ed.) *Preventing Mass Transit Crime*. Crime Prevention Studies. Vol. 6. Monsey, NY: Criminal Justice Press.

Felson, Marcus, Robyn Berends, Barry Richardson, and Arthur Veno

1997 A community policing initiative to discourage abuse of alcohol. In Ross Homel (ed.) *Crime Prevention Studies*. Vol. 7.

Monsey, NY: Criminal Justice Press.

Fleming, R. and J. Burrows

1986 The case for lighting as a means of preventing crime. (Research Bulletin, Research and Planning Unit, No. 22, pp. 14-17). London: Home Office.

Forrester, David H., Michael R. Chatterton, and Ken Pease

1988 The Kirkholt Burglary Prevention Demonstration Project, Rochdale. Crime Prevention Unit Paper no. 13. London: Home Office.

Forrester, David H., Samantha Frenz, Martin O'Connell, and Ken Pease

1990 The Kirkholt Burglary Prevention Project: Phase II. Crime Prevention Unit Paper no. 23. London: Home Office

Gabor, Thomas

1981 The crime displacement hypothesis: An empirical examination. *Crime and Delinquency*. 26:390-404.

Goldstein, Herman

1990 *Problem-oriented Policing*. New York: McGraw-Hill.

Gottfredson, Michael R. and Travis Hirschi

1990 *A General Theory of Crime*. Stanford, CA: Stanford University Press.

Grandjean, Christian

1990 Bank robberies and physical security in Switzerland: A case study of The escalation and displacement phenomena. *Security Journal*. 1:155-59.

Green, Lorraine

1995 Cleaning Up drug Hotspots in Oakland, California: The displacement and diffusion effects. *Justice Quarterly*. 12:737-54.

Green, Lorraine

1996 *Policing Places with Drug Problems*. Thousand Oaks, CA: Sage.

Green, Lorraine

1993 *Treating deviant places: A case study examination of the beat health program in Oakland, California*. Ph.D. dissertation, Rutgers, The State University of New Jersey.

Hannan, Timothy H.

1982 Bank robberies and bank security precautions. *Journal of Legal Studies*. 11:83-92.

Hemingway, Richard C.

1989 Environmental design, access control, and surveillance as deterrents to thefts in hospitals. *Security Journal*. 1:47-57.

Hesseling, Rene B. P.

1995 Displacement: A review of the empirical literature. In Ronald V. Clarke (ed.), *Crime Prevention Studies*. Vol. 3. Monsey, NY: Criminal Justice Press.

Hesseling, Rene'

1995 Theft from cars: Reduced or displaced? *European Journal of Criminal Policy and Research*. 3:79-92.

Hemel, Ross and Jeff Clark

1994 The prediction and prevention of violence in pubs and clubs. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 3. Monsey, NY: Criminal Justice Press.

Hemel, Ross, Marg Hauritz, Richard Wortley, Gillian McIlwain, and Russell Carvolth

1997 Preventing alcohol-related crime Through community action: The Surfers Paradise safety action project. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 7. Monsey, NY: Criminal Justice Press (forthcoming).

Hope, Tim

1994 Problem-oriented policing and drug market Locations: Three case studies. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 2. Monsey, NY: Criminal Justice Press.

Hunter, Ronald D. and C. Ray Jeffrey

1992 Preventing convenience store robbery through environmental design. In Ronald V. Clarke (ed.) *Situational Crime Prevention: Successful Case Studies*. Albany, NY: Harrow and Heston.

Jacques, Christopher

1994 Ram raiding: The history, incidence and scope for prevention. In Martin Gill (ed.) *Crime at Work: Studies in Security and Crime Prevention*. Leicester: Perpetuity Press.

Kenney, Dennis J

1986 Crime on the subways: Measuring the effectiveness of the Guardian Angels. *Justice Quarterly*. 3:481-496.

Landes, William M.

1978 An economic study of U.S. aircraft hijacking, 1961-1976. *Journal of Law and Economics*. 21:1-32.

Lasley, James R.

1996 Using Traffic Barriers to 'Design out' crime: A Program Evaluation of LAPD's Operation Cul-De-Sac. Report to the National Institute of Justice. California Sate University, Fullerton (November).

LaVigne, Nancy G.

1991 Crimes of convenience: An analysis of criminal decision-making and convenience store crime in Austin, Texas. Master's thesis. University of Texas at Austin.

La Vigne, Nancy G.

1994 Rational choice and inmate disputes over phone use on Rikers Island. Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 3. Monsey, NY: Criminal Justice Press.

La Vigne, Nancy G.

1997 Safe Transport: Security by design on the Washington Metro. In Ronald V. Clarke (ed.) Preventing Mass Transit Crime. Crime Prevention Studies. Vol. 6. Monsey, NY: Criminal Justice Press.

Laycock, Gloria

1985 Property Marking: a Deterrent To Domestic Burglary? Crime Prevention Unit Paper no. 3. London: Home Office.

Laycock, Gloria

1991 Operation identification, or the power of publicity? Security Journal 2:67-72.

Laycock, Gloria and Claire Austin

1992 Crime prevention in parking facilities. Security Journal. 3:154-60.

Lurigio, Arthur J., Robert C. Davis, Thomas A. Regulus, Victoria E. Gwiasda, Susan J. Popkin, Mark L. Dantzker, Barbara Smith, and Lawrence Ouellet

1993 An Evaluation of the Cook County State's Attorney's Office Narcotics Nuisance Abatement Unit. Chicago, IL: Illinois Criminal Justice Information Authority.

Masuda, Barry

1996 An alternative approach to the credit card fraud problem. Security Journal. 7:15-21.

Masuda, Barry

1992 Displacement vs. diffusion of benefits and the reduction of inventory losses in a retail environment. Security Journal. 3:131-36.

Masuda, Barry

1993 Credit card fraud prevention: A successful retail strategy. In Ronald V. Clarke (ed.) Crime Prevention Studies. Vol. 1. Monsey, NY: Criminal Justice Press.

Matthews, Roger

1993 Kerb-Crawling, Prostitution and Multi-Agency Policing. Police Research Group. Crime Prevention Unit Series Paper 43. London: Home Office.

Matthews, Roger

1992 Developing more effective strategies for curbing prostitution. In Ronald V. Clarke (ed.) Situational Crime Prevention: Successful Case Studies. New York: Harrow and Heston.

Mawby, R. I.

1977 Defensible space: A theoretical and empirical appraisal. Urban Studies. 14:169-79.

Mayhew, Pat

1979 Defensible space: The current status of a crime prevention theory. Howard Journal of Penology and crime Prevention. 18:150-59.

McNees, M.P., J.F. Schnelle, R.E. Kirchner, and M.M. Thomas

1980 An experimental analysis if a program to reduce retail theft. *American Journal of Community Psychology*. 8:379-385.

Meredith, Colin and Chantal Paquette

1992 Crime prevention in high-rise rental apartments: Findings of a demonstration project. *Security Journal*. 3:161-69.

Merry, Sally F.

1981 Defensible space undefended: social factors in crime prevention through environmental design. *Urban Affairs Quarterly*. 16:397-422.

National Association of Convenience Stores

1991 Convenience store security Report and Recommendations: November 1991. Alexandria, VA: National Association of Convenience Stores.

Newman, Oscar

1972 *Defensible Space*. New York: Macmillan.

Newman, Oscar

1980 *Community of Interest*. Garden City, NY: Anchor Press.

Newman, Oscar

1996 *Creating Defensible Space*. Washington, DC: U.S. Department of Housing and Urban Development.

Painter, Kate

1994 The impact of street lighting on crime, fear and pedestrian use. *Security Journal*. 5:116-24.

Pease, Ken

1991 The Kirkholt project: Preventing burglary on a British public housing estate. *Security Journal*. 2:73-77.

Pierce, Glenn L., Susan Spaar, and LeBaron R. Briggs

1986 *The Character of Police Work: Strategic and Tactical Implications*. Center for Applied Social Research. Northeastern University. Photocopy.

Polvi, Natalie, Terah Looman, Charlie Humphries and Ken Pease

1990 Repeat break-and-enter victimizations: Time-course and crime prevention opportunity. *Journal of Police Science and Administration*. 17:8-11.

Popkin, Susan J., Victoria E. Gwiasda, Dennis P. Rosenbaum, Andrea A. Anderson, Lynn M. Olson, Arthur J. Lurigio, and Nina Taluc

1995a An Evaluation of the Chicago Housing Authority's Anti-Drug initiative: A Model of comprehensive crime Prevention in Public Housing. Cambridge, MA: Abt Associates Inc.

Popkin, Susan J., Lynn M. Olson, Arthur J. Lurigio, Victoria E. Gwiasda, and Ruth G. Carter

1995b Sweeping out drugs and crime: Residents' views of the Chicago Housing Authority's public housing drug elimination

program. *Crime and Delinquency*. 41: 73-99.

Poyner, Barry

1983 *Design Against Crime: Beyond Defensible Space*. London: Butterworths.

Poyner, Barry

1994 *Lessons from Lisson Green: An evaluation of walkway demolition on a British Housing estate*. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 3. Monsey, NY: Criminal Justice Press.

Poyner, Barry

1991 *Situational crime prevention in two parking facilities*. *Security Journal*. 2:96-101.

Poyner, Barry

1988 *Video cameras and bus vandalism*. *Journal of Security Administration*. 11:44-51.

Poyner, Barry and Caroline Warne

1986 *Violence to Staff: A Basis for Assessment and Prevention*. London: Tavistock.

Poyner, Barry and Barry Webb

1991 *Crime Free Housing*. London: Butterworths-Architecture.

Poyner, Barry and Barry Webb

1992 *Reducing theft from shopping bags in city center markets*. In Ronald V. Clarke, (ed.) *Situational Crime Prevention: Successful Case Studies*. New York: Harrow and Heston.

Putnam, Sandra L., Ian R. Rockett and Miriam K. Campbell

1993 *Methodological issues in community-based program effects*. In Thomas K. Greenfield and Robert Zimmerman, (ed.) *Center for Substance Abuse Prevention Monograph 14*. Rockville, MD: U.S. Department of Health and Human Services.

Ramsay, Malcolm

1991 *A British experiment in curbing incivilities and fear of crime*. *Security Journal*. 2:120-125.

Ramsay, Malcolm

1990 *Lagerland Lost: An Experiment in Keeping Drinkers off the Streets in Central Coventry and Elsewhere*. *Crime Prevention Unit Paper 22*. London: Home Office.

Roncek, Dennis W. and Ralph Bell

1981 *Bars, blocks and crime*. *Journal of Environmental Systems*. 11:35-47.

Roncek, Dennis and Pamela A. Meier

1991 *Bars blocks and crimes revisited: Linking the theory of routine activities to the empiricism of 'hot spots'*. *Criminology*. 29:725-55.

Roncek, Dennis W. and Mitchell A. Pravatiner

1989 Additional evidence that taverns enhance nearby crime. *Sociology and Social Research*. 73:185-188.

Saltz, R.F.

1987 The role of bars and restaurants in preventing alcohol-impaired driving: An evaluation of server education. *Evaluation in Health Professions*. 10:5-27.

Scherdin, Mary Jane

1992 The halo effect: Psychological deterrence of electronic security systems. In Ronald V. Clarke (ed.) *Situational Crime Prevention: Successful Case Studies*. Albany, NY: Harrow and Heston.

Sherman, Lawrence W., Patrick R. Gartin, and Michael E. Buerger

1989 Hot spots of predatory crime: Routine activities and the criminology of place. *Criminology*. 27:27-55.

Sherman, Lawrence and Dennis P. Rogan

1995a Deterrent effects of police raids on crack houses: A randomized, controlled experiment. *Justice Quarterly*. 12:755-781.

Sherman, Lawrence and Dennis P. Rogan

1995b Effects of gun seizure on gun violence: "Hot spots" patrol in Kansas City. *Justice Quarterly*. 12:755-781.

Sherman, Lawrence, Janell D. Schmidt, and Robert J. Velke

1992 High Crime Taverns: A RECAP Project in Problem-Oriented Policing. Final report to the National Institute of Justice. Washington, DC: Crime Control Institute.

Sloan-Howitt, Maryalice and George L. Kelling

1990 Subway graffiti in New York City: 'Gettin up' vs. 'meanin it and cleaning it.' *Security Journal*. 1:131-36.

Spelman, William

1993 Abandoned buildings: Magnets for crime? *Journal of Criminal Justice*. 21:481-495.

Spelman, William

1995a Criminal careers of public places. In John E. Eck and David Weisburd (eds.) *Crime and Place*. Monsey, NY: Criminal Justice Press and Police Executive Research Forum.

Spelman, William

1995b Once bitten, then what? Cross-sectional and time-course explanations of repeat victimization. *British Journal of Criminology*. 35:366-383.

Spelman, William and John E. Eck

1989 Sitting ducks, ravenous Wolves, and Helping Hands: New approaches to Urban policing. *Public Affairs Comment*. 35(2):1-9.

Stanford Research Institute

1970 Reduction of Robbery and Assault of Bus Drivers. Vol. 3. Technological and Operational Methods. Stanford, CA: Stanford Research Institute.

Taylor, Ralph B., Stephen D. Gottfredson, and Sidney Brower

1980 The defensibility of defensible space. In Travis Hirschi and Michael Gottfredson (eds.) Understanding Crime. Beverly Hills: Sage.

Tien, J.M., V.F. O'Donnell, A. Barnett, and P.B. Mirchandani

1979 Phase I Report: Street Lighting Projects. Washington, DC: U.S. Government Printing Office.

Tilly, Nicholas

1993a After Kirkholt--Theory, Method and Results of Replication Evaluations. Crime Prevention Unit Paper 47. London: Home Office.

Tilly, Nicholas

1993b The Prevention of Crime Against Small Businesses: The Safer Cities Experience. Crime Prevention Unit Paper 45. London: Home Office.

Tilly, Nicholas

1993c Understanding Car Parks, Crime and CCTV: Evaluation Lessons from Safer cities. Crime Prevention Unit Paper 42. London: Home Office.

Tilly, Nicholas, and Janice Webb

1994 Burglary Reduction: Findings From Safer Cities Schemes. Crime Prevention Unit Paper 51. London: Home Office.

vanAndel, Henk

1989 Crime prevention that works: The case of public transport in the Netherlands. *British Journal of Criminology*. 29:47-56.

Veno, Arthur and Elizabeth Veno

1993 Situational prevention of public disorder at the Australian motorcycle Grand Prix. In Ronald V. Clarke (ed.) *Crime Prevention Studies*. Vol. 1. Monsey, NY: Criminal Justice Press.

Wagenaar, Alexander C. and Harold D. Holder

1991 Effects of alcoholic beverage server liability on traffic crash injuries." *Alcoholism: Clinical and Experimental Research*. 15:942-947.

Webb, Barry

1996 Preventing plastic credit card fraud in the UK. *Security Journal*. 7:23-25.

Webb, Barry and Gloria Laycock

1992 Reducing Crime on The London Underground: An Evaluation of Three Pilot Projects. Crime Prevention Unit Paper 30. London: Home Office.

Weidner, Robert R

1997 Target hardening at a New York City subway station: Decreased fare evasion -- At what price? In Ronald V. Clarke (ed.) Preventing Mass Transit Crime. Crime Prevention Studies. Vol. 6. Monsey, NY: Criminal Justice Press.

Weisburd, David, Lorraine Green and D. Ross

1994 Crime in street level drug markets: A spatial analysis. Criminologie. 27:49-67.

Weisel, Deborah L.

1990 Tackling Drug Problems in Public Housing: A Guide for Police. Washington, DC: Police Executive Research Forum.

White, Garland F.

1990 Neighborhood permeability and burglary rates. Justice Quarterly. 7:57-67.

Wilkinson, Paul

1977 Terrorism and the Liberal State. New York: John Wiley and Sons.

Wilson, James Q. and George L. Kelling

1982 Broken windows. Atlantic Monthly. (March):29-38.

Wilson, Jerry V.

1990 Gainesville convenience store ordinance: Findings of fact. conclusions and recommendations. Crime Control Research Corporation.

Wilson, Paul

1988 Reduction of telephone vandalism: An Australian case study. Security Journal. 1:149-154.

[Home](#)

Chapter Eight

POLICING FOR CRIME PREVENTION

by Lawrence W. Sherman

The more police we have, the less crime there will be. While citizens and public officials often espouse that view, social scientists often claim the opposite extreme: that police make only minimal contributions to crime prevention in the context of far more powerful social institutions, like the family and labor markets. The truth appears to lie in between. Whether additional police prevent crime may depend on how well they are focused on specific objectives, tasks, places, times and people. Most of all, it may depend upon putting police where serious crime is concentrated, at the times it is most likely to occur: policing focused on risk factors.

The connection of policing to risk factors is the most powerful conclusion reached from three decades of research. Hiring more police to provide rapid 911 responses, unfocused random patrol, and reactive arrests does not prevent serious crime. Community policing without a clear focus on crime risk factors generally shows no effect on crime. But directed patrols, proactive arrests and problem-solving at high-crime "hot spots" has shown substantial evidence of crime prevention. Police can prevent robbery, disorder, gun violence, drunk driving and domestic violence, but only by using certain methods under certain conditions.

These conclusions are based largely on research supported by the National Institute of Justice, the research arm of the Office of Justice Programs in the U.S. Department of Justice. In recent years, increasing numbers of police executives have incorporated these findings into their crime prevention strategies. University of Wisconsin law professor Herman Goldstein's (1979) paradigm of "problem-oriented policing" directed research attention to the specific things police do, and how they can focus their resources to attack the proximate causes of public safety problems. The Justice Department's adoption of this perspective has yielded an increasingly complex but useful body of knowledge about how policing affects crime.

One of the most striking recent findings is the extent to which the police themselves create a risk factor for crime simply by using bad manners. Modest but consistent scientific evidence supports the hypothesis that the less respectful police are towards suspects and citizens generally, the less people will comply with the law. Changing police "style" may thus be as important as focusing police "substance." Making both the style and substance of police practices more "legitimate" in the eyes of the public, particularly high-risk juveniles, may be one of the most effective long-term police strategies for crime prevention.

This chapter begins with a review of the eight major hypotheses about how the police can prevent crime (Figure 1). It then describes the varying strength of the scientific evidence on those hypotheses, in relation to the "rigor" of the scientific methods used to test them. The available studies are summarized for both their conclusions and their scientific rigor. The chapter then attempts to simplify these results by answering the questions about what works, what doesn't, and what's promising. Major gaps in our knowledge are also examined. The chapter concludes with recommendations derived from these findings for future federal investment in both evaluation research and police methods to be developed for evaluation.

Figure 8-1

Eight Major Hypotheses About Policing and Crime

Other things being equal,

1. **Numbers of Police.** The more police a city employs, the less crime it will have.
2. **Rapid Response to 911.** The shorter the police travel time from assignment to arrival at a crime scene, the less crime there will be.
3. **Random Patrols.** The more random patrol a city receives, the more a perceived "omnipresence" of the police will deter crime in public places.
4. **Directed Patrols.** The more precisely patrol presence is concentrated at the "hot spots" and "hot times" of criminal activity, the less crime there will be in those places and times.

5. **Reactive Arrests.** The more arrests police make in response to reported or observed offenses of any kind, the less crime there will be.
6. **Proactive Arrests.** The higher the police-initiated arrest rate for high-risk offenders and offenses, the lower the rates of serious violent crime.
7. **Community Policing.** The more quantity and better quality of contacts between police and citizens, the less crime.
8. **Problem-Oriented Policing.** The more police can identify and minimize proximate causes of specific patterns of crime, the less crime there will be.

VARIETIES OF POLICE CRIME PREVENTION

1. **Numbers of Police.** Like the deterrence hypothesis itself (Gibbs, 1975), the claim that police prevent crime is not a "theory" in a truly scientific sense. The idea was developed not as a mathematical equation but as a general "doctrine" of public policy in the heat of democratic debate. The doctrine was based not just on speculation, but also on the apparent results of several "demonstration projects" with some empirical results. These included the court supervised "Bow Street Runners" (Lee, 1901 [1971]; Pringle, 1955) and the privately operated but publicly chartered Thames River "Marine Police" (Stead, 1977). As the level of violence throughout the 19th century declined while the number of police increased (Gurr, et al, 1977: 93-96; 140), many observers concluded that the more police, the less crime.
2. **Rapid Response to 911.** The general form of this claim is that the shorter the police travel time from assignment to arrival at a crime scene, the more likely it is that police can arrest offenders before they flee. This claim is then extended to rapid response producing three crime prevention effects. One is a reduction in harm from crimes interrupted in progress by police intervention. Another, more general benefit of rapid response time is a greater deterrent effect from the threat of punishment reinforced by response-related arrests. The third hypothesized prevention effect comes from the incapacitation through imprisonment of offenders prosecuted more effectively with evidence from response-related arrests. All of these claims presume, of course, that police are notified during or immediately after the occurrence of a crime. This premise, like the hypotheses themselves, is empirically testable, and it's falsification could logically falsify the hypotheses built upon the assumption of its validity.
3. **Random Patrols.** Early beat officers were directed to check in at specific places at specific times, with rigid supervision of the prescribed patrol patterns (Reiss, 1992). The increasing emphasis on rapid 911 response in automobiles gradually put an end to directed patrols, allowing officers to patrol at random far beyond their assigned beats. This policy was justified by the theory that unpredictability in patrol patterns would create a perceived "omnipresence" of the police that deters crime in public places. Chicago Police Chief and Berkeley Criminology Dean Orlando W. Wilson (1963: 232) was a widely cited proponent of this view. Although he favored the use of police workload analysis to determine how many officers should be assigned to different beats and shifts, modern police practice shows little variation in patrol presence by time and place. Nonetheless, many police chiefs and mayors claim that hiring more officers to patrol in this fashion would reduce crime.
4. **Directed Patrols.** Since the advent of computerized crime analysis, however, a far greater precision in the identification of crime patterns has become possible. Police have used that precision to focus patrol resources on the times and places with the highest risks of serious crime. The hypothesis is that the more patrol presence is concentrated at the "hot spots" and "hot times" of criminal activity, the less crime there will be in those places and times. The epidemiological underpinning for this claim is NIJ-funded research showing that the risk of crime is extremely localized, even within high crime neighborhoods, varying widely from one address to another (Pierce, Spaar and Briggs, 1988; Sherman, Gartin and Buerger, 1989).
5. **Reactive Arrests.** Like police patrol, arrest practices can be either unfocused or focused on crime-risk factors. Reactive arrests (in response to specific citizen complaints) are like random patrol in that they cast a wide net, warning all citizens that they can be arrested for all law violations at all times. This net is necessarily quite thin. Observations of thousands of police encounters with criminal suspects shows that police choose **not** to arrest suspects in the majority of the cases in which there was legal basis to do so (Black, 1980: 90; Smith and Visser, 1981: 170). The frequent decision not to arrest has been noticed by crime victims' advocacy groups, who argue that more arrests will produce less crime. This hypothesis, like deterrence generally, is expressed at two levels of analysis: the "general" or community-wide, and the "specific" or individual-level. The individual-level hypothesis has been questioned for decades by social scientists, and even some police, who suggest exactly the opposite: that arrest, especially for minor offenses (which are by far the most common), provokes a response by offenders making them more likely to commit future crime than if they had not been arrested.

6. Proactive Arrests. Like directed patrol, proactive (police-initiated) arrests concentrate police resources on a narrow set of high-risk targets. The hypothesis is that a high certainty of arrest for a narrowly defined set of offenses or offenders will accomplish more than low arrest certainty for a broad range of targets. In recent years the theory has been tested with investigations of four primary high risk targets: chronic serious offenders, potential robbery suspects, drug market places and areas, and high-risk places and times for drunk driving. All but the first can be tested by examining the crime rate. The hypothesis about chronic serious offenders is tested by examining the rate at which such offenders are incapacitated by imprisonment from further offending.

Another version of the proactive arrest hypothesis is called "zero tolerance," based on the "broken windows" theory (Wilson and Kelling, 1982). The theory is that areas appearing disorderly and out-of-control provide an attractive climate for violent crime--just as a window with one broken pane attracts more stones than a completely unbroken window. The crime prevention hypothesis is that the more arrests police make for even petty disorder, the less serious crime there will be (Skogan, 1990).

Community vs. Problem-Oriented Policing

The hypotheses about community- and problem-oriented-policing are less focused than the others, so much so that some observers have even advised against trying to test them (Moore 1992: 128). They both involve far more variations and possible combinations of police activities than the narrow deterrence hypotheses. As in the community- and school-based programs reviewed in chapters 2 and 4, community and problem-oriented policing are put into practice more like a "stew" of different elements than a single type of "food." Yet it is just this flexibility that proponents hypothesize to give them their power. Crime problems vary so widely in nature and cause that effective policing for prevention must vary accordingly, and arguably require many elements to succeed.

While community and problem-oriented policing are often said to be overlapping strategies (Skogan, 1990; Moore, 1992), they actually have very different historical and theoretical roots. Community policing arises from the crisis of legitimacy after the urban race riots of the 1960s, the proximate causes of which several blue-ribbon reports blamed on police (President's Commission on Law Enforcement and Administration of Justice, 1967; National Advisory Commission on Civil Disorders, 1968). The reports claimed police had lost contact with minority group residents, both by changing from foot patrols to radio cars and by taking a more legalistic approach to law enforcement. In various ways, most notably "team policing" (Task Force Report; Sherman, et al 1973), the police were urged to increase their contact with citizens in more positive settings than just responding to emergencies. Thus for almost three decades the **Community Policing** hypothesis has been that increasing the quantity and quality of police-citizen contact (Kelling, 1988) reduces crime.

Problem-oriented policing, in contrast, arose from the crisis of police effectiveness at crime prevention provoked in the 1970s by some of the very studies reviewed in this chapter. As one of its early sponsors, Gary Hayes (1979), put it, the studies told police chiefs that nothing they were doing--putting more police on the street into random patrols, rapid responses--was working to fight crime. The strategy of problem-oriented policing conceived by Professor Goldstein (1979) provided a new paradigm in which to focus innovation, regardless of any contact with the citizenry. Where the core concept of community policing was community involvement for its own sake, the core concept for problem-oriented policing was **results**: the effect of police activity on public safety, including (but not limited to) crime prevention. Nonetheless, community policing has also been justified by its hypothesized effects on crime, not the least of which has been the rationale for the 100,000 federally funded police officers.

7. Community Policing. The crime prevention effects of community policing are hypothesized to occur in four major ways.

7.a. Neighborhood Watch. This hypothesis justifies one of the most widespread community policing programs, "block watch": increasing volunteer surveillance of residential neighborhoods by residents, which should deter crime because offenders know the neighbors are watching.

7.b. Community-Based Intelligence. This hypothesis justifies the many community meetings (Sherman et al, 1973) and informal contacts police sought through storefront offices, foot patrol (Trojanowicz, 1986) and other methods: increasing the flow of intelligence from citizens to police about offenses and offenders, which then increases the probability of arrest for crime and the deterrent incapacitative effects of arrest. The increased flow of citizen intelligence can also increase police effectiveness at crime prevention through problem-solving strategies.

7.c. Public Information About Crime. This hypothesis is just the reverse of the last one: increased flow of police intelligence about crime back to citizens improves citizen ability to protect themselves, especially in light of recent changes in crime patterns and risks. The latest version of this idea is "reverse 911," under which police fax out warnings of criminal activity to a

list of residential and business fax numbers requesting the service.

7.d. Police Legitimacy. Given the historical roots of community policing, perhaps the most theoretically compelling version of its crime prevention hypothesis addresses police legitimacy, or public confidence in the police as fair and equitable (Eck and Rosenbaum, 1994). Recent theoretical and basic research work in "procedural justice" (Tyler, 1990) provides a more scientifically elaborate version of this hypothesis than its proponents in the 1960s intended. The claim is not just that police must be viewed as legitimate in order to win public cooperation with law enforcement. The claim is that a legitimate police institution fosters more widespread obedience of the law itself. Gorer (1955: 296) even attributes the low levels of violent crime in England to the example of law-abiding masculinity set by 19th Century police, a role model that became incorporated into the "English character." There is even evidence that the police themselves become less likely to obey the law after they have become disillusioned with its apparent lack of procedural justice (Sherman, 1974).

8. Problem-Oriented Policing offers infinite specific hypotheses about crime prevention, all under this umbrella claim: the more accurately police can identify and minimize proximate causes of specific patterns of crime, the less crime there will be. In recent years this claim has taken two major forms:

8.a. Criminogenic Commodities. The more police can remove criminogenic substances from the micro-environments of criminal events, the fewer crimes there will be. This claim arises from the growing emphasis on the causation of criminal events as partly independent of the causation of individual criminality (Hirschi, 1986). Like the theories about preventing crime in places (Chapter 7), the premise is that many crimes require certain preconditions, such as guns or cash or moveable property (Cohen and Felson, 1979).

8.b. Converging Offenders and Victims. Another precondition of violent criminal events is that victims and offenders must intersect in time and space. A major problem-solving theory of crime prevention is to keep the more basic elements of criminal events from combining: the more police can reduce the intersection of motivated offenders in time and space with suitable targets of crime, the less crime there will be.

TESTING THE HYPOTHESES

All of these hypotheses pose formidable challenges to scientific testing. The measurement of crime is difficult under any circumstances, let alone in relation to experiments or natural variation in police practices. Control over police practices is difficult for police administrators under normal conditions, let alone under experimental protocols. Measuring the many dimensions of police activity, from effort to manners, is expensive and often inaccurate. Only a handful of studies have managed to produce strong scientific evidence about any of these hypotheses. But the accumulated evidence of the more numerous weaker studies can also provide some insights on policing for crime prevention.

As noted in chapter 1, this report employs a scale of 1 to 5 to summarize several different dimensions of scientific "rigor": the strength of scientific evidence. A score of 5 = strongest evidence for inferring cause and effect, while 1 = the weakest. These dimensions vary somewhat by institutional setting, with different issues inherent in the kinds of programs being evaluated. problems. In the police evaluation literature, crime is almost always measured by either official crime reports (with all their flaws) or by victimization surveys of the public (with all their costs). Police practices are measured either not at all, through citizen perceptions of those practices, through police records, or (in one instance) through direct observation of police patrol activity. It is not clear that any of these methods except the last is superior to any others in drawing valid inferences about the actual practices of the police. Thus the greatest difference across police evaluations lies not in their methods of measurement, but in their basic research designs: the logical structure for drawing conclusions about cause and effect.

Evaluations of police crime prevention generally follow five basic research designs, which can be ranked for overall strength of the inferences they can suggest about cause and effect. These designs are 1) correlations at the same point in time (e.g., in 1995 the cities with the most police had the most crime) 2) before-and-after differences in crime without a comparison group (e.g., doubling drunk driving arrests was followed by a 50% reduction in fatal accidents, 3) before-after differences with comparison (e.g., the 50% reduction in fatal crashes compared to a 10% increase in fatal crashes in three cities of comparable size in the same state), 4) before and after large sample comparisons of treated and untreated groups (e.g., 30 neighborhoods organized for neighborhood watch compared to 30 that were not), and 5) randomized controlled experiments (300 offenders selected by a computerized equal probability program to be arrested had higher repeat offending rates than 300 offenders selected to be given warnings only).

SCIENTIFIC EVALUATIONS

This section reviews and interprets the reported tests of each of the hypotheses. The discussion attempts to integrate both the scientific score of the various studies and the number of studies converging on the same conclusion. More detailed discussion is offered for some of the major findings, in order to connect the evidence more clearly to the hypotheses. The main concern throughout this section is the cumulative success or failure of the studies in ruling out competing theories in the attempt to provide a conclusive test of each hypothesis.

1. Numbers of Police

As Table 1 shows, most of the studies of the effects of police numbers on crime are scientifically weak. They consist of two basic research designs. One is evidence from police strikes¹ about a sudden and drastic reduction in police numbers. The other is evidence from correlational studies of police strength and crime rates.

The police strike evidence, while weak in both measurement and design, is fairly consistent in showing the effect of this natural experiment: crime rates skyrocket instantly. The strongest design is the Makinen and Takala (1980) study of crime in Helsinki before and during a police strike. The Helsinki measures included systematic observation counts of fights in public places, as well as emergency room admissions for assault-related injuries. Both measures rose substantially during the strike despite severe winter weather. The only purportedly negative evidence on this conclusion is the Pfuhl (1983) study of police-recorded crime in 11 American police strikes, in which 89% of the "strike" period in the analysis consisted of non-strike days. Both the measure and the definition of the strike period hopelessly confound cause and effect, rendering the study irrelevant to the conclusion reached from the stronger evidence.

None of the strike findings have comparison groups, so in theory it is possible that crimes would have risen dramatically during the strike period even without the strike. The substantial magnitudes of some of the increases, however, greatly exceed typical daily variations in crime in big cities. In the Montreal police strike of 1969, for example, there were 50 times more bank robberies and 14 times more commercial burglaries than average (Clark, 1969). Thus despite the weak research design, the large effect size suggests that abolishing a police force can cause crime to increase.

Table 8-1: Numbers of Police

The more police a city employs, the less crime it will have.

Studies	Scientific Methods Score	Findings
Andenaes 1974	2	1944 No Danish Police, large robbery & larceny increase
Clark 1969	2	Police Strike, major increase in violent & property crime
Russell 1975	2	Same as preceding (Boston)
Sellwood 1978	2	Same as preceding (Liverpool)
Makinen and Takala 1980 (Helsinki)	2	Same as preceding
Pfuhl 1983	1	No crime increase during quarters with police strike
Marvell & Moody 1996	3	Higher police numbers in cities reduce most types of crime

Whether adding more officers to an already large police force causes crime to decrease, however, is somewhat less clear. A recent review of 36 correlational studies, most of them weak in research design, found little evidence that more police reduce crime (Marvell and Moody, 1996). The same authors, however, offer a twenty-year analysis of 56 cities of over 250,000 people each and of 49 states. Using a complex technique called the Granger test, Marvell and Moody (1996) find consistent evidence that increases in the numbers of police cause reductions in crime in the following year. This study rates a level 4 because it employs multiple comparison groups and uses appropriate controls for well-specified differences across units. While it lacks random assignment, it is the best evidence available about the effect of modest increases in police numbers. While it runs against the conclusion of the preponderance of the other studies, the difference in scientific rigor tips the preponderance of the evidence in the direction of the conclusion that police numbers alone do help to reduce crime in a big city or a state. What the causal mechanism for that effect may be or how it may be enhanced, however, is not clear.

The Marvell and Moody (1996: 632) analysis also allows a test of the hypothesis that the prevention benefits of hiring more police officers are greater in higher-crime cities than across the country in general. The analysis estimates that for each additional officer added to a police force in a big city, 24 Part I crimes are prevented annually. For each officer hired anywhere in a state, only 4 Part I crimes are prevented. States, on average, have much lower crime rates than the big cities (over 250,000 population); in 1995 the rate of Part I crimes was 8,563 per 100,000 in the big cities, compared to 5,624 per 100,000 across all police agencies. Yet the ratio of crime prevention benefit is far greater than the ratio of reported crime risks. The Marvell and Moody estimate shows that six times as much crime is prevented for each officer added in cities than added in all places on average. Why the benefit ratio exceeds the risk ratio is unknown, but one likely candidate is the greater population density in cities which lets additional police officers have greater effects on patrol visibility per resident.

2. Rapid Response to 911

One major theory about the crime prevention benefits of hiring more officers is that it reduces police response time. The research on this theory is an excellent example of how different conclusions can result from research results with very different levels of scientific strength. The initial studies of the response time hypothesis produced strong support, suggesting that shaving minutes off response time could lead to the arrest of many more offenders. The extension of this hypothesis into a strategy of policing included the development of 911 systems to speed victim contact with police radio dispatchers, and the hiring of more police nationwide in the early 1970s in order to reduce average response times and deter crime through greater certainty of arrest. Only the 1977 NIJ response time analysis in Kansas City study, and the NIJ replications in four other cities, were able to call that strategy into question, and open the door to more focused alternatives (Goldstein, 1979).

The original test of the hypothesis was based on a scientifically weak research design, a non-random sample of 265 police responses to citizen calls by the Los Angeles Police Department (Isaacs, 1967). Its results were confirmed by a later study in Seattle (Clawson and Chang, 1977): the probability of arrest per police response increased as police time in travel to the scene decreased. Two other studies (Brown, 1974; Holliday, 1974, as cited in Chaiken, 1978) failed to find that pattern, perhaps because, as Chaiken (1978: 130) observes, "the curves are essentially flat for response times larger than three minutes, and therefore a substantial amount of data for responses under three minutes is needed to observe any effect."

The Kansas City (1977) response time analysis took a far more systematic approach to the issue. Its first step was to divide crimes into victim-offender "involvement" (e.g., robbery, assault, rape) and after-the-crime "discovery" categories (e.g., burglary, car theft). It then focused response time analysis on involvement crimes, since the offender would not be present at the discovery crimes. The analysis then divided the involvement crime "response time" into three time periods: crime initiation to calling the police ("reporting time"), police receipt of call to dispatch ("dispatch time"), and "travel time" of police from receipt of dispatch to arrival at the scene. Using systematic observation methods and interviews of victims, the Kansas City study (1977, Vol. 2: 39) found that

Table 8-2: Rapid Response

The shorter the police travel time from assignment to arrival at a crime scene, the less crime there will be.

Studies	Scientific Methods Score	Findings
Isaacs 1967	1	Shorter police travel time, more arrests
Clawson and Chang 1977	1	Same as preceding
Pate et al 1976 unrelated	1	Police travel time to arrest
Kansas City (MO) Police 1977	2	Same as preceding, most crimes
Spelman and Brown 1981	2	Same as preceding

there was no correlation between response-related arrest probability and reporting time once the time exceeded 9 minutes. The average reporting time for involvement crimes is 41 minutes (K.C.P.D. 1977, Vol. 2: 23). Cutting police travel time for such crime from 5 to 2.5 minutes could require a doubling of the police force, but it would have almost no impact on the odds of making an arrest.

Police chiefs in the Police Executive Research Forum (PERF) told NIJ that they did not think citizens in their own communities would take so long to call the police. NIJ responded by commissioning PERF to replicate the citizen reporting component of the response time analysis in four other cities. Over 4,000 interviews about 3,300 "involvement" crimes produced unequivocal support for the findings of the Kansas City response time analysis (Spelman and Brown, 1981). The probability of arrest in those serious crimes was only 29 per 1,000 reports, with 75% of serious crimes being discovered by victims long after the crimes occurred. Of the 25% that directly involved the victims, almost half were reported five minutes or more after the crime was completed. The findings were consistent across cities, including one that had a 911 system and three that did not.

The conclusion that reduced response time will not reduce crime is based on strong but indirect evidence. The evidence is strong because it is based on large samples, careful measurement, and a replicated research design in five diverse cities showing little variation in arrest rates by police travel time, the main factor that tax dollars can affect. It is indirect because an experimental test of the effects of reduced police travel time on city-wide arrest and crime rates has never been conducted. Yet there is neither empirical nor theoretical justification for such an expensive test. Given the strong evidence of citizen delays in reporting involvement crimes, and the small proportion of serious crimes that feature direct victim-offender involvement, further tests of this theory seem to be a waste of tax dollars. Those dollars might be better spent on communicating the findings to the general public, which still puts great priority on police travel time for public safety (Sherman, 1995).

3. Random Patrols

Another major theory about the benefits of more police is that they can conduct more random patrols. Table 3 summarizes the evidence for the police numbers hypothesis tested at the level of uniformed patrols within cities, in non-directed or random patrol patterns. The Table shows weak evidence of no effect of moderate variations in numbers or method of patrols. The most famous test of the **random** preventive patrol hypothesis, the Kansas City Preventive Patrol Experiment (Kelling et al, 1974), reveals some of the difficulty in testing this claim. This experiment claimed to have varied the dosage of patrol presence for one year across three groups of five randomly assigned beats each, preceded and followed by extensive measures of crime from both household surveys and official records. The results of the experiment showed no statistically significant differences in

Table 8-3: Random Patrol

The more random patrol a city receives, the more a perceived "omnipresence" of the police deters crime in public places.

Studies	Scientific Methods Score	Findings
Kelling et al 1974	3	No difference in crime by N of police cars assigned
Police Foundation 1981	3	No difference in crime by N of foot patrol assigned
Trojanowicz 1986	3	Foot patrol areas had fewer crimes than controls, but no significance tests reported.

crime across the three groups.

Many criminologists conclude from this experiment that there is no crime prevention effect of adding patrol presence in a big city, where low density of crime makes the extra patrol a mere drop in the bucket (Felson, 1994). Yet the experiment has been criticized for its failure to measure the actual differences in patrol dosage and the possible lack of them (Larson, 1975), its inadequate statistical power to detect large percentage differences in crime as not due to chance (Fienberg, et al, 1976), and its failure to assign patrol dosage at random (Farrington, 1982). Similar limitations are found in the Newark Foot Patrol Experiment (Police Foundation, 1981), where despite large victimization surveys no crime prevention effects were detected in association with adding or eliminating daytime and early evening foot patrols from selected patrol beats.

The weakness of the evidence is even greater for the one study claiming to find a crime prevention effect from random patrols not focused on crime risks (Trojanowicz, 1986). The design of this study was limited to recorded crime and calls for service, with no victimization surveys. After daytime foot patrols were added to 14 beats in Flint Michigan for three years, the official crime counts in those beats were down by 9% in the foot patrol beats and up 10% in the other beats city-wide. Large increases in burglary and robbery in the foot patrol areas were matched by reportedly greater increases in the rest of the city. No significance tests were reported, nor were there any controls for the demographic characteristics of the areas selected for foot patrol compared to the rest of the city. Since the foot patrol areas were not selected at random, it is possible that those areas might have experienced different crime trends even without the foot patrols. The fact that the increase in burglary and robbery occurred largely at night when the foot patrols were not working is perhaps the most interesting fact in the study, supporting the conclusion reached from evaluations of directed patrols focused on high crime-risk times and places.

4. Directed Patrols

The evidence from the **directed** preventive patrol hypothesis is more voluminous, scientifically stronger (in two tests), and consistently in the opposite direction from the weight of the (weak) evidence on the random patrol hypothesis. In order to be assigned to this category, the studies had to indicate that they were somehow focused on high-crime places, times or areas. In the New York City study (Press, 1971: 94), for example, the test precinct was known as a high robbery area, and had over three times as many robberies per week as each group of five areas in the Kansas City experiment. All eight of the reported tests of this hypothesis show crime reductions in response to increased patrol presence.

Table 8-4 Directed Patrol

The more precisely patrol presence is concentrated at the "hot spots" and "hot times" of criminal activity, the less crime there will be in those places and times.

Studies	Scientific Methods Score	Findings
Press 1971	3	40% more police, reductions of outdoors crime
Chaiken et al 1975; Chaiken 1978	3	Police on subways at night reduced crime
Dahman 1975	2	More police, reductions of outdoors crime
Schnelle et al 1977	2	400% more patrol, less Part I crime
Sherman and Weisburd 1995	5	100% more patrol, less observed hot spot crime
Koper 1995 longer	4	Longer patrol visits, post-visit crime-free time
Reiss 1995 Review:		
Barker et al 1993	2	Squad focused on hot spots, where street crime dropped
Burney 1990	2	Saturation patrols, reduced street crime

The crime prevention effects of extra uniformed patrol in marked police cars at high crime "peaks" are especially evident in two very different research designs imposed on one large NIJ study designed to improve upon the Kansas City Preventive Patrol Experiment. Based on the NIJ-funded research showing extreme concentrations in spatial and temporal distributions of crime, the Minneapolis Police Department (MPD) reorganized its entire patrol force in 1988-89 to test a pattern of directed patrols at hot spots during hot times. With the unanimous consent of the City Council, the MPD substantially reduced patrols from low-crime areas in order to provide 2 to 3 hours of extra patrol each day during high crime hours at 55 street corner hot spots. The corners were randomly selected for extra patrols from a carefully compiled list of 110 high crime locations that were visually separate from each other (Buerger, Petrosino and Cohn, 1995). Under a million dollar NIJ grant, both the patrolled and unpatrolled hot spots were subjected to over 7,000 randomly selected hours of observations by independent researchers over the course of a year. The observers recorded every minute of 24,813 instances of police presence in the hot spots, and 4,014 observed acts of crime and disorder (Koper, 1995: 656).

Koper's (1995) analysis of the Minneapolis Hot Spots Patrol data found a very strong relationship between the length of each police patrol presence (which averaged 14 minutes) and the amount of time the hot spot was free of crime after the police left the scene. The longer the police stayed before they left, the longer the time until the first crime (or disorderly act) after they left. This relationship held for each additional minute of police presence from one to fifteen minutes, after which the relationship began to reverse. Thus the "Koper curve" in the Minneapolis data suggests the optimum length of a police patrol visit to a hot spot for the purpose of deterring crime is about 15 minutes.

Koper's correlational analysis of all police presences observed in both the extra-patrol and no-extra-patrol hot spots combined is consistent with the results of Sherman and Weisburd's (1995) comparisons of the two groups. The experimental analysis found that there was an average of twice as much patrol presence and up to half as much crime in the extra-patrol hot spots as in the no-extra-patrol group. The observational data showed crime or disorder in 4 percent of all observed minutes in the control group compared to 2 percent in the experimental group (Sherman and Weisburd, 1995: 64). Most of the difference in the observed crime was found when police were not present in the hot spots. Crime-related calls for service increased for both groups of hot spots over the one-year experiment as well as city-wide, but the average growth per hot spot was up to three times as great in the no-extra-patrol group (17%) as in the extra patrol group (5%) (Sherman and Weisburd, 1995: 644).

These findings can be questioned, like most place-linked crime prevention effects, with the possible side effect that the crime simply moved elsewhere (but see the discussion of displacement in Chapter Seven). So, too, can a reduction of crime in one city be questioned on the grounds that offenders may have focused on other jurisdictions. The theoretical perspective of "routine activities" (Cohen and Felson, 1979; Felson, 1994), under which crimes are only likely to happen in certain places and times, makes the displacement hypothesis less plausible. It suggests that if crime is displaced, it would have to be displaced to other hot spots. That argument is still consistent with the experimental-comparison group analysis, given the rising numbers of calls in the experimental year relative to the baseline year. But it does not explain away Koper's cross-sectional analysis of the effects of longer patrol presence on post-patrol crime rates.

5. Reactive Arrests

The evidence in support of the reactive arrest hypothesis is remarkably unencouraging at both the community and individual levels of analysis. As a matter of general deterrence, the tests are all fairly weak and generally negative. As a matter of individual deterrence, the results are consistently negative for juveniles, and contradictory for two different groups of domestic assailants, employed an unemployed. The scientific evidence for the latter is among the strongest available in the police literature, while the evidence about juveniles is much weaker. Taken as a whole, these results make a vivid demonstration of the complexity of police effects on crime.

The evidence on the **general deterrent** effects of reactive (Reiss, 1971) arrests is based on correlational analyses, with and without temporal order. There is some weak evidence that there is a threshold beyond which the effect of increased arrest rates becomes evident, while no such effect is apparent below the "tipping point" of minimum dosage level (Tittle and Rowe, 1974). This evidence is complicated by the suggestion that the arrest effects are only evident among cities of less than 10,000 people, even with the "tipping point." The finding by Greenberg and his colleagues (1979, 1982) of no arrest rate deterrent effects in a temporal sequence design in big cities throws great doubt on a simple claim of general deterrence. Here again, without focusing arrests on high risk persons or places, the effects of higher arrest levels may get lost in the many factors causing crime.

Table 8-5 Reactive Arrests

The more arrests police make in response to reported or observed offenses of any kind, the less crime there will be.

5.a. **General Deterrence.** The higher the arrest rate per crime for each type of crime in a city, the lower the city's rate of that type of crime.

Studies	Scientific Methods Score	Findings
Tittle and Rowe 1974	2	Cities with higher arrest rates beyond a "tipping point" have less crime, but under tip point no arrest effects
Logan 1975	2	No correlation of arrest rates and crime across cities
Brown 1978	2	Tipping effect limited to cities under 10,000 people
Greenberg et al 1979 on	2	No effect of arrest rates crime across cities
Greenberg and Kessler 1982	3	No arrest rate effect even when other factors controlled

Chamlin 1988	3	More arrests reduce robberies, not 4 property crimes
Chamlin 1991	3	No arrest rate effect for cities over 10,000

5.b. **Specific Deterrence.** Individual offenders arrested for an offense are less likely to repeat that offense in the future than offenders who are not arrested.

Table 8-5b: **Specific Deterrence**

Studies	Scientific Methods Score	Findings
Juvenile Offenses:		
Gold and Williams 1970	2	Arrested juveniles offend more post-arrest than those not arrested
Klein 1986	4	More formal arrest processing increased recidivism
Huizinga and Esbensen 1992	2	Same as preceding
Smith and Gartin 1989	2	Arrested juveniles offend less post-crime than those not arrested, if they are first offenders; others
more		
Farrington 1977	2	Arrested juveniles offend more post-arrest than those not arrested
Domestic Violence		
Sherman and Berk 1984	4	Arrest reduced recidivism 50%
Dunford et al 1990	5	Arrest had no effect on recidivism at 6 mos
Dunford 1992	5	Arrest increased offense frequency at 12 mos
Dunford 1990	5	Arrest warrant reduced absent offender recidivism 50%
Sherman et al 1991	5	Arrest had no effect on recidivism at 6 mos; short arrest increased recidivism

		after 12 mos
Sherman et al 1992		
(Milwaukee)	4	Arrest deters employed, criminogenic for unemployed
(Omaha)	4	Same as preceding
Berk et al 1992a	5	Arrest reduced recidivism
Berk et al 1992b	4	Arrest deters employed, not unemployed
Pate et al 1991	5	Arrest reduced recidivism
Pate and Hamilton 1992	5	Arrest deters employed, criminogenic for unemployed
Hirschel et al 1992	5	Arrest increases official recidivism
Marciniak 1994	4	Arrest deters in areas of high employment & marriage; increases recidivism in areas of low employment & marriage

The consistent **individual level** evidence of the criminogenic effects of arrests for juveniles is all longitudinal, but only one of the studies is a randomized experiment (Klein, 1986). The other studies are natural observations of the difference in self-reported offending before and after juvenile offenders were arrested. These studies cannot adequately control for the rival hypothesis that the same factors that led to the youth being arrested also caused a higher level of repeat offending. A pattern of "defiance" (Sherman, 1993), for example, would account for both variables and their correlation. The Klein (1986) experiment reported some difficulties in maintaining random assignment, but still managed to make the formal charging of juveniles in police custody a matter of equal likelihood across cases. Holding juvenile characteristics relatively constant, then, Klein found that the more legalistic the processing of a juvenile suspect, the higher the official recidivism rate.² In interpreting these results, it is necessary to recall that most juvenile offenses are for fairly minor offenses, and that most juveniles with one police contact never have another (Wolfgang, Figlio and Sellin, 1972). Thus to a certain degree, arresting some juveniles and not others for such offenses may be perceived as arbitrary or procedurally unfair.

The evidence on the effects of arrest for misdemeanor domestic violence is contradictory across cities but consistent within arrestee characteristics. While three experiments have found some evidence of deterrent effects of arrest (Sherman and Berk, 1984; Pate, Annan and Hamilton, 1991; Berk et al, 1992), three other experiments have found some evidence that arrest increases the frequency of officially detected offending (Sherman, et al, 1991; Hirschel et al, 1992; Dunford, 1992). All four of these six experiments for which the data have been analyzed separately by employment status of the offender show consistent results. Arrest increases repeat offending among unemployed suspects while reducing it among employed suspects. Marciniak (1994) has shown that this difference operates even more powerfully at the census tract level than at the individual level, with arrest backfiring irrespective of individual employment status in neighborhoods of concentrated unemployment and single parent households. There is a literature raising concerns about measurement issues in these data (Garner and Fagan, 1995; Fagan, 1996) that are not generally raised about other studies in the police literature. Yet there is no other example in the police literature of six similar randomized experiments all testing similar hypotheses with similar (though not identical) designs, and these studies feature a scientific rigor score that is twice the mean of all studies classified for this chapter. The consistency of the effects of arrest on crime for employed and unemployed offenders even extends to similarity in effect sizes.

6. Proactive Arrests

Like the evidence on focused patrol, the evidence on the focused proactive arrest hypothesis is generally supportive across a wide range of studies and research designs. While most of the studies are relatively modest in scientific strength, there are some randomized controlled experiments. With the exception of arrests targeted on drug problems, there appear to be substantial results from focusing scarce arrest resources on high risk people, places, offenses and times.

The evidence on high-risk people comes from two strong (level 4) evaluations of police units aimed at repeat offenders. The Washington, D.C. unit employed pre-arrest investigations, designed to catch offenders in the act of crime to enhance the strength of evidence. The Phoenix police unit employed post-arrest investigations, designed to enhance the evidence in the offenders latest case based upon the length and nature of the offender's prior record. Both projects aimed at increasing the incarceration rate of the targeted offenders, and both succeeded. Just how serious or active the offenders were is an important issue in these studies, one which could illuminate future analyses of dollars invested per crime prevented.

Two weaker studies use national samples of cities to test the effects of police arrest rates for minor offenses on robbery. Both employ multivariate models to control for the effects of some of the other factors that could influence the city's robbery rate. Both find that the higher the per capita rates of traffic arrest, the lower the rates of robbery. One uncontrolled factor in these analyses is the number of pedestrian robbery opportunities. This may be much higher in cities where there is less use of automobiles, such as New York City, in which under 3% of the US population suffers 12% of the reported robberies. Since that is the only crime type for which New York is so disproportionate, and since other dense, pedestrian cities like Baltimore and Boston also have high robbery rates, there may be a spurious relationship between traffic enforcement and robbery. That is, the more cars per capita, the fewer robbery opportunities and the more traffic enforcement opportunities.

Table 8-6: Proactive Arrests.

The higher the arrest rate for high-risk offenders and offenses, the lower the rates of serious violent crime.³

8-6.a. Repeat Offenders.

Studies	Scientific Methods Score	Findings
Martin and Sherman 1986	4	Targeted offenders more likely to be arrested and incarcerated (Washington)
Abrahamse et al 1991 enhancement (Phoenix)	4	Post-arrest case increases odds of arrestees being incarcerated

Table 8-6.b. Traffic and disorderly conduct arrests

Studies	Scientific Methods Score	Findings
Wilson and Boland 1978	2	Cities with higher arrest rates have less crime
Sampson and Cohen 1988	2	Same as preceding
Weiss and McGarrell 1996	3	Increased traffic tickets, reduced robbery

Table 8-6.c. Drug market areas

Studies	Scientific Methods Score	Findings
Kleiman 1988 (Lynn)	2	Crackdown on heroin market, violence down
Kleiman 1988 (Lawrence)	2	Crackdown on heroin market, violence up
Zimmer 1990 and Kleiman 1988 (NYC)	2	Crackdown on heroin market, violence down
Sviridoff et al 1992	3	Crackdown on crack market, violence flat
Uchida et al 1992 (Birmingham)	3	Inconsistent changes in violence after arrests up
Uchida et al 1992 (Oakland)	3	Buy & bust plus door-to-door, robbery down Each strategy alone, no effect
Sherman and Rogan 1995	5	Raids of crack houses reduced crime for 12 days
Weisburd and Green 1995	4	Crackdowns on hot spots reduced disorder; no effects
Annan and Skogan 1993	3	on violence or property crime Drug crackdown in public housing, no effect on crime

Table 8-6.d. Drunk driving

Studies	Scientific Methods Score	Findings
Ross 1981 review: Ross 1973 (U.K.)	2	Arrests up sharply, drop in crashes decays over time
Ross 1975 (Scandinavia)	2	Same as preceding
Ross 1977 (Cheshire 1)	2	Same as preceding
	2	Same as preceding

Ross 1977 (Cheshire 2)	2	Same as preceding
Hurst-Wright 1980 (NZ1)	2	Same as preceding
Hurst-Wright 1980 (NZ2)	2	Same as preceding
Ross et al 1982 (France)		
Homel 1993	3	Increased state arrest rate reduced deaths over 10 years, but not in comparable states

Table 8-6.e. Zero Tolerance Arrests

Studies	Scientific Methods Score	Findings
Boydston 1975; Sherman 1990	3	More field interrogations, fewer outdoors crimes
Reiss 1985 crimes	3	More police regulation of conduct, fewer "soft"
Pate et al 1985; Skogan 1990	3	Same as preceding
Sherman 1990	2	Disorder crackdown, no robbery reduction
Kelling and Coles 1996 subways	2	Fare-beating, crackdown, robbery reduction in

That is just the kind of limitation in causal inference that experiments can address. Quasi-experimental evidence on this hypothesis was recently reported by the Hudson Institute study of the Indianapolis Police Department, in which substantial increases in traffic enforcement in a high robbery area were followed by a sharp reduction in robbery (Weiss and McGarrell, 1996).

The evidence on drug crackdowns shows no consistent reductions in violent crime during or after the crackdown is in effect. The strongest evidence is the randomized experiment in raids of crack houses (Sherman and Rogan, 1995), in which crime on the block dropped sharply after a raid. The rapid decay of the deterrent effect in only seven days, however, greatly reduces the cost-effectiveness of the labor-intensive raid strategy. Only the high yield of guns seized per officer-hour invested (Shaw, 1994) and its possible connection to community gun violence over a longer time period (Sherman, Shaw and Rogan, 1995) showed great cost-effectiveness. Other drug enforcement strategies in open-air markets have even less encouraging results, with the exception of the Jersey City experiment in which the principal outcome measure was disorder, not violence.

The evidence on drunk driving, in contrast, is one of the great success stories of world policing. Despite relatively low rigor scores, the sheer numbers of consistent results from quasi-experimental evaluations of proactive drunk driving arrest crackdowns suggest a clear cause and effect. The ability of the police to control drunk driving appears to be a direct and linear function of the amount of effort they put into it (Hommel, 1990). Since more deaths are caused annually by drunk driving than by homicide, the cost effectiveness of saving lives through DUI enforcement may well be far greater than for homicide prevention. The evidence on drunk driving prevention seems far clearer than anything we know how to do to have police prevent murders.

The evidence for the **broken windows-zero tolerance arrests** hypothesis (Wilson and Kelling, 1982) is also consistently supportive. The research designs are only moderately strong, but they all suggest that a police focus on street activity can help reduce serious crime. The specific tactics by which this is accomplished can be controversial, and some methods used in the 1982 Newark test have been described in the literature as "unconstitutional" (Skolnick and Bayley, 1985:199), including the ordering of loitering teenage males off of street corners on the grounds of obstructing traffic. Field interrogations have often been a flash point of poor police-community relations, yet they have also been a favorite crime prevention tactic for police in both the US and Europe. The evidence from both the San Diego field interrogation experiment (Boydston, 1975) and the NIJ Oakland city center study (Reiss, 1985) suggest that it is possible to regulate public behavior in a polite manner that fosters rather than hinders police legitimacy. That possibility, however, is by no means guaranteed, and generally takes substantial managerial investment in order to bring about.

The larger concern about zero tolerance is its long-term effect on people arrested for minor offenses. Even while massive arrest increases, such as those in New York City, may reduce violence in the short run--especially gun violence--they may also increase serious crime in the long run. The negative effects of an arrest record on labor market participation are substantial (Schwartz and Skolnick, 1963; Bushway, 1996). The effects of an arrest experience over a minor offense may permanently lower police legitimacy, both for the arrested person and their social network of family and friends. The criminogenic effect of arrest may make arrestees more defiant (Sherman, 1993) and more prone to anger in domestic violence and child abuse. The data suggest that zero tolerance programs should be evaluated in relation to long-term effects on those arrested, as well as short-term effects on community crime rates. Program development to foster greater legitimacy in the course of making the arrests is also advisable, based on findings from procedural justice research (see hypothesis 7.d below). This could include, for example, a program to give arrested minor offenders an opportunity to meet with a police supervisor who would explain the program to them, answer questions about why they are being arrested, and give them a chance to express their views about the program while listening respectfully to them. Such innovations would not be expensive, but would also pose many testable hypotheses.

7. Community Policing

The results of available tests of the community policing hypotheses are mixed. The evidence against the effectiveness of police organizing communities into neighborhood watches is consistent and relatively strong. The evidence about the crime prevention benefits of more information flowing from citizens to police is at best only promising. The two tests of police sending more information to citizens are both very strong, but clearly falsify the hypothesis. The tests of increasing police legitimacy are the most promising, especially since they draw on a powerful theoretical perspective that is gaining growing empirical support.

One of the most consistent findings in the literature is also the least well-known to policymakers and the public. The oldest and best-known community policing program, **Neighborhood Watch**, is ineffective at preventing crime. That conclusion is supported by moderately strong evidence, including a randomized experiment in Minneapolis that tried to organize block watch programs with and without police participation in areas that had not requested assistance (Pate et al, 1987). The primary problem found by the evaluations is that the areas with highest crime rates are the most reluctant to organize (Hope, 1995). Many people refuse to host or attend community meetings, in part because they distrust their neighbors. Middle class areas, in which trust is higher, generally have little crime to begin with, making measurable effects on crime almost impossible to achieve. The program cannot even be justified on the basis of reducing middle class fear of crime and flight from the city, since no such effects have been found. Rather, Skogan (1990) finds evidence that Neighborhood Watch increases fear of crime.

Another popular program for increasing contact between police and public is **community meetings**. The careful NIJ evaluation of the Madison, Wisconsin community policing project in which meetings played a central role found no reduction in crime (Wycoff and Skogan, 1993). A different approach to the meetings in Chicago shows more promise, with the meetings focused much more precisely on specific crime patterns in the area and ideas for what the police should do to attack those problems. While the crime reduction evidence for "community policing, Chicago style" is mixed, it is striking that Chicago has

mobilized high crime communities to participate in these meetings (Skogan, 1996). Unlike neighborhood watch meetings, the Chicago meetings are held in public places rather than local residences. The best attendance at these meetings for almost two years has been found in the police districts with the highest crime rates.

A less popular but often effective community policing practice is **door to door visits** by police to residences during the daytime. These visits may be used to seek information, such as who is carrying guns on the street (Sherman, Shaw and Rogan, 1995). The visits may be used to give out information, such as burglary reduction tips (Laycock, 1991). The visits may be used simply to introduce local police officers to local residents, to make policing more personal (Wycoff et al, 1985). Four out of six available tests of the door to door visits show modestly strong (rigor = 3) evidence of substantial crime prevention. In the NIJ-funded Houston test, for example, the overall prevalence of household victimization dropped in the target area substantially, with no reduction in the comparison area. The prevention effects were primarily for car-breakins and other minor property crime. Here again, however, there was a substantial "Matthew effect" (see Chapter 1): the benefits of the program were highly concentrated among white middle class homeowners, with virtually no benefit for the Asian, Hispanic and African-American minorities living in rental housing in the target area (Skogan, 1990).

A far more popular program is far less effective. **Police storefronts** are often requested by communities, often staffed during business hours by a mix of sworn police, paid civilians and unpaid volunteers. The evidence from tests of substations in Houston, Newark and Birmingham

(continued after Tables)

Table 8-7: Community Policing

Increasing the quantity and quality of police-citizen contact reduces crime. Tests of this basic hypothesis omitting measurement of an intervening causal mechanism have been done:

Table 8-7.a. Neighborhood Watch

Studies	Scientific Methods Score	Findings
Lindsay and McGillis 1986	3	Burglary reduced for 18 mos
Pate et al 1987; Skogan 1990	4	No effect of block watch on crime Poorer areas had less surveillance
Rosenbaum 1986	3	Same as preceding
Bennett 1990	3	Same as preceding

Table 8-7.b. Intelligence from citizens to police.

Studies	Scientific Methods Score	Findings
Community Meetings		
Wycoff and Skogan 1993	3	No drop in victimization after increase in police-community meetings
in		

		target district
Skogan et al 1995	3	After 18 monthly police-community meetings
in		each beat in 5 districts, reductions in some crimes and victimization measures but not others
Door-to-Door Contacts		
Wycoff et al 1985; Skogan 1990	3	Door-to-door police visits; victimization dropped
Pate et al 1985; Skogan 1990	3	Door-to-door visits & storefront, crime dropped
Laycock 1991	3	Door-to-door visits, burglary down by ___%
Sherman et al 1995	3	Door-to-door visits, no drop
		in crime
Uchida et al 1992	3	Visits plus Buy and Bust, crime down
Uchida et al 1992	3	Visits alone, no crime reduction
Storefronts		
Wycoff and Skogan 1986	3	Storefront open, no drop in victimization
Uchida et al 1992	3	Storefront open, no difference in crime
Pate et al 1985; Skogan 1990	3	(See above under "door-to-door")

Table 8-7.c. Increasing the flow of information from police to citizens.

Studies	Scientific Methods Score	Findings
Pate et al (Newark)	5	Monthly newsletter with crime data failed to reduce victimizations of recipients
Pate et al (Houston)	5	Same as preceding

Table 8-7.d. Legitimacy

Studies	Scientific Methods Score	Findings
Skogan 1990 (Houston)	3	Doorknock visits reduced fear of police, reduced crime
Tyler 1990 in	1	Definition of past police treatment as fair increases expected obedience to law the future
Paternoster et al 1996	2	Definition of treatment at arrest as fair, lower recidivism in domestic violence
Skogan et al 1995	3	Perceived increased responsiveness of police to community in 4 districts, perceived reduction in serious crime in 3 of those 4

(AL) consistently shows no impact on crime. While there are some positive citizen evaluations associated with storefronts, the problems of staffing the offices once they are open may counterbalance any non-crime benefits.

Increasing the flow of information from police to public has been tested in the form of **police newsletters**. In two randomized NIJ-funded experiments, the Newark and Houston police departments found no effect of newsletters on the victimization rates of the households receiving them. The finding was true for both newsletters with and without specific data on recent crimes in the community.

The most promising approach to community policing is also the most theoretically coherent. Based on two decades of laboratory and field studies on the social psychology of "procedural justice," a growing body of research suggests that **police legitimacy** prevents crime. Tyler (1990) finds a strong correlation across a large sample of Chicago citizens between perceived legitimacy of police and willingness to obey the law. The legitimacy was measured by citizen evaluations of how police treated them in previous encounters. This finding is consistent with the Houston door-to-door experiment, in which citizen fear of police after a major scandal over police beating to death a Mexican immigrant was reduced by the door-to-door visits. Community policing Chicago style (Skogan, et al 1996) also find the greatest perceived reduction in serious crime in the districts where surveys showed police were "most responsive" to citizen concerns. The most powerful test of this hypothesis is the Paternoster et al (1996) reanalysis of the Milwaukee Domestic Violence Experiment, which found that repeat domestic violence was lowest among arrestees who thought police had treated them respectfully; a powerful effect on recidivism was associated with police simply taking the time to listen to the offender's side of the story. The capacity of police legitimacy to prevent crime is something community policing may well be effective at creating; Skogan's (1994: 176) review of six community policing evaluations (SM scores = 2 or 3) found every one showed positive or improved perceptions of police in the treated areas.

Still in progress, but with encouraging preliminary results, is the Australian test of **community accountability conferences**. The Australian Federal Police in the Australian capital, Canberra, use this procedure as an alternative to prosecuting juveniles. Only cases in which the offender(s) admit(s) guilt and the victim(s) are willing to attend the conference are eligible. The

conference of offenders and victims with their respective families and friends is led by a trained police officer, who focuses the discussion on what happened, what harm it caused, and how the harm can be repaired. The officer tries to insure that everyone, especially victims, is allowed to have their say. Sometimes offenders apologize, but always an agreement for repaying the cost of the crime to the victim is reached; failure to do so results in the case being prosecuted. Preliminary findings from subsequent interviews with victims and offenders in a randomized experiment show that the procedure greatly increases respect for police and a perception of justice, regardless of the outcomes (Strang, 1996; Barnes, 1996). The National Institute of Justice has funded a similar ongoing project in Bethlehem, Pennsylvania. This method may turn out to have long-term effects on police legitimacy in the eyes of both juvenile offenders and their families, which could in turn reduce crime.

The interesting point about the Australian model of community policing, as noted in Chapter 2, is that it builds on actual community ties rather than anonymous geographic areas. Moreover, the attendees form a community of concern about the criminal act bringing them together, holding the offender accountable for over an hour to a "village-like" community rather than for a few minutes to a distant and anonymous judge. Of all the approaches to community policing yet tried, this one may have the most focused empowerment of "community" to prevent future crimes.

8. Problem-Oriented Policing

The tests of this hypothesis are generally more positive than the tests of community policing. As Moore (1992) suggests, however, this may be due to a process of selective reporting, in which failures are not included. The most basic problem with testing this very rich and complex hypothesis is that it is essentially about insight, imagination and creativity. The essence of problem-oriented policing as Goldstein (1979) defined it is science itself (Sherman and Strang, 1996): classification, prediction, and causation. Evaluations of the scientific method, paradoxically, are not readily susceptible to the scientific method--except in gross comparison to **un**scientific methods. From this perspective, problem-oriented policing embraces all of the other strategies described in this chapter, with the problem to be solved that of crime prevention.

This section reviews some evidence on police efforts to prevent crime that do not fall into the preceding seven hypotheses, and that self-consciously adopted a scientific process that involved police officers in analyzing crime patterns, imagining and creating an intervention, and testing it in the field. The two basic categories of interventions reported in the literature to date are "removing criminogenic substances" and "separating potential victims and offenders." These two categories simply reflect a convergence of police and criminological thinking about the proximate causes of criminal events. There is nothing in the basic problem-oriented policing (POP) strategy (Goldstein, 1979) that requires the use of these two approaches. Many others are possible, and may even be more effective. If POP succeeds at making scientific research and development the core technology of police work (Reiss, 1992), we may expect that its approaches to crime prevention will evolve with the evolution of knowledge about crime causation.

8.a. Criminogenic Substances. The evidence on **cash control** is weak but suggestive. As part of a multiple intervention strategy to reduce crime in an English public housing project, the coin-operated gas heaters were removed from residences. Rather than having the cash in the house as an attraction to burglars, the gas charges were switched to monthly billing. Burglary went down substantially. It is uncertain, however, whether other efforts, such as the "cocoon" neighborhood watch around recently burglarized residences, might account for the crime reduction.

The evidence on **gun carrying** is stronger. In the NIJ Kansas City Gun Experiment, police focused traffic enforcement and field interrogations on gun crime hot spots during hot times (Sherman, Shaw and Rogan, 1995). With special training in the detection of carrying concealed weapons, police focused on seizing illegally carried weapons. Gun seizures in the target area rose by 60%, and gun crimes dropped by 49%. A similar area in a different part of town showed no change in either guns seized or gun crimes. In Boston, police have used a mix of strategies to discourage gun carrying in public places among juveniles, especially gang members and probationers. Qualitative evidence from an NIJ project suggests gun carrying by the high-risk groups has been substantially reduced, while early quantitative evidence shows an elimination of juvenile gun homicide (Kennedy et al 1996).

The evidence on **alcohol** and **prostitution** is also encouraging, and was presented in Chapter Seven in the discussions of taverns, bars, traffic barriers and street closures.

In the Minneapolis RECAP (REpeat Call Address Policing) experiment, however, four police officers were unable to implement a **broad mix** of efforts to separate potential victims and offenders across a sample of 250 target addresses. The YMCA refused to limit access to its lobby during evening hours, the Public Library refused to bar intoxicated persons, public housing officials were unable to segregate young "disabled" but predatory alcoholics from elderly co-residents, and private landlords resisted efforts to evict drug dealers (Sherman, 1990; Buerger, 1994). While a randomized experimental design gave

the test strong science, police inexperience at persuading property managers gave the strategy a weak technology. Given the theoretical power of the idea, further development of the methods of persuasion might be justified, and only then followed by further research.

One of the most popular practices for separating victims and offenders is evening curfews for juveniles. While such curfews give police additional powers to search for guns, they have not been used consistently in that fashion. The primary objective is to get kids, not guns, off the streets. Some cities, such as San Antonio, have reported reductions in reported crimes against juveniles. But in preliminary results of an NIJ evaluation, Adams (1996) finds no consistent crime reduction effects across cities adopting curfews. The scientific rigor of these studies is quite low given their complete absence of control groups, and there may also be difficulties in police willingness to follow curfew policies. Thus the question of the effectiveness of curfews at preventing youth violence is still quite open to further research and development.

Table 8-8: Problem-Oriented Policing

The more accurately police can identify and minimize proximate causes of specific patterns of crime, the less crime there will be.

Table 8-8.a. Reducing Gun Carrying in Public. The more police can remove guns from public places or deter people from carrying them in the micro-environments of criminal events, the fewer crimes there will be.

Studies	Scientific Methods Score	Findings
Sherman et al 1995	3	Increased gun seizures, reduced gun crimes
Kennedy et al 1996	2	Reduced gun carrying, fewer gun crimes

Table 8-8.b. Separating Potential Victims and Offenders. The more police can reduce the intersection of motivated offenders in time and space with suitable targets of crime, the less crime there will be.

Studies	Scientific Methods Score	Findings
Sherman 1990; Buerger 1994	5	Unable to get landlords to restrict offender access
Adams 1996 consistent	2	Youth curfews, no reduction in crime.

CONCLUSIONS

For all of its scientific limitations, the evidence shows substantial consistency on a number of the hypotheses, and some tentative conclusions on others. All science, of course, is provisional, with better research designs or theories revealing previously undiscovered patterns. It is no small achievement that police crime prevention research has developed to the point of having reached some conclusions to discard.

The available evidence supports two major conclusions about policing for crime prevention. One is that the effects of police on crime are complex, and often surprising. The other is that the more focused the police strategy, the more likely it is to prevent crime. The first conclusion follows from the findings that arrests can sometimes increase crime, that traffic enforcement may reduce robbery and gun crime, that the optimal deterrent effect of a police patrol may be produced by 15 minutes of presence in a hot spot, and that prevention effects generally fade over time without modification and renewal of police practices. The second conclusion follows from the likely failure to achieve crime prevention merely by adding more police or shortening response time across the board.

The substantial array of police strategies and tactics for crime prevention (Reiss, 1995) has a small but growing evaluation literature. Using the standard of at least two consistent findings from level 3 scientific methods score (well-measured, before-after studies with a comparison group) **and** a preponderance of the other evidence in support of the same conclusion, the research shows several practices to be supported by strong evidence of effectiveness, and several with strong evidence of ineffectiveness.

What works:

- o increased directed patrols in street-corner hot spots of crime
- o proactive arrests of serious repeat offenders
- o proactive drunk driving arrests
- o arrests of employed suspects for domestic assault

What doesn't:

- o neighborhood block watch
- o arrests of some juveniles for minor offenses
- o arrests of unemployed suspects for domestic assault
- o drug market arrests
- o community policing with no clear crime-risk factor focus

Several other strategies fail to meet the test of strong evidence for generalizable effectiveness, but merit much more research and development because of encouraging findings in the initial research.

What's Promising:

- o police traffic enforcement patrols against illegally carried handguns
- o community policing with community participation in priority setting
- o community policing focused on improving police legitimacy
- o zero tolerance of disorder, if legitimacy issues can be addressed
- o problem-oriented policing generally
- o adding extra police to cities, regardless of assignments
- o warrants for arrest of suspect absent when police respond to domestic violence

What is notably absent from these findings, however, are many topics of great concern to police. Gang prevention, for

example, is a matter about which we could not find a single impact evaluation of police practices. Police curfews and truancy programs lack rigorous tests. Police recreation activities with juveniles, such as Police Athletic Leagues, also remain unevaluated. Automated identification systems, in-car computer terminals, and a host of other new technologies costing billions of dollars remain unevaluated for their impact on crime prevention. There is clearly a great deal of room for further testing of hypotheses not listed here due to the absence of available scientific evidence.

These conclusions suggest important implications for both DOJ crime prevention funding of police agencies, and improving that effectiveness through stronger evaluations.

The Effectiveness of DOJ Programs

Local police agencies receive crime prevention funding from a wide range of DOJ programs (see Chapter One). The evidence cited in this chapter indicates that most of the funding supports programs shown to be effective. There is also evidence that Congress could increase the effectiveness of the funding with modifications to several formula grant allocation criteria. The two largest components (multijurisdictional task forces and police equipment) of the two largest OJP programs (estimated \$361 million total in FY 1996 funding) are of unknown effectiveness, suggesting a high priority for evaluation research. Also of unknown effectiveness are the Violence Against Women grants for police. Byrne grants in the drug enforcement purpose area supporting unfocused proactive arrest programs in drug market areas appear from the available evidence to be ineffective at preventing crime.

How Police Funds Are Allocated. The largest single funding source is the Office of Community-Oriented Policing Services (COPS), which distributes funding for the 100,000 planned extra police officers irrespective of crime rate and partially on the basis of population served by each police agency; the major constraint is that half of all funds must go evenly to police agencies serving over 150,000 people. Other DOJ funds for police are distributed through the Office of Justice Programs (OJP) and its constituent offices.

Figure 8-2

Federal Funding Programs for Local Police

DOJ Office and Program	Purpose Areas	Total Funding (in bold)
COPS Office	Cops on the beat	\$1.4 Billion
Office of Justice Programs		
Bureau of Justice Assistance	Law Enforcement Equipment	\$171 million
	Law Enforcement Hiring	65 million
Local Law Enforcement Block Grants	Law Enforcement Overtime	51 million
	Total	\$287 million
Bureau of Justice Assistance	Multijurisdictional Task Forces	\$190 million
Byrne Memorial Grants ⁴	against drugs	26 million
	Urban Enforcement vs. drugs	
	Law Enforcement Effectiveness	15 million
		3 million
	Organized Crime	\$234 million
	Total	
Violence Against Women Grant Office		
Encourage Arrests Program	Total	\$46 Million
Violence Against Women Grant Office	Law Enforcement	

STOP Block Grants	Total	\$30 Million
OJJDP Community Policing for Juveniles	Total	\$16 million
Other Programs, amounts n.a.: Weed and Seed, OJJDP Serious Chronic Violent and Anti-Gang, BJA Comprehensive Communities Program, others		
Total of Major Funding Programs		\$2.013 Billion

Because each OJP grant award may be allocated among a variety of local agencies including police, there is no exact count of how much federal funding goes to police agencies. Purpose areas within the major funding programs, however, provide a good approximation (See Figure 8-1). While simply summing the purpose area allocations may overestimate police agency funding as distinct from other "enforcement" agencies, such as prosecutors, the difference is probably more than made up by other programs for which we have no precise estimates.

The largest OJP source of local police funding is apparently the Local Law Enforcement Block Grants Program, which distributes formula grants to units of local government on the basis of both state and local Part I violent crimes for the preceding three years; 71 percent of the \$405 million (\$287 million) in 1996 formula funds were allocated to Purpose Areas specifically directed to law enforcement, and more may have been awarded through other purpose areas. At similar levels of funding are the \$475 million in 1996 formula funds provided as Byrne Grants on the basis of population, of which 50% (\$237 million at 1996 funding levels) were allocated to Purpose areas specifically directed to law enforcement in 1989-94 (Dunworth, et al, 1997). The Violence Against Women Act includes two major funding mechanisms for local policing, the \$120 STOP Violence Against Women Formula Grants (of which 25%, or \$30 million in FY 1996, must be allocated to improving law enforcement) and the competitive Grants To Encourage Arrest Policies (\$46 million in 1996). There are also funds for community policing components appropriated through Weed and Seed, BJA's Comprehensive Communities Program (CCP), and these OJJDP Programs: Kids and Guns, the Comprehensive Community-Wide Gang Prevention, Intervention and Suppression Program, the Comprehensive Strategy for Serious, Violent and Chronic Offenders, and Juvenile and Child-Centered Community-Oriented Policing. Many other smaller funding programs support local police crime prevention programs. The current estimated total is in excess of \$2 billion per year.

Implications of Available Science. The DOJ funding programs support a wide range of local police activity. Some types of police activity DOJ supports have no impact evaluations, while others can be evaluated directly or indirectly with the evidence reviewed in this chapter. Much of the funding simply supports additional police presence regardless of the activities police undertake. Given the promising evidence on the effectiveness of simply adding police officers to police agencies, the scientific review suggests that these funding programs may be effective. It also suggests, however, that the funding programs could be even more effective if the statutory formula were changed.

In general, the evidence suggests that **federal appropriations to prevent crime through additional policing is most effective when allocated on the basis of serious crime rather than on the basis of population size.** This implication is drawn from several scientific conclusions. One is the "promising" finding that across all large cities, more police produced less serious crime. A second is the finding that **each additional police officer assigned to a big city prevents six times as many serious crimes each year as an officer assigned nationally by population** (Marvell and Moody, 1996). A third conclusion is the finding that directed patrol in crime hot spots "works" to prevent crime in those hot spots, the greatest micro-level concentrations of crime. A fourth conclusion is the "promising" finding that police can reduce gun crime by intensified enforcement of the laws against carrying concealed weapons. This finding suggests that federally funded police work in hot spots of gun crime could have a substantial impact on the national homicide rate, just as police may have done in New York City (Repetto, 1996). Taken together, these findings suggest that the Congress could consider revising the statutory allocation formula based not only on city-level violent crime, but beat-level and block level crime as well. Such a revision would be more effective in directing federal funds as precisely as possible for maximum crime prevention.

Refining a Crime-Based Grant Formula. If the Congress did decide to move towards more crime-based grant formulas for allocating police funding, it would be worth considering more precise criteria. The LLEBG formula based on total Part I violent crimes is problematic for several reasons. One is that police agencies vary in how they report the largest single category of Part I violence, aggravated assault. The boundary between aggravated and simple assaults is marked very differently in different cities. In Milwaukee in the early 1990s, for example, when someone pointed a gun at another person and threatens to shoot, the offense is classified as an aggravated assault. In many other police agencies, that conduct might not even result in an offense report being taken, or at most a simple assault report would be filed; this merely reflects different local traditions in defining "attacks" and "attempts" (the latter of which the FBI asks police to count as completed crimes) for Uniform Crime Reporting Purposes. Differences in aggravated assault rates thus do not reflect the level of serious violence as reliably as differences in homicide rates. But aggravated assault counts clearly determine the allocation of LLEBG money; they constituted sixty-one percent of all Part I violence in 1995, while homicides constituted only one percent.

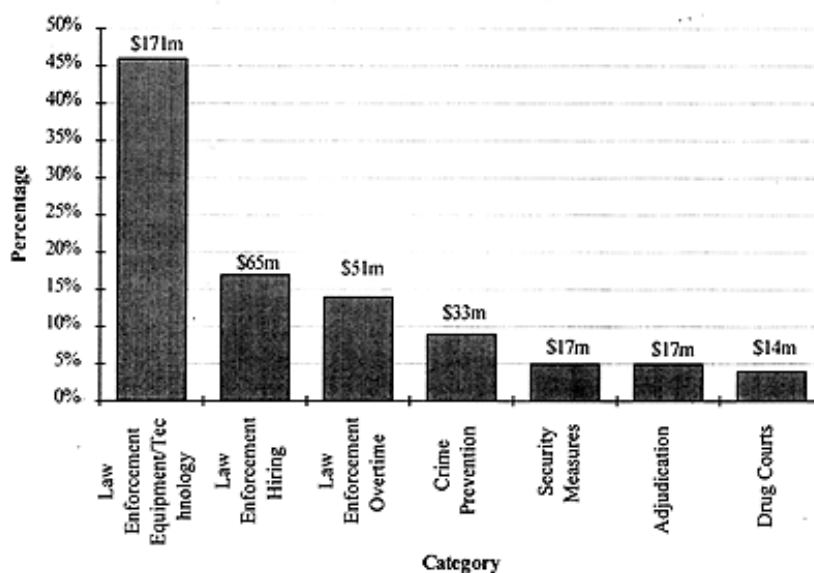
Taking aggravated assaults out of a crime-based formula raises other issues. Homicide alone is a more consistently reported but more unstable indicator, vary widely in many cities from year to year, which would create instability in funding levels if used to allocate funding. Robberies are much more numerous, and more consistently reported than aggravated assault and rape. On balance, the Congress may find a combination of robbery and homicide counts to be the most reliable indicator of the greatest need for supplementary police presence. The same is true for possible statutory requirements on how federal funds should be spent on policing within cities, with hot spots of robbery and homicide receiving top priority. The concentrations of those crimes in the "hot times" of 7 pm to 3 am is a further element a refined crime-based formula for allocating police funding could consider.

COPS Program. The procedure for distributing COPS funds by jurisdiction is the major implication of the scientific review for the COPS Program. Another important issue, however, is the purposes for which COPS officers are funded. While there is promising evidence that any increase in police officers is helpful, there is even stronger evidence of crime prevention effects of specific activities. While COPS Program language has stressed a community policing approach, there is no evidence that community policing *per se* reduces crime without a clear focus on a crime risk factor objective. There is strong evidence, however, that directed patrols and programs targeted on criminogenic substances like guns and alcohol can be effective in attacking crime hot spots. The evidence on crime prevention in places reviewed in Chapter Seven also finds promising support for problem-oriented policing, which could be another more tightly defined purpose area for supplementary police. Thus while the scientific evidence indicates the COPS program is effective, it also suggests it could be more effective if its funding was more focused upon police programs of proven effectiveness.

Local Law Enforcement Block Grants (LLEBG). The scientific evidence also suggests that most of the wide range of police activities supported by the LLEBG program are effective in preventing crime. The major exception is for law enforcement equipment and technology, which received 60 percent of 1996 appropriations directed to specifically to police (see bar graphs). As noted above, there are no published impact evaluations of the effects of equipment and technology on crime. Thus the effectiveness of this funding is unknown. Impact evaluations of this activity are certainly feasible, and could result in substantial improvements in the uses of such technologies as firearms identification, automated fingerprint identification systems, and in-car computer search capacity for stolen cars and arrest warrants. While the common sense value of such systems may appear substantial, the prior history of other equipment items suggests that there is much to be learned from careful analysis of its ultimate effects upon crime, and not just intermediate indicators like arrests.

The Congress could also consider refining the crime-based formula for LLEBG as described above, especially for the usage of police overtime. Many police agencies are now using such overtime to mount directed patrols of the kind found effective in this Chapter. The statutory plan could better insure that overtime is used in the most effective ways possible by incorporating the "hot times, hot spots" criteria, or other programs of proven effectiveness, for overtime work. It could offer additional special purpose areas, such as repeat offender units, which have also been found effective in apprehending and incarcerating serious violent felons.

Local Law Enforcement Block Grant Program
Funding, 1996 through 1997



Byrne Grants. The many uses of Byrne grants almost certainly include the programs of proven effectiveness identified in this Chapter. The most heavily funded Purpose Area, however, is of unknown effectiveness. Multijurisdictional Task Forces against drugs received 40 percent of Byrne Formula funding in the years 1989-94 (Dunworth, et al, 1997), but they have never been subjected to a published impact evaluation. To the extent that the Byrne Program was intended to apprehend drug dealers, it may be inappropriate to consider these task forces a prevention program. It does not seem inappropriate, however, to specify measurable goals for the program, and to design an impact evaluation to test the effectiveness of the Task Forces in accomplishing those goals.

A Purpose area for Byrne Grants in which evaluation research indicates ineffective use of funding is "urban enforcement" against drugs, estimated at \$26 million in FY 1996. To the extent that these grants support street-level drug enforcement with an emphasis on arrests or drug raids, the money is unlikely to prevent crime. The conclusions of multiple evaluations show that such practices do not reduce violent crime or disorder in the absence of constant police presence, and sometimes not even then.

New purpose areas under the Byrne Grants include both drunk driving and gang enforcement and prevention. The scientific evidence strongly supports the use of Byrne grants for drunk driving enforcement as likely to prevent many deaths and serious injuries. It may also have the prevention effect of reducing gun crime, since so many illegally carried guns and gun criminals wanted on warrants can be removed from the streets through traffic enforcement. There is also a preponderance of available evidence that traffic enforcement that can help reduce robbery. There are no impact evaluations available on the effectiveness of police strategies against gangs.

STOP Violence Against Women Block Grants. A review of the detailed listing of FY 1995 STOP grants for law enforcement shows that they generally supported activities of unknown effectiveness. Programs such as training police about domestic violence, hiring domestic violence specialists in police agencies, and computer software for domestic violence records all appear to be useful at face value, but have not been subject to published evaluations. While the individual grant awards are small, there are many in the same program categories. An evaluation program addressing the effectiveness of the major funding categories could enhance the currently unknown effectiveness of most of these grants.

Grants to Encourage Arrest Policies. These grants apparently support similar activities as the STOP grants, although with a more narrow focus on domestic violence against women. To the extent that these grants result in more arrests in areas of high employment, the scientific evidence suggests they will be effective in reducing domestic violence against women. There is also strong scientific evidence, however, that under certain conditions arrests substantially increase future domestic violence against women. This research raises a critical need for further rigorous research, development and program evaluation, which would

attempt to discover means to overcome the apparent criminogenic effects of arrest on certain batterers. This research program, much of which has already been suggested by a National Academy of Sciences panel report (Crowell and Burgess, 1996), could test combinations of arrest with greater use of supplementary measures such as battered women's shelters, detoxification centers for batterers, prosecution, counseling, and other strategies.

Juvenile Crime. Substantial federal funds are spent on policing juvenile crime, for which scientific evidence also shows that policing can increase crime under certain conditions. The effectiveness or harm resulting from federal support of juvenile policing cannot be determined from the present review, since the kinds of activities and kinds of offenders are too diverse. The available evidence, however, suggests that there is a substantial need for randomized controlled tests of federally funded juvenile policing strategies, in order to provide the greatest possible certainty that these programs at least do no harm. Federal support of juvenile curfew enforcement is of unknown effectiveness (and quantity), but the apparent growth of the idea suggests a need for rigorous program evaluation beyond the current NIJ-funded survey.

Other Programs. Federal support of policing in high-crime Weed and Seed target areas is strongly supported by the scientific evidence, as described above. Federal support of policing in the Comprehensive Communities Program is also supported by the evidence that extra police prevent crime more effectively in big cities.

Improving Effectiveness Through Stronger Evaluations

This analysis of how DOJ funding effectiveness shows many critical knowledge gaps. While the scientific evidence does suggest that the majority of DOJ funding for police is indeed effective at preventing crime, there is no evidence available on a large percentage of the other funding. A conservative estimate is that we lack even indirect scientific evidence on the effectiveness of some \$500 million in Congressionally directed federal funding for local police in 1996. The record also suggests that evaluation results could help to revise and channel these funds in ways that would prevent crime more effectively. Moreover, the past two decades have seen police become much more sensitive to the significance of crime prevention evaluation results, and actively put them to good use (Blumstein and Petersilia, 1995).

Evaluation needs for each specific funding program have been noted above as appropriate. A basic statutory plan for accomplishing these evaluations more effectively is offered in Chapter Ten. The remainder of this chapter summarizes the evaluation needs of the current DOJ funding, and then addresses the highest priority areas for police effectiveness research implied by this review of the available evidence.

LLEBG Police Equipment and Technology. Historically, DOJ support of police technologies has focused on the engineering issues in accomplishing technological goals, rather than the human factors in using technology effectively. A major Congressional investment in human factors evaluations could provide the Congress with far better guidance on the effectiveness of its substantial appropriations in this area.

A prime example is NIJ's support of lighter-weight bullet-proof vests, which has apparently saved hundreds of police officers' lives. Even more lives might be saved, however, if evaluation research examined police officer compliance in wearing the vests, factors affecting that compliance, and strategies for increasing the compliance. Similar questions can be answered for the role of automated fingerprint identification systems (AFIS). The percentages of cases in which fingerprints are respectively sought, detected, submitted to an AFIS, resulting in a suspect's identification, leading to an arrest, conviction and incarceration can all be evaluated in a variety of police agencies. The results could encourage greater use of AFIS, if warranted, or if not, a redirection of federal funding into police expenditures that may be more cost-effective in preventing crime.

Another major example is police use of in-car computer terminals. In theory, this equipment can help patrol officers make far more productive use of the time they spend patrolling hot spots, or otherwise awaiting the next dispatch to a call for service. Whether the officers will actually use the terminals to look for stolen cars or check suspicious persons, however, is a key question for an equipment program evaluation. The National Institute of Justice can help design controlled tests (Scientific Methods Score = 5) randomly assigning new in-car computer systems to some officers but not others, with observations of how the officers spend their patrol time both before and after the new equipment is installed. This in turn could inform analyses of the number of arrests made per patrol hour, the number of guns seized, stolen cars recovered, and so on. Similar experiments could be done at the patrol beat level over longer periods of time, testing the hypothesis that beats patrolled by computer-equipped cars will have less crime than beats patrolled without them. If these hypotheses cannot be supported by rigorous scientific testing, additional research could identify the reasons the technology does not prevent crime as expected and possible ways to solve those problems.

Other possible examples of technology evaluations are limited only by the diverse array of police equipment already on the

market and currently in development, from hand-held gun detectors revealing weapons concealed under clothing to electrical devices for police to shut off the ignition of pursued vehicles. A Congressional plan setting aside ten percent of program funding for controlled testing, and another ten percent for research costs, would allow evaluations to identify police technology and equipment of proven effectiveness.

Byrne Grant Multijurisdictional Task Forces Against Drugs. This program may be defined as serving purposes other than crime prevention. Other goals might be measured in amounts of drugs seized or the number of mid-level drug dealers arrested and incarcerated. Testing the effectiveness of these programs in accomplishing the goals might be done through random assignment of a large sample of cases to single jurisdiction versus task force investigation. Alternatively, before-and-after comparisons of drug abuse problems could be made in metropolitan statistical areas where the task forces operate, with further comparisons to areas not creating these task forces. Comparisons might also be made across task forces of different sizes. Basic productivity indicators could also be computed and compared across all Byrne-funded task forces, with an analysis of the reasons for variation in productivity. Further funding might then be conditional upon achieving specific productivity levels. Task force leadership might collaborate with NIJ researchers in framing a set of questions to be answered by such an evaluation, and agree upon scientifically and operationally appropriate means of designing an evaluation of this \$190 million annual program.

Violence Against Women Grants. Both the STOP and Encourage Arrest grants have two critical areas in which program evaluation can help. One is discovering programs of proven effectiveness in preventing almost every kind of crime against women. The other is identifying the most effective means of delivering a wide array of support services, from police training to data banks. Both tasks are hindered by the fact that many of the grants awarded under these funding programs are under \$20,000, and are too small in scope to warrant separate evaluations. This issue, which also applies to the Byrne Grants and is addressed in Chapter Ten, is one that a Congressional plan for evaluation can resolve. It is arguably inefficient for each grantee to confront similar issues separately, such as classroom instructional materials for police training. A national evaluation program to identify Violence Against Women programs of proven effectiveness would provide much better guidance for how to focus the thousands of small grants scheduled to be awarded by these programs in future years.

The methods of testing program effectiveness in crime prevention are discussed generally in Chapter Four. The most important police research issues concern the prediction and prevention of serious domestic violence, for which no scientifically validated risk assessment tools are currently available (Sherman and Strang, 1996). The effectiveness of police-monitored personal radio alarm necklaces for women given court orders of protection is a high priority for a randomized controlled trial. So is a comparison of the crime prevention effectiveness of misdemeanor domestic assault arrests with and without prosecution, which could indicate a need for Congressional earmarking of funding for the specific purpose of prosecution of such cases. Issuance of arrest warrants for absent misdemeanor assault offenders is a promising practice (Dunford, 1990) that needs replication. Various police responses to non-violent domestic disputes (which are more numerous than violent ones) can be compared and tested for their effectiveness in preventing subsequent violence.

Program effectiveness at accomplishing goals other than crime prevention can also benefit from evaluations. Improved gender equality and victim services in police actions can also be measured scientifically as program outcomes. Regardless of the effectiveness of mandatory arrest, for example, the literature reveals substantial difficulty in obtaining patrol officer compliance with arrest policies for misdemeanor assaults--of which the majority require no medical treatment and one-third have no visible signs of injury. The tendency of officers to trivialize these crimes, to respond slowly to domestic calls, and to refuse to make arrests are all behaviors that DOJ-funded training and technical assistance programs may seek to change. Whatever methods are used to pursue those goals, randomized controlled tests can reveal which methods are most effective. Followup observations of police treatment of women victims in the field would be a critically important--although expensive--component of evaluating training programs. Absent such careful scrutiny by a "big science" national evaluation effort, however, the effectiveness of programs for changing police behavior will remain unknown. Here again, a Congressional plan for developing programs of proven effectiveness could make a major difference.

Getting Guns Off the Streets--With Legitimacy. One major hypothesis about the declining homicide rate in the US is that police have become more effective at deterring illegal gun carrying in public places (Moore, 1980; Wilson, 1994). Further testing of the gun carrying hypothesis seems to warrant the highest priority for federal research, given the clear connection of guns to serious juvenile and gang violence. At the same time, the issue of police legitimacy and perceived harassment of young black males is a crucial aspect of gun enforcement. A research agenda developing both police effectiveness at detecting illegal guns, while enhancing police legitimacy in the eyes of all citizens including offenders, could address both issues simultaneously. On these issues, research could help reduce both homicides and riots, and increase general compliance with the law through greater respect for the moral authority of police.

Patrol Location and Timing Strategies. Since gun violence is heavily concentrated in less than 100 of the 10,000 police agencies reporting to the FBI, research is also needed on more general approaches to directed patrols in hot spots and hot times. One example is the apparently mundane is of police schedules, which may be vital to crime prevention. Police chiefs face enormous resistance from police unions in changing work assignments and schedules to concentrate police in high crime areas between 7 pm and 3 am, with the most officers assigned on weekends. Many must use overtime pay to even move in that direction. If experiments comparing crime-focused staffing patterns with conventional procedures found a reduction in crime, that could support police chiefs trying to make better use of taxpayer dollars.

Juvenile Shaming and Restorative Justice. Every police agency must deal with juvenile offenders. The Australian community accountability conferences can be tested in police agencies large and small. Given the negative findings about the effects of arrest on juvenile offending, there is much to be gained and perhaps little to lose by developing alternatives to arrest. The growing concern over serious juvenile violence, especially gun offenses in big cities, should not distort the truth that most juveniles are still arrested for shoplifting and other minor offenses. A program for first-offenders that works better to nip criminal careers in the bud may well prevent more serious property crime, such as auto theft, and violent crime. It may also increase police legitimacy in the eyes of the participating adults, far more effectively than conventional approaches to community policing.

Multi-Agency Experiments. The proposed Congressional restructuring of evaluations in Chapter Ten would make possible a major breakthrough in police research: comparing strategies across large sample of police departments. Random assignment of enhanced federal funding for specific strategies to half of the hundred largest cities could go a long way towards learning what works of agency-wide policies. A prime example is traffic enforcement. Proactive police arrests for drunk driving are generally sporadic (Ross, 1994), in part because there is no direct evidence that traffic deaths will rise if drunk driving arrests decline. Moreover, the evidence that traffic enforcement reduces robbery is suggestive but not conclusive. Taken together, the twin objectives of reducing traffic deaths and robberies would justify investment in a 100-agency randomized experiment in traffic enforcement. An experiment in which 50 police agencies selected at random from 100 volunteering agencies received substantial federal funding for greatly increased traffic enforcement--by 300 or 400%-- would be an ideal test of the hypothesis now weakly supported by merely correlational studies.

Another approach would go right to the core of the 1994 Crime Act--the 100,000 police. An experiment in which 20% more officers (over current levels including COPS grants) were randomly funded in half of a sample of police agencies would provide a far more definitive test of the crime prevention effectiveness of the \$1.4 billion annual expenditure. The popular support for this program may render the question moot for the moment, but the question remains of just how effective the program is. Experiments using this design could also test other theories, such as problem-solving or community policing uses of extra officers.

Evaluation Funding Priorities. Over half of all DOJ funding for local crime prevention is directed to the police. The same cannot be said, however, for the allocation of program evaluation funding. The Congress has not addressed the question of evaluation funding priorities with the same clarity as it has identified program funding priorities. This is one more reason for the Congress to consider the restructuring of DOJ crime prevention evaluations as discussed in Chapter Ten.

NOTES

¹And in one case, the arrest of the entire Copenhagen police force by the Nazis in 1944, which was equivalent to a strike because the occupying German army did nothing to enforce civilian criminal laws before or after arresting the police (Andenaes, 1974).

²There was no difference in the self-reported offending data, but only 60% of the offenders gave followup interviews.

³Given the potential for vehicular homicide attached to drunk driving, that offense is included here in the definition of violent crime. It would not, however, be classified that way for most other purposes.

⁴These amounts are extrapolated from the Dunworth, et al (1997) analysis of the award of grants in 1989-94, proportionately applied to the FY 1996 allocation of \$475 million.

REFERENCES

- Abrahamse, Allan F., Patricia A. Ebener, Peter W. Greenwood, Nora Fitzgerald, and Thomas E. Kosin
1991 An Experimental Evaluation of the Phoenix Repeat Offender Program. *Justice Quarterly* 8:141-168.
- Adams, Kenneth
1996 Paper Presented to the National Evaluation Conference, National Institute of Justice, Washington, D.C.
- Annan, Sampson and Wesley Skogan
1993 *Drug Enforcement in Public Housing: Signs of Success in Denver*. Washington, DC: Police Foundation.
- Andenaes, Johannes
1974 *Punishment and Deterrence*. Ann Arbor, MI: University of Michigan Press.
- Barker, M., Geraghty, J., Webb, B. & Key, T.
1993 *The Prevention of Street Robbery*. Police Research Group Crime Prevention Series Paper No. 44. London: Police Department, Home Office.
- Barnes, Geoffrey C.
1996 Paper presented to the American Society of Criminology, Chicago.
- Bennett, Trevor
1990 *Evaluating Neighborhood Watch*. Basingstoke: Gower.
- Berk, Richard A., Alec Campbell, Ruth Klap, and Bruce Western
1992a A Bayesian Analysis of the Colorado Spouse Abuse Experiment. *Journal of Criminal Law and Criminology* 83: 170-200.
1992b The Deterrent Effect of Arrest in Incidents of Domestic Violence: A Bayesian Analysis of Four Field Experiments. *American Sociological Review* 57: 698-708.
- Black Donald
1980 *The Manners and Customs of the Police*. NY: Academic Press.
- Boydston, John
1975 *The San Diego Field Interrogation Experiment*. Washington, DC: Police Foundation.
- Brown, W.
1974 *Evaluation of Police Patrol Operations*. Unpublished M.A. Thesis, University of Ottawa.
- Brown, Don W.
1978 Arrests and Crime Rates: When Does a Tipping Effect Occur?. *Social Forces* 57: 671-82.

Buerger, Michael E. (ed)

1994 *The Crime Prevention Casebook: Securing High Crime Locations*. Washington, DC: Crime Control Institute.

Buerger, Michael E., Anthony Petrosino and Ellen G. Cohn

1995 In John Eck and David Weisburd, eds. *Crime and Place*. Monsey, N.Y.: Criminal Justice Press and Police Executive Research Forum.

Burney, E.

1990 *Putting Street Crime in Its Place: A Report to the Community/Police Consultative Group for Lambeth*. London: Goldsmith's College.

Bushway, Shawn

1996 *The Impact of a Criminal History Record on Access to Legitimate Employment*. PhD Dissertation, H. John Heinz School of Public Policy and Management, Carnegie Mellon University.

Chaiken, Jan M.

1978 *What Is Known About Deterrent Effects of Police Activities*. In James A. Cramer, ed., *Preventing Crime*. Beverly Hills, CA: Sage Publications.

Chaiken, Jan M., M. Lawless and K. Stevenson

1975 *The Impact of Police Activity on Crime: Robberies on the New York City Subway System*. *Urban Analysis* 3: 173-205.

Chamlin, Mitchell

1988 *Crimes and Arrest: An Autoregressive Integrated Moving Average (ARIMA) Approach*. *Journal of Quantitative Criminology*.

1991 *A Longitudinal Analysis of the Arrest-Crime Relationship: A Further Examination of the Tipping Effect*. *Justice Quarterly* 8: 187-199.

Clark, Gerald

1969 *What Happens When the Police Go On Strike*. *New York Times Magazine*, Nov. 16, sec. 6, pp.45, 176-85, 187, 194-95.

Clawson, C. and S.K. Chang

1977 *The Relationship of Response Delays and Arrest Rates*. *Journal of Police Science and Administration*. 5: 53-68.

Cohen, Lawrence and Marcus Felson

1979 *Social Change and Crime Rate Trends: A Routine Activities Approach*. *American Sociological Review* 44: 588-607.

Crowell, Nancy A. and Ann W. Burgess

1996 *Understanding Violence Against Women*. Washington, DC: National Academy of Sciences.

Dahmann, J.S.

1975 *Examination of Police Patrol Effectiveness*. McLean Va.: Mitre Corporation.

Dunford, Franklyn W.

1990 System-Initiated Warrants for Suspects of Misdemeanor Domestic Assault: A Pilot Study. *Justice Quarterly* 7: 631-653.

1992 The Measurement of Recidivism in Cases of Spouse Assault. *Journal of Criminal Law and Criminology* 83: 120-136.

Dunford, Franklyn W., David Huizinga, and Delbert S. Elliott

1990 The Role of Arrest in Domestic Assault: The Omaha Police Experiment. *Criminology* 28: 183-206.

Dunworth, Terence, Peter Haynes, and Aaron J. Saiger

1997 National Assessment of the Byrne Formula Grant Program. National Institute of Justice Research in Brief. Washington, DC: US Department of Justice.

Eck, John E. and William Spelman

1987 Problem Solving: Problem-Oriented Policing in Newport News. Washington, DC: Police Executive Research Forum.

Eck, John E. and Dennis Rosenbaum

1994 The New Police Order: Effectiveness, Equity and Efficiency in Community Policing. In Dennis Rosenbaum, Ed., *The Challenge of Community Policing: Testing the Promises*. Thousand Oaks: Sage.

Epperlein, T.

1985 The Use of Sobriety Checkpoints as a Deterrent: An Impact Assessment. Phoenix: Arizona Department of Public Safety.

Fagan, Jeffrey

1996 The Criminalization of Domestic Violence: Promises and Limits. Research Report. Washington, DC: National Institute of Justice.

Farrington, David P.

1977 The Effects of Public Labeling. *British Journal of Criminology* 17: 112-25.

1982 Randomized Experiments on Crime and Justice. In Michael Tonry and Norval Morris, Eds., *Crime and Justice: An Annual Review of Research*. Chicago: University of Chicago Press.

Felson, Marcus

1994 *Crime and Everyday Life*. Thousand Oaks, CA: Pine Forge Press.

Fienberg, Stephen E., Kinley Larntz, and Albert J. Reiss, Jr.

1976 Redesigning the Kansas City Preventive Patrol Experiment. *Evaluation* 3: 124-131.

Garner, Joel, Jeffrey Fagan and Christopher D. Maxwell

1995 Published Findings From the NIJ Spouse Assault Replication Program: A Critical Review. *Journal of Quantitative Criminology* 8: 1-29.

Gibbs, Jack

1975 *Crime, Punishment and Deterrence*. New York: Elsevier.

Gold, Martin and Jay Williams

1970 National Study of the Aftermath of Apprehension. *Prospectus* 3: 3-12.

Goldstein, Herman

1979 *Improving Policing: A Problem-Oriented Approach*. *Crime and Delinquency* 25: 236-258.

Gorer, Geoffrey

1955 *Exploring English Character*. London: Cresset. Gorer, Geoffrey

Greenberg, David F., Ronald C. Kessler, and Charles H. Logan

1979 A Panel Model of Crime Rates and Arrest Rates. *American Sociological Review* 44: 843-50.

Greenberg, David and Ronald C. Kessler

1982 The Effects of Arrests on Crime: A Multivariate Panel Analysis. *Social Forces* 60: 771-90.

Gurr, Ted Robert, Peter N. Grabosky, and Richard C. Hula

1977 *The Politics of Crime and Conflict: A Comparative History of Four Cities*. Beverly Hills, CA: Sage.

Hayes, Gary

1979 Personal Communication

Hirschi, Travis

1986 On The Compatibility of Rational Choice and Social Control Theories of Crime. In Derek B. Cornish and Ronald V. Clarke, Eds., *The Reasoning Criminal*. NY: Springer-Verlag.

Hirschel, David, Ira W. Hutchison III, Charles W. Dean, Joseph J. Kelley, and Carolyn E. Pesackis

1990 Charlotte Spouse Assault Replication Project: Final Report. Charlotte, NC: University of North Carolina at Charlotte.

Holliday, L.P.

1974 A Methodology For Radio Car Planning. Unpublished Ms., New York City RAND Institute.

Homel, Ross

1990 Random Breath Testing and Random Stopping Programs in Australia. In R.J. Wilson and R. Mann, Eds., *Drinking and Driving: Advances in Research and Prevention*. NY: Guilford Press.

Homel, Ross

1993 Reference supplied upon request

Hope, Tim

1995 Community Crime Prevention. In Michael Tonry and David P. Farrington, Eds., *Building a Safer Society*. Crime and

Justice, Vol. 19. Chicago: University of Chicago Press.

Huizinga, David and Finn Esbensen

1992 School Safety 15: 15-17.

Hurst, P. and P. Wright

1980 Deterrence at Last: The Ministry of Transport's Alcohol Blitzes. Paper Presented to the Eighth International Conference on Alcohol, Drugs and Traffic Safety, Stockholm.

Isaacs, H.

1967 A Study of Communications, Crimes and Arrests in A Metropolitan Police Department. Task Force Report: Science and Technology, A Report to the President's Commission on Law Enforcement and Administration of Justice. Washington, DC: USGPO.

Kansas City, MO, Missouri Police Department

1977 Response Time Analysis. Kansas City, MO: Author.

Kelling, George L.

1988 Community Policing. Presentation to the Executive Sessions on the Police, Kennedy School of Government, Harvard University.

Kelling, George L., Antony M. Pate, Duane Dieckman and Charles Brown

1974 The Kansas City Preventive Patrol Experiment: Technical Report. Washington, DC: Police Foundation.

Kelling, George L. and Catherine M. Coles

1996 Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities. NY: Free Press.

Kennedy, David M., Anne M. Piehl, and Anthony A. Braga

1996 Youth Gun Violence in Boston: Gun Markets, Serious Youth Offenders, and a Use Reduction Strategy.

Kleiman, Mark

1988 Crackdowns: The Effects of Intensive Enforcement on Retail Heroin Dealing. In Marcia Chaiken, Ed., Street-Level Drug Enforcement: Examining the Issues. Washington, DC: National Institute of Justice.

Klein, Malcolm

1986 Labeling Theory and Delinquency Policy: An Empirical Test. Criminal Justice and Behavior 13: 47-79.

Koper, Christopher

1995 Just Enough Police Presence: Reducing Crime and Disorderly Behavior By Optimizing Patrol Time in Crime Hot Spots.

Larson, Richard

1975 What Happened to Patrol Operations in Kansas City. Journal of Criminal Justice. 3: 299-330.

Laycock, Gloria

1991 Operation Identification, or the Power of Publicity? *Security Journal* 2: 67-72.

Lee, W.L. Melville

1901

[1971] *A History of Police in England*. Montclair, NJ: Patterson-Smith.

Lindsay, Betsy and Daniel McGillis

1986 *Citywide Community Crime Prevention: An Assessment of the Seattle Program*. In Dennis Rosenbaum, Ed., *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

Logan, Charles H.

1975 Arrest Rates and Deterrence. *Social Science Quarterly* 56: 376-89.

Makinen, Tuija, and Hannu Takala

1980 The 1976 Police Strike in Finland. *Scandinavian Studies in Criminology* 7: 87-106.

Marciniak, Elizabeth

1994 *Community Policing of Domestic Violence: Neighborhood Differences in the Effect of Arrest*. PhD Dissertation, University of Maryland.

Martin, Susan and Lawrence Sherman

1986 Selective Apprehension: A Police Strategy for Repeat Offenders. *Criminology* 24: 55-72.

Marvell, Thomas B. and Carlisle E. Moody

1996 Specification Problems, Police Levels and Crime Rates. *Criminology* 34: 609-646.

Moore, Mark

1980 The Police and Weapons Offenses. *Annals of the American Academy of Political and Social Sciences* 452: 22-32.

1992 In Michael Tonry and Norval Morris, Eds., *Modern Policing*. *Crime and Justice*, Vol. 15. Chicago: University of Chicago Press.

National Advisory Commission on Civil Disorders

1968 Report. NY: Bantam Books.

Pate, Tony, Amy Ferrara, Robert A. Bowers, and Jon Lorence

1976 *Police Response Time: Its Determinants and Effects*. Washington, DC: Police Foundation.

Pate, Antony M. and Wesley Skogan

1985 *Coordinated Community Policing: The Newark Experience*. Technical Report. Washington, DC: Police Foundation.

Pate, Antony M., Marlys McPherson, and Glenn Silloway

1987 The Minneapolis Community Crime Prevention Experiment: Draft Evaluation Report. Washington, DC: Police Foundation.

Pate, Antony, Edwin E. Hamilton and Sampson Annan

1991 Metro-Dade Spouse Abuse Replication Project: Draft Final Report. Washington, D.C.: Police Foundation.

Pate, Antony M. and Edwin E. Hamilton

1992 Formal and Informal Deterrents to Domestic Violence: The Dade County Spouse Assault Experiment. *American Sociological Review*. 57: 691-698.

Paternoster, Raymond, Bobby Brame, Ronet Bachman and Lawrence W. Sherman

1996 Do Fair Procedures Matter? The Effect of Procedural Justice on Spouse Assault.

Paper accepted for publication in *Law and Society Review*.

Pfuhl, Erdwin H., Jr.

1983 Police Strikes and Conventional Crime: A Look At the Data. *Criminology* 21: 489- 503.

Pierce, Glenn, Susan A. Spaar, and LeBaron Briggs, IV.

1988 The Character of Police Work: Strategic and Tactical Implications. Unpublished Ms., Northeastern University, Center for Applied Social Research.

Police Foundation

1981 The Newark Foot Patrol Experiment. Washington, D.C.: Police Foundation.

President's Commission on Law Enforcement and Administration of Justice

1967 The Challenge of Crime in a Free Society. Washington, DC: USGPO.

Press, S.J.

1971 Some Effects of an Increase in Police Manpower in the 20th Precinct of New York City. NY: New York City Rand Institute.

Pringle, Patrick

1955 Hue & Cry: The Birth of the British Police. London: Museum Press.

Repetto, Thomas

1996 Reducing Gun Crime in New York City: A Research and Policy Report. NY: Citizens Crime Commission of New York City

Reiss, Albert J. Jr.

1971 The Police and the Public. New Haven: Yale University Press.

1985 Policing a City's Central District: The Oakland Story. Washington, DC: National Institute of Justice.

1992 Police Organization in the Twentieth Century. In Michael Tonry and Norval Morris, eds., *Modern Policing. Crime and Justice*, Vol. 15. Chicago: University of Chicago Press.

1995 The Role of the Police in Crime Prevention. In Per-Olof Wikstrom, Ed., *Integrating Crime Prevention Strategies: Propensity and Opportunity*. Stockholm: National Council for Crime Prevention.

Reiss, Albert J. Jr., and Jeffrey A. Roth, eds.

1993 *Understanding and Preventing Violence*. Washington, DC: National Academy of Sciences.

Rosenbaum, Dennis, Dan A. Lewis and Jane A. Grant

1986 Neighborhood-Based Crime Prevention: Assessing the Efficacy of Community Organizing in Chicago. In Dennis Rosenbaum, editor, *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

Ross, H. Laurence

1973 Law, Science and Accidents: The British Road Safety Act of 1967. *Journal of Legal Studies* 2: 1-78.

1975 The Scandinavian Myth: The Effectiveness of Drinking-and-Driving Legislation in Sweden and Norway. *Journal of Legal Studies* 4: 285-310.

1977 Deterrence Regained: The Chesire Constabulary's "Breathalyser Blitz." *Journal of Legal Studies* 6: 241-249.

1981 *Deterring the Drinking Driver: Legal Policy and Social Control*. Lexington, Mass: Lexington Books.

1992 *Confronting Drunk Driving: Social Policy for Saving Lives*. New Haven: Yale University Press.

1994 Personal Communication

Ross, H. Laurence, R. McCleary and T. Epperlein

1982 Deterrence of Drinking and Driving in France: An Evaluation of the Law of July 12, 1978. *Law and Society Review*.

Russell, Francis

1975 *A City In Terror: 1919--The Boston Police Strike*. New York: Viking.

Sampson, Robert and Jacqueline Cohen

1988 Deterrent Effects of Police on Crime: A Replication and Theoretical Extension. *Law and Society Review* 22:163-189.

Schnelle, J.F., R.E. Kirchner, Jr., J.D. Casey, P.H. Uselton Jr., and M.P. McNeese

1977 Patrol Evaluation Research: A Multiple-Baseline Analysis of Saturation Police Patrolling During Day and Night Hours. *Journal of Applied Behavioral Analysis* 10: 33-40.

Schwartz, Richard and Jerome Skolnick

1962 Two Studies of Legal Stigma. *Social Problems* 10: 133-138.

Sellwood, A.V.

1978 *Police Strike--1919*. London: W.H. Allen.

Shaw, James W.

1994 Community Policing Against Crime: Violence and Firearms. PhD dissertation, University of Maryland at College Park.

Sherman, Lawrence W.

1974 Becoming Bent. In Lawrence W. Sherman, Ed., Police Corruption: A Sociological Perspective. NY: Anchor-Doubleday.

1990 Police Crackdowns: Initial and Residual Deterrence. In Michael Tonry and Norval Morris, Eds., Crime and Justice: A Review of Research, Vol. 12. Chicago: University of Chicago Press.

1992 Policing Domestic Violence: Experiments and Dilemmas. NY: Free Press.

1993 Defiance, Deterrence, and Irrelevance: A Theory of the Criminal Sanction. *Journal of Research in Crime and Delinquency* 30: 445-473.

1995 The Police. In James Q. Wilson and Joan Petersilia, eds. Crime. San Francisco: ICS Press.

Sherman, Lawrence W., Catherine H. Milton and Thomas Kelly

1973 Team Policing: Seven Case Studies. Washington, DC: Police Foundation.

Sherman, Lawrence W., Patrick R. Gartin and Michael E. Buerger

1989 Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place. *Criminology* 27: 27-55.

Sherman, Lawrence W. and Richard A. Berk

1984 The Specific Deterrent Effects of Arrest for Domestic Assault. *American Sociological Review* 49: 261-272.

Sherman, Lawrence W., Janell D. Schmidt, Dennis P. Rogan, Patrick R. Gartin, Ellen G. Cohn, Dean J. Collins and Anthony R. Bacich

1991 From Initial Deterrence to Long-Term Escalation: Short-Custody Arrest for Poverty Ghetto Domestic Violence. *Criminology* 29: 821-50.

Sherman, Lawrence W., Janell D. Schmidt, Dennis P. Rogan, Patrick R. Gartin, Ellen G. Cohn, Dean J. Collins and Anthony R. Bacich

1992 The Variable Effects of Arrest on Criminal Careers: The Milwaukee Domestic Violence Experiment. *Journal of Criminal Law and Criminology* 83: 1371-69

Sherman, Lawrence and Dennis P. Rogan

1995 Deterrent Effects of Police Raids on Crack Houses: A Randomized, Controlled, Experiment. *Justice Quarterly* 12: 755-781.

Sherman, Lawrence W., James W. Shaw and Dennis P. Rogan

1995 The Kansas City Gun Experiment: Research in Brief. Washington, D.C.: National Institute of Justice.

Sherman, Lawrence and David A. Weisburd

1995 General Deterrent Effects of Police Patrol in Crime "Hot Spots:" A Randomized, Controlled Trial. *Justice Quarterly* 12: 625-648.

Sherman, Lawrence W. and Heather Strang

1996 Policing Domestic Violence: The Problem-Solving Paradigm. Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Skogan, Wesley

1990 Disorder and Decline. New York: Free Press.

1994 The Impact of Community Policing on Neighborhood Residents: A Cross-Site Analysis. In Dennis Rosenbaum, Ed., The Challenge of Community Policing: Testing the Promises. Thousand Oaks: Sage.

1996 Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention, Stockholm, Swedish National Police College.

Skogan, Wesley and 18 others

1995 Community Policing In Chicago, Year Two. Chicago: Illinois Criminal Justice Information Authority.

1996 Community Policing in Chicago, Year Three. Chicago: Illinois Criminal Justice Information Authority.

Skolnick, Jerome and David Bayley

1985 The New Blue Line. NY: Free Press

Smith, Douglas and Visher, Christy

1981 Street-Level Justice: Situational Determinants of Police Arrest Decisions. *Social Problems* 29: 167-78.

Smith, Douglas and Patrick R. Gartin

1989 Specifying Specific Deterrence: The Influence of Arrest on Future Criminal Activity.

Spelman, William and Brown, Dale K.

1981 Calling the Police: A Replication of the Citizen Reporting Component of the Kansas City Response Time Analysis. Washington, DC: Police Executive Research Forum.

Stead, Philip John

1977 Patrick Colquhoun. In Philip John Stead, Editor, *Pioneers in Policing*. Montclair, NJ: Patterson-Smith.

Strang, Heather

1996 Paper Presented to the American Society of Criminology, Chicago, November.

Sviridoff, Michelle, et al.

1992 The Neighborhood Effects of Street-Level Drug Enforcement: Tactical Narcotics Teams in New York. NY: Vera Institute of Justice.

Task Force Report

1967 The Police. Report to the A Report to the President's Commission on Law Enforcement and Administration of Justice. Washington, DC: USGPO.

Tittle, Charles R. and Alan R. Rowe

1974 Certainty of Arrest and Crime Rates: A Further Test of the Deterrence Hypothesis. *Social Forces* 52: 455-62.

Trojanowicz, Robert

1986 Evaluating a Neighborhood Foot Patrol Program: The Flint, Michigan Project. In Dennis Rosenbaum, editor, *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

Tyler, Tom

1990 *Why People Obey the Law*. New Haven: Yale University Press.

Uchida, Craig D., Brian Forst and Sampson O. Annan

1992 *Modern Policing and the Control of Illegal Drugs: Testing New Strategies in Two American Cities*. Research Report. Washington, D.C.: National Institute of Justice.

Voas, et al

1985 from Ross 1992

Weisburd, David and Lorraine Green

1995 Policing Drug Hot Spots: The Jersey City Drug Market Analysis Experiment. *Justice Quarterly* 12: 711-735.

Weiss, Alex and Edmund McGarrell

1996 Paper Presented to the American Society of Criminology, Chicago, November.

Wilson, James Q.

1994 Just Take Away Their Guns: Forget Gun Control. *New York Times Magazine* March 20, pp. 46-47.

Wilson, James Q. and Barbara Boland

1978 The Effect of the Police On Crime. *Law and Society Review* 12: 367-390.

Wilson, James Q. and George L. Kelling

1982 Broken Windows: The Police and Neighborhood Safety. *Atlantic Monthly* 249: 29- 38.

Wilson, O.W.

1963 *Police Administration*. NY: McGraw-Hill

Wolfgang, Marvin, Robert Figlio and Thorsten Sellin

1972 *Delinquency in a Birth Cohort*. Chicago: University of Chicago Press.

Wycoff, Mary Ann, Antony M. Pate, Wesley Skogan and Lawrence W. Sherman

1985 *Citizen Contact Patrol in Houston: Executive Summary*. Washington, DC: Police Foundation.

Wycoff, Mary Ann and Wesley Skogan

1986 Storefront Police Offices: The Houston Field Test. In Dennis Rosenbaum, editor, *Community Crime Prevention: Does It Work?* Beverly Hills, CA: Sage.

1993 Community Policing in Madison: Quality from the Inside Out. An Evaluation of Implementation and Impact. Research Report. Washington, D.C.: National Institute of Justice.

Zimmer, Lynn

1990 Proactive Policing Against Street-Level Drug Trafficking. *American Journal of Police* 11: 43-74.

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CRIMINAL JUSTICE AND CRIME PREVENTION¹

By Doris Layton MacKenzie

1. INTRODUCTION

Past behavior is the best predictor of future behavior. From this perspective, it is reasonable to attempt to prevent crime by preventing known offenders from continuing their criminal behavior. This chapter focuses on the options for dealing with actual perpetrators once they are identified so that crime in the community can be reduced. While traditional crime prevention efforts are directed toward those who are not yet involved in crime, our broader definition includes any setting that reduces crime in the community. By definition, therefore, we include as crime prevention, programs in the courts and corrections that focus on reducing the criminal activities of offenders.

For policy purposes, recent interventions for reducing crime through the courts and corrections can be classified into six categories:

- (1) **Incapacitation** or depriving the offender of the capacity to commit crimes usually through detention in prison or capital punishment.
- (2) **Deterrence** or punishment that is so repugnant that neither the punished offender (specific deterrence) nor others (general deterrence) will commit the crime in the future.
- (3) **Rehabilitation** or treatment directed toward changing the offender and thereby preventing future criminal behavior of the treated individual.
- (4) **Community Restraints** or the surveillance and supervision of offenders in the community in order to reduce their capacity and/or opportunity for criminal activities.
- (5) **Structure, Discipline and Challenge** programs that use physically and/or mentally stressful experiences to change the offenders in a positive way or deter them from later crime (specific deterrence).
- (6) **Combining Rehabilitation and Restraint** in order to insure that offenders make changes that are associated with a reduction in future criminal behavior.

As shown in Table 9-1, these are not mutually exclusive categories. The categorization is a heuristic device to classify a wide range of programs currently existing in criminal justice systems throughout the United States. They represent different strategies for controlling crime in the community. Most have some theoretical rationale for expecting a reduction in crime; they differ enormously in the mechanism anticipated to produce the reduction in crime.

Support for these different strategies of crime prevention in the courts and corrections have changed enormously in the past thirty years. In the 1970s, the strong emphasis on rehabilitation that had existed since the turn of the century gave way first to a focus on equality and fairness in sentencing, and then to an increased focus on incapacitation, deterrence and restraint strategies of crime prevention. Today, incapacitation is the primary justification for imprisonment in the U.S. criminal justice system (Zimring and Hawkins, 1995).

A dramatic increase in offender populations accompanied this change in philosophy. The increase was unprecedented. It followed a period of relative stability in incarceration rates that had existed throughout most of the twentieth century. For example, from 1945 to 1974 the average incarceration rate was 106 inmates per every 100,000 individuals in the population. Incarceration rates fluctuated only slightly, from a low of 93 inmates per 100,000 to a maximum rate 119 (Blumstein and Cohen, 1973). Since that time, however, incarceration rates have grown enormously. By 1985, the number of inmates per 100,000 U.S. residents was to 313; this grew to 600 by 1995 (Bureau of Justice Statistics, 1996).

This increase impacted the total correctional populations and not just prisons. Since 1980, the total estimated correctional population rose 179 percent from 1.8 million in 1980 to 5.1 million in 1994 (BJS, 1995). For parole populations the increase was 213 percent, for probation populations the increase was 1,565 percent (BJS, 1995).

While this analysis of crime prevention focuses on how effective these different strategies are in reducing crime, it is important to remember that each strategy has impacts other than crime reduction. For example, analysis of the costs and benefits is critically important in any examination of policy relevant issues. This has been the focus of much of the incapacitation discussion because of the large impact associated with policies that increase the need for building, operating and maintaining the prisons necessary for incapacitation. On the other hand, with the exception of some drug treatment analyses, there are fewer discussions and less research

examining the costs and benefits of rehabilitation. Yet, such analysis is important. A high quality, intensive treatment program for offenders can be relatively costly. The advantages of the program must be weighed against the costs. Such issues, among others, are important in policy decisions.

Table 9-1. Different strategies for preventing crime by the courts and corrections showing the anticipated mechanisms for impact.

THE COURTS AND CORRECTIONS		CRIME PREVENTION IN			
		Deterrence	Rehabilitation	Restraints	Community
Structure, Discipline and Challenge	Combining Incapacitation and Restraints and Rehabilitation				
Experience will change offenders in a positive way they will continue to commit crimes	Imprisonment removes offenders' capacity to commit crimes (forced to in community take steps to (General) positively change)	General: Punitive punishment will keep those in the community from committing crimes	Change aspects of offenders that are changeable and associated with criminal behavior	Increased surveillance and control in the community will decrease offenders' capacity to commit crimes	so not to
General and specific deterrence treatment longer	Small number of high rate offenders can be coerced to remain in and imprisoned during their active criminal career	Specific: Punitive punishment will keep punished individuals from committing more crimes	Intensive, adequately implemented programs (with treatment integrity) of sufficient duration (dosage)	Increased surveillance and control in the community will decrease offenders' opportunity to commit crimes	
Coercion will					

not diminish	(Specific)		
the		Target higher	Specific
effectiveness	General and	risk cases	deterrence
of treatment	Specific deterrence	Cognitive, skill oriented and behavioral treatment methods	

However, the focus of this chapter is on strategies that reduce crime in the community. From this perspective, issues such as costs, prison crowding, reducing risk factors, public opinion, and the politicalization of decision making are considered important only if they have a direct impact on criminal activities and crime prevention. In the following sections of this chapter, these topics are discussed only when they are such an important part of the interpretation of the impact of some programs that they cannot be easily dismissed. In general, the focus of this review is on activities in the courts and corrections that have a direct bearing on preventing crime by reducing the criminal activities of known offenders.

Given the scope of programs and evaluations, examining crime prevention techniques in the criminal justice system is a very large assignment and decisions had to be made about what was important to emphasize in this review. Given the limitations on time, some important topics had to be omitted from this report. Four obvious examples are: Capital punishment; deterrence research not directly related to court or correctional programs; transferring juveniles to adult courts; and community treatment for drug-involved offenders. Another topic that was not described is the relatively new programs on restorative justice and mediation. These are important and current topics, and the interested reader should refer to the recent summaries of the work.

1.1 Examining the scientific evidence

In evaluating the research and assessing the effectiveness of the six identified strategies of crime reduction, this chapter uses three different methods: (1) reviews of the research literature; (2) reviews of meta-analyses used to examine groups of studies; and (3) the scientific methods score combined with significance tests. There were several reasons for this decision to use the different methodologies to review the research and draw conclusions about effectiveness in crime prevention. First, some strategies of crime prevent do not lend themselves to program evaluation that can be easily categorized using the scientific methods score we designed. For example, incapacitation research uses complex statistical models to estimate the crimes prevented by various policy decisions. Such studies do not easily lend themselves to the scoring methodology used for evaluating specific programs. We decided that reviewing the literature on incapacitation, and not scoring each study was more valuable for drawing conclusions about the effectiveness of incapacitation strategies.

Reviews of the literature were also used to judge the effectiveness of several other programs. Most often this was because current reviews of the literature were available, and there was little research that had been completed in the past five or six years that would change the conclusions of the previous reviews. For example, the discussion of shock probation and the Scared Straight programs were based on past literature reviews.

Broad assessments of treatment effects have greatly benefited from the rise of a new statistical technique, meta-analysis that enables researchers to aggregate the continuously growing research literature in order to examine and compare the effect sizes for treatment versus control groups comparisons. In some areas, such as the rehabilitation literature, there is a body of research using meta-analyses to examine the effectiveness of programs. Wherever possible, these meta-analyses are used to draw conclusions about programs. The rationale for this decision is that meta-analysis techniques are respected statistical techniques that are more rigorous than the scientific methods score we are using in this project. The meta-analysis technique permits the aggregation of a large body of research literature in order to examine and compare the effect sizes for treatment versus control group comparisons. The meta-analyses reported herein summarize a large number of studies and control for important methodological issues.

There is an enormous body of literature on crime prevention efforts in criminal justice. Much of this literature is not research examining the impact of crime prevention strategies. Few of the research studies are of sufficient quality to permit conclusions regarding the effectiveness of the program studied. In order to evaluate the quality of the research, as described in Chapter 1, this report uses a scale of 1 to 5 to summarize the scientific rigor of the studies examined. A score of 5 indicates the strongest evidence for inferring cause and effect, a score of 1 indicates the weakest. Studies scoring a 1 were considered so low in scientific rigor that they were excluded from conclusions about a topic. Topics were chosen and the previously described categories were identified by examining current research publications. The focus was on research that had been completed since 1987. In most other cases, the discussion of a topic is based on published reviews of the literature or meta-analyses.

Most of the studies reviewed examine the recidivism of offenders who receive some treatment, service or regime. Studies with scientific method scores of 5 are random assignment studies with successful assignment of cases to treatment conditions, sufficient numbers to reasonably expect that the experiment had sufficient statistical power to detect a difference in recidivism if indeed one was there, and limited attrition during the study.

Two problems that continually arose in the research were the small number of subjects and attrition. Even if a strong experimental design is used, a study will not have sufficient power to detect a difference that may exist if the number of subjects are small. This was particularly a problem with studies using juvenile subjects. Attrition is another problem. Some studies used as comparison groups those who had dropped out of the program being studied. At times this is referred to a comparison between the motivated individuals and others. The problem is these groups can be assumed to differ prior to receiving any treatment and, therefore, no conclusion can be drawn about the effect of the program being studied. This is a serious problem with some of the drug treatment studies.

Frequently studies did not fulfil the requirements for a score of 5 because the assignment process was not successful, there were too few subjects, or subjects were lost during the study. If the effect of these problems could be assumed to be minimal from a research perspective, such studies were given a score of four. Other studies that scored a 4 were quasi-experimental designs with careful statistical controls for differences among subjects. These studies were also required to have limited attrition during the study and sufficient numbers of subjects.

A score of 3 indicated more serious problems with the research design such as limited information on the subjects and comparison groups so that it was impossible to determine how similar the groups were before the study began. Attrition, uncontrolled group differences, and few subjects would also contribute to a score of 3.

A score of 2 revealed serious flaws with the research design, therefore only tentative conclusions could be drawn from such a study because the scientific rigor was so limited.

The next sections of this report review the proposed strategies for preventing crimes through the use of the criminal justice system. Studies for juveniles and for drug-involved offenders are evaluated in separate sections because of the particular focus of these studies. Conclusions about what works, what doesn't and what is promising are based on a careful examination of the literature reviews, meta-analyses, statistical significance, and the scientific methods scores.

2. INCAPACITATION

The concept of incapacitation is simple -- for as long as offenders are incarcerated they clearly cannot commit crimes outside of prison. Crime is reduced because the incarcerated offenders are prevented from committing crimes in the community. At least while they are in prison, they cannot continue to commit crimes. A secondary benefit of incarceration is thought to be the indirect effect of deterring (or inhibiting) others from committing crimes because of the threat of incarceration (general deterrence effect). Furthermore, individuals who spend time in prison may be deterred from continuing their criminal activities when they are released (a specific deterrence effect).

Most people accept the notion that crime prevention through incapacitation is a primary justification of imprisonment (Zimring and Hawkins 1995). Generally accepted also, is the fact that some individuals should be incapacitated for long periods of time because of the seriousness of their offenses and the threat they pose if released. Questions arise over how broadly the incapacitation strategy should be used and whether it is a cost efficient and effective crime prevention strategy. Some ask that prison space be reserved for only a small select group of dangerous repeat offenders. Others advocate a general incapacitation strategy that would incarcerate a substantial number of felons. The success of incapacitation in reducing crime in the community remains a controversial subject.

During the mid-1970s, interest in incapacitation as a crime prevention strategy grew, in part due to concerns about the efficacy of rehabilitation, rising crime rates and public fear of crime. Originally, incapacitation strategies were supported because of what seemed to be the logical utility of keeping offenders in prison so they could not commit crimes. In some jurisdictions increases in incarceration rates were found to be accompanied by decreases in crime rates. This correlation was used to justify incapacitation policies. However, careful scientific examination requires more than an association between two variables because both could easily be caused by some third factor. Furthermore, correlational studies examining the association between incarceration rates and arrest rates within jurisdictions have not found any consistent relationship between the two (Zimring and Hawkins 1995).

More rigorous research examining the effectiveness of incapacitation in reducing crime has focused on developing models to estimate the impact of incarceration on individual level offending (Zimring and Hawkins 1995; Spelman 1995). Estimating the crime prevention benefits that can be obtained through incarceration is a complicated process. The researcher must estimate how frequently offenders commit crimes and the duration of active criminal careers. The majority of studies examining incapacitation effects demonstrate a small but positive effect in reducing crime. Frequently, however, this crime prevention effect is associated with significant increases in prison populations. Issues of concern relate to whether this reduction is worth the additional costs for building and maintaining prisons and jails, and whether there are other more cost-effective methods of crime reduction.

Early research on incapacitation used official-records to estimate individual-level offense rates (Clarke 1974; Greenberg 1975; Van Dine, Conrad, and Dinitz 1977; Petersilia and Greenwood 1978; Blumstein and Cohen 1979). In a review of these studies, the National Academy of Sciences Panel on Research on Deterrent and Incapacitative Effects (1978) reported that the incapacitation studies offered widely divergent estimates of the incapacitative effect of imprisonment. While some studies indicated that incapacitative effects were negligible, others claimed major potential impacts on crimes through increased use of imprisonment. The panel concluded that the principal disagreement was over the value of the individual crime rates that were used to estimate the effectiveness of incapacitative policies. That is, models of the crime reduction effectiveness of imprisonment required estimates of how frequently individuals commit crimes when they are in the community. There were no generally accepted estimates of these rates nor did researchers know how long criminals continued to commit crimes (e.g., the length of the "career" of crime).

Surveys of prisoners conducted during the late 1970s and early 1980s were designed to answer the questions about the individual crime rates and criminal careers of offenders (Peterson, Greenwood, and Lavin 1977; Peterson and Braiker 1980; Peterson and Braiker with Polich 1981; Marquis and Ebener 1981; Peterson, Chaiken, Ebener, and Honig 1982; Chaiken and Chaiken 1982; Greenwood with Abrahamse 1982). If researchers could discover how frequently individuals committed crimes when they were in the community (e.g., individual crime rates) and for how long they continued committing crimes (the career), the information could be used to refine the models predicting how much crime would be reduced by locking them up in prison. The surveys asked prisoners to report on their criminal activities before they had been incarcerated.

Using these estimates, researchers examined the number of crimes prevented by actual and hypothetical criminal justice practices and sanctioning policies. In general, reviews of these "collective" incapacitation strategies demonstrated a modest reduction in crime combined with substantial increases in prison populations. For instance, in a 1987 review of the research on general incapacitation, Visher (1987) concludes that the sentencing practices and policies, that doubled prison populations during the 1970s and early 1980s, resulted in an estimated crime reduction of 10 to 30 percent.

Increases in prison populations and the research findings of large differences in crime rates of individual offenders moved attention towards a more selective strategy of incapacitating a small group of offenders. Encouragement for this selective incapacitation as a crime control strategy also came from research that revealed a small number of very active offenders (six percent of the cohort) accounted for a disproportionately large number of the arrests (52 percent) in a Philadelphia birth cohort (Wolfgang, Figlio, and Sellin 1972). That is, a relatively small number of offenders were responsible for a large amount of crime. Incapacitation advocates argued that crime could be reduced if these "career criminals" were identified and incapacitated. This "selective incapacitation" strategy would identify the offenders who were predicted to commit serious crimes at high rates so that they could be incarcerated for long periods of time. Further support for the benefits of incapacitation as a correctional strategy came from the proposal that, although there were enormous costs to incarcerating large numbers of felons, there were also substantial costs if they were released and continued to commit crimes (in terms of such factors as criminal processing, loss to victims, etc.) (Zedlewski 1987). Some of the practices that can be attributed to these incapacitation strategies are habitual offender laws, mandatory sentences and the more recent three-strikes laws.

In support of the selective incapacitation sentencing policy, Greenwood and Abrahamse (1982) argued that increasing the length of time served by the predicted high-rate offenders while at the same time reducing the time served by those who were

predicted to be low-rate offenders could reduce crime rates without a corresponding increase in prison populations. From this perspective, in the face of constraints on available prison resources, the issue for criminal justice policy was how to allocate a limited number of cells among competing offenders. Ideally, the worst (those who commit the most and/or the most serious crimes), active (not yet at the end of the "career" of crime) criminals would be identified and put in the prison cells. Greenwood and Abrahamse (1982) examined whether such policies could reduce the robbery rate in California. They found evidence that through the use of a selective incapacitation strategy the robbery rate could be reduced by about 15 percent, and the number of incarcerated robbers would be reduced by about five percent, but they cautioned that their analysis had several limitations and they suggested that the work should be replicated in other jurisdictions.

Other researchers reviewed Greenwood and Abrahamse's results and concluded that the original analysis greatly overstated the effects of the proposed selective incapacitation (Cohen 1983, 1984; Spelman 1984; von Hirsch and Gottfredson 1984; Visher 1987). And, in 1983 the National Academy of Sciences panel on Criminal Careers commissioned a reanalysis of the original survey data. The estimates resulting from this study indicated substantially smaller incapacitative effects than those found by Greenwood and Abrahamse. Furthermore, substantial increases in the prison population were predicted (Blumstein et al. 1986).

For selective incapacitation to be effective, it must be possible to identify and incarcerate offenders who will commit the most crimes in the future. The estimates of crime commission rates used in the incapacitation studies were derived from the RAND studies using inmate self-reports of criminal activities prior to incarceration. Greenwood and Turner (1987) investigated whether this retrospective data could be used to predict future arrests. They found their data had poor predictive accuracy and, furthermore, the small differences in arrest rates between the groups classified as high- and low-risk did not justify the large differences in sentence lengths that would be required for these offenders if significant selective incapacitation effects were to be achieved. This research, as well as the more recent work of Gottfredson and Gottfredson (1994), suggests that identifying future offenders in order to selectively incarcerate them will prove difficult.

Surprisingly there was little research on the magnitude of incapacitation effects during the decade of the 1980s when the incapacitation philosophy drove the largest increase in incarceration in American history (Zimring and Hawkins 1995). A few more recent studies were completed in the early 1990s (Miranne and Geerken 1991; Horney and Marshall 1991; English and Mande 1992). In one recent study, Cohen and Canela-Cacho (1994) studied the relationship between incarceration and levels of violent crime using both national data and corrections data from six states. The study focused on the crime control effects of incarceration especially whether incarceration was an effective strategy for controlling violent crimes and the merits of pursuing alternative incarceration policies. Their data indicate that changing prison policies such as guidelines, mandatory minimum prison terms, and restrictions on parole release, have played a major part in the rising prison populations over the last decade. In comparison to the past, a higher proportion of those who are arrested in the U.S. are sentenced to prison and those who are committed to prison stay there for longer periods of time. This increased risk of being sent to prison after arrest, and of spending more time if committed to prison was true, in general, for those convicted of various types of crimes and across different jurisdictions.

In their research, Cohen and Canela-Cacho (1994) used sophisticated estimating techniques that took into consideration the fact that high-rate offenders are over-represented among inmates while low-rate offenders are disproportionately found among the offenders who remain free, and the fact that termination of criminal careers reduces the crime prevention effects derived from increased incarceration. They estimate that the incapacitation effects during periods of low incarceration rates are probably much greater than previously estimated, and that the increasing numbers of offenders being incarcerated today bring only marginal returns for incapacitation effects. This occurs because the expanding prison populations are likely to include an increasing number of offenders who would be low-rate.

The focus on tougher sentencing laws has led to increasingly rigid sentencing statutes and these have particularly impacted repeat offenders. By 1994, 30 states had introduced "three-strikes" legislation and ten had passed tougher sentencing for repeat offenders (Benekos and Merlo 1996). The "three-strikes and you're out" baseball metaphor is used throughout the country in reference to criminal sanctions that become increasingly severe for each conviction an offender receives until they are considered to be "out" or in prison for life. Greenwood, Rydell, Abrahamse, Caulkins, Chiesa, Model and Klein (1994) estimated the crime prevention impact of the California three-strikes law, one of the most sweeping of the laws. Although the first two "strikes" accrue for serious felonies, the third strike that triggers the life sentence can be any felony. According to their estimates the new law would reduce serious felonies committed by adults in California between 22 and 34 percent below what would have occurred had the previous law remained in effect. One third of these prevented felonies would be violent crimes such as murder, rape, and assaults. The remaining two-thirds of the prevented crimes would be less violent felonies such as less injurious assaults, and most robberies, and burglaries of residences. Several alternative models were tested to see if other less costly options would be predicted by the model to be as effective as the three-strikes laws. Although these options were

predicted to drop the costs, they would also drop the effectiveness. The researchers caution, that while these results appear encouraging for crime prevention, it will come at great financial cost due to the large estimated increase in prison population. For example, the California three-strikes law, if applied in all eligible cases, would reduce the number of serious felonies in a year by about 28 percent or 329,000 crimes. However, this would cost an additional \$5.5 billion a year in additional criminal-justice funding for the additional costs of the construction and operation of prisons. This can be translated as a cost of \$16,000 per serious felony prevented.²

In summary, there is now a body of research examining the crime prevention effectiveness of incapacitation policies. In general the results indicate:

- o Incapacitation policies prevent crime because offenders who are imprisoned do not have the opportunity to commit crimes;
- o There are a small number of offenders who commit a large number of crimes. If they could be incapacitated a large number of crimes would be prevented.

However, there are many unresolved questions that make the effectiveness of this strategy questionable. Most important are the following issues:

- o It is not yet possible to predict who will be the high frequency offenders in the future; therefore targeting them for increased prison sentences is impossible;
- o Increased use of incapacitation as a crime prevention strategy must address the expected increases in imprisonment rates and the associated financial costs that accompany such strategies;
- o Large increases in the use of incapacitation may have limited returns because the additional offenders not now incarcerated are lower frequency offenders who would not be committing many crimes in the community, thus, reducing the return on investment for every new dollar expended;
- o Large increases in the use of incapacitation may also have limited returns because offenders who are incarcerated for lengthy periods of time may be at the end of their criminal career and therefore would not be committing crimes in the community;
- o True estimates of the crimes prevented are difficult to obtain because both the frequency of criminal participation and the duration of careers must be estimated.

Furthermore, recent studies of the impact of the increases in imprisonment rates that have occurred in the past twenty five years have revealed that the impact has had a major impact on minority populations in urban environments (Tonry, 1995). Other disadvantages of increased use of imprisonment strategies are the unintended consequences of imprisonment on the families and communities of those who are imprisoned (Clear, 1996).

3. DETERRENCE

Deterrence strategies are based on early criminological theory proposing that sufficiently repugnant punishments will inhibit individuals from committing crime. As is obvious from Table 1, deterrence could be an expected impact of incapacitation, community restraints and challenge programs. However, this is secondary to the primary mechanism that is expected to have an impact on crime prevention for these strategies. Here, the programs classified as deterrence are those with a primary purpose of deterring either the individual offender or others through the repugnant nature of the sanction. At the individual level, specific deterrence is explained by the fact that the pain generated by the punishment will serve to discourage future criminality. It assumes a rational choice model of decision making where the offender perceives that the cost and benefits of punishment are not outweighed by the crime. General deterrence refers to the impact of the threatened punishment has on other potential offenders, thus reducing the chance that they will commit crimes.

Deterrence is the rationale given for programs such as Scared Straight, chain gangs and shock probation. These are distinguished from other strategies because the major emphasis is on the punitive nature of the punishment and not on reducing crime through restraint, discipline or challenge. Another deterrence strategy is that of fines, particularly day fines. These fines are designed to be fair given the difference in the economic circumstances of the individual offenders thereby making this sanction more punitive than the tradition fines.

Research examining two types of deterrence programs is reviewed in this section. It is important to note, as shown in Table 9-1 that other programs such as incapacitation policies that threaten offenders with longer prison sentences as well as the programs requiring offenders to participate in emotionally and physically strenuous programs (e.g., structure, discipline and challenge) are also expected to deter offenders. However, they are also viewed as potentially having other impacts and, therefore, they have been examined in separate sections.

3.1 Monetary Penalties

Fines are frequently used as criminal penalties for a wide variety of cases in American courts (Hillsman, 1990; Hillsman, Sichel, and Mahoney 1984; Casale and Hillsman 1986; Cole et al. 1987). However, many of the fine sentences are composites of fines and other noncustodial sanctions and not stand alone sanctions. Judges have wide discretion in setting fines. They are not uniformly imposed, and jail sentences are sometimes used as alternatives to fines particularly for the poor. Rarely are fines in the U.S. used as the sole sanction for more serious cases or for repeat offenders. In contrast, in Western Europe fines are the most often imposed sentence for most crimes and are a major alternative to imprisonment (Hillsman 1990). One of the differences between the use of fines in the United States and other countries is the fact that American judges are not able to set fines that are proportionate to the severity of the offense but are also equitable and fair given the difference in the economic circumstances of the individual offenders. "Day" or "unit" fines as they are called in Western Europe are linked to both the offender's daily income and to the gravity of the crime.

In terms of crime prevention, fines may act as a deterrent to criminal activities. Most studies of fines, however, have focused on setting just and proportionate levels for the amount of the fine, or on compliance, cost savings, or prison population impact issues. Until recently little was known about the use of fines as criminal penalties in the United States. NIJ has filled this gap by supporting studies to examine fining practices (see Hillsman et al. 1984; Casale and Hillsman 1986; Cole et al. 1987; Glaser and Gordon 1988; Hillsman and Green 1987, 1988). These studies are discussed in this chapter only if they examine the impact of fines on crime prevention. However, it is important to note that the results from these studies demonstrate that the use of fines is widespread throughout the U.S. and they are used for a wide range of offenses. Collection rates vary greatly by court, however, these differences may be due to differences in collection techniques and enforcement strategies. The assumption is that these practices could be improved to achieve greater compliance (Casale and Hillsman 1986).

Gordon and Glaser (1991) did examine the impact of traditional fines on recidivism in a quasi-experimental study comparing financial penalties versus similar sentences (probation or probation plus jail). While there were no significant differences between groups, as shown in Table 9-2, offenders who received a fine with probation have lower recidivism rates than offenders who received only probation. Similarly, those who received a fine with probation and jail had lower recidivism than offenders who received only probation and jail without the fines.

As yet, there are few jurisdictions in the United States that use the day fine concept. However several courts are currently adapting day fines to the American context and they are experimenting with their use (Hillsman 1990). Two studies have examined the impact of day fines on the recidivism of offenders. One study assessed the recidivism of offenders sentenced in Milwaukee's Municipal Court Day-Fine Pilot Project and compared the recidivism rates to a comparison group who received traditional fines (Worzella 1992). A larger proportion of the day-fine offenders paid their fine in full. There was no difference in the percent of the groups who committed further violations of municipal ordinances but the day-fined group had fewer arrest warrants (neither measure was significantly different).

In 1991, the Bureau of Justice Assistance funded a multi-site demonstration project, "Structured Fines Demonstration Project," designed to enhance the application and enforcement of structured fines (day fines) as sanctions for drug offenders and other misdemeanants and felons. NIJ awarded funding to Turner and Petersilia (1996) to complete an evaluation of the project. While most of the research focused on the implementation and development of the day fine programs, there was some outcome data from one of the jurisdictions. As shown in Table 2, day fines were associated with reductions in both technical violations and rearrests.

Overall, there is a limited amount of research examining the effectiveness of fines in reducing the recidivism of offenders. The Gordon and Glaser (1991) study suggests that fines as additions to other sanctions may be effective in reducing recidivism. Since fines could potentially reduce the cost of courts and corrections, and day fines address the problems of inequality, this strategy appears to be a promising avenue for future research.

3.2 Shock Probation, Shock Parole, and Split Sentences

The programs in this section have been grouped together because the major emphasis of the programs has been on specific

deterrence of the offender participants. Shock probation or parole programs are a form of split sentence in which offenders are incarcerated for unspecified short periods of time in prisons or jails followed by a period of community supervision. The idea is that a short period of time incarcerated would "shock" offenders into abandoning criminal activity and into more conventional and law-abiding behavior. During their incarceration there are no special programs for them and they are mixed with other offenders in the jail or prison. Reviews of the research examining shock programs has provided little evidence of a deterrent effect. Studies examining the recidivism of shock probationers with similar probation groups have found no differences and in some cases the shock probationers have done demonstrably worse (Vito, 1984; Vito and Allen, 1981; Boudouris and Turnbull, 1985; Finckenaer, 1982).

"Scared Straight" is another program designed to deter young offenders or at-risk juveniles from continuing criminal activities. They are taken to maximum security institutions where inmates tell them the horrors and difficulties of life in prison. Studies of these programs have not indicated any differences between those who participated in the programs and comparison groups and in some cases the re-arrest rates were higher for those who participated in the program (Buckner and Chesney-Lund 1983; Lewis 1983).

Overall there is no evidence that deterrence programs such as these effectively reduce the future criminal activities of the offender participants (see also section on rehabilitation in this chapter).

Table 9-2. Studies of fines and recidivism showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Gordon and Glaser (1991)	3	Probation + fine had fewer arrests (25%) than probation only (36%), S. Probation + jail + fine had fewer arrests (37%) than probation + jail only (50%), S.
Worzella (1993)	3	No differences between day fine group in new ordinance violations (33%) and conventional fine group (34%), NS.
Turner and Petersilia (1996)	5	Day fine group had fewer technical violations (9%) than conventional sentenced group (22%), S. Day fine group had fewer rearrests (11%) than conventional sentenced group (17%), NS.

Note: NS=nonsignificant, S=significant

4. REHABILITATION AND TREATMENT

In contrast to incapacitation, rehabilitation strategies focus on changing individual offenders so they will not continue their criminal activities. The research goal is to identify and understand the individual differences that explain criminal behavior and how interventions can be used to change individuals so they will not continue to commit crimes. The work is based on psychological theories of learning, cognition and the general principles of human development applied to the analysis of illegal behavior (Andrews and Bonta 1994). Research has focused on examining the components of programs that are effective in reducing recidivism.

Since the mid-1970s there have been major changes in how the courts and corrections manage offenders in this country. One of the most visible influences on this change was the report by Martinson (1974) that was widely interpreted as showing that "nothing works" in rehabilitation. Distilled from a larger coauthored research report by Lipton, Martinson, and Wilks (1975), Martinson's essay described the results of the research teams' assessment of 231 evaluations of treatment programs conducted between 1945 and 1967. From this research, he concluded "With few and isolated exceptions the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism (1974:25; see also Sechrest, White, and Brown 1979 and Martin, Sechrest, and Redner 1981).

Critics (Gendreau 1981; Gendreau and Ross 1979, 1981, 1987; Gottfredson 1979; Cullen and Gilbert 1982, Greenwood and Zimring 1985; Halleck and Witte 1977; Palmer 1975; Palmer 1983; Van Voorhis 1987) argued against this conclusion, saying it was not that treatment programs could not potentially reduce recidivism, but instead that it was impossible to draw any conclusions from the research because:

1. The research methodology was so inadequate that few studies warranted any unequivocal interpretations about what works; and,
2. The programs studied were so poorly implemented and delivered in such a weakened form that they would not reasonably be expected to have an impact.

The predominantly negative reviews of rehabilitation that dominated the 1970s were challenged by researchers such as Palmer (1975; 1983) who argued that the broad generalizations of the conclusions overlooked many positive instances of success and the researchers gave little attention to such important issues as the fit between the type of offender and the type of treatment provided. Reviews of evaluations published after Martinson's essay indicated that substantial research exists showing the effectiveness of correctional treatment (Gendreau 1981; Gendreau and Ross 1979, 1981, 1987; Gottfredson 1979; Cullen and Gilbert 1982; Greenwood and Zimring 1985; Halleck and Witte 1977; Van Voorhis 1987). However, despite the critiques of the work and its questionable validity, the phrase "nothing works" became an instant cliché and exerted an enormous influence on both popular and professional thinking (Walker, 1985; Cullen and Gendreau 1989; Tonry 1996; Stojkovic 1994). The perception of the conclusion became widespread throughout the U.S. and it gave rise to a strong movement to change both the philosophy and control of imprisonment policy and this impact was felt throughout the 1980s.

Today, while there is still some debate about the effectiveness of rehabilitation (e.g., Lab and Whitehead 1988; Whitehead and Lab 1989) recent literature reviews and metaanalyses demonstrate that rehabilitation programs can effectively change offenders (Andrews and Bonta 1994; Andrews, Bonta, and Hoge 1990; Andrews, Zinger, Hoge, Bonta, Gendreau, and Cullen 1990; Palmer 1975; Gendreau and Ross 1979, 1987). In general, according to Andrews et al. (1990), reviews of the literature show positive evidence of treatment effectiveness. For example, in a series of literature reviews, the proportion of studies reporting positive evidence of treatment effectiveness varied from near 50 percent to 86 percent: 75 percent (Kirby 1954), 59 percent (Bailey 1966), 50 percent (Logan 1972), 48 percent (Palmer's 1975 retabulation of studies reviewed by Martinson in 1974), 86 percent (Gendreau and Ross 1979) and 47 percent (Lab and Whitehead 1988).³ In reviewing these studies, Andrews et al. (1990) conclude that "This pattern of results strongly supports exploration of the idea that some service programs are working with at least some offenders under some circumstances." The important issue is not whether something works but what works for whom.

What is clear is that some approaches to treatment are better than others. Psychological researchers emphasize that effective treatment programs must follow some basic principles (Gendreau and Ross 1979, 1987; Gendreau and Cullen 1989). First, treatment must directly address characteristics that can be changed (dynamic) and that are directly associated with an individual's criminal behavior (criminogenic factors). There are numerous risk factors associated with criminal activity. Age, gender and early criminal involvement are some examples. In comparison to others, young males who began criminal activities at a young age are higher risks for future criminal activities. But these "static" characteristics such as age, gender and past history, while predictive of recidivism, cannot be changed in treatment. Instead, the "dynamic" or changeable factors should be the target of treatment programs.

Equally as important is the distinction between factors that are criminogenic and those that are not. Criminogenic factors are those that are directly associated with criminal behavior. Research has revealed some dynamic factors that are also criminogenic: attitudes, cognitions, behavior regarding employment, education, peers, authority, substance abuse and interpersonal relationships that are directly related to an individual's criminal behavior. Less promising targets for reducing future criminal behavior include increasing self-esteem without touching antisocial propensity, or increasing the cohesiveness of antisocial peer groups. While factors such as self-esteem may be correlated with criminal behavior, changing them will not

necessarily reduce future criminal activities. That is, criminals may have relatively strong self concepts but they may continue to commit crimes. Treatment programs that target such noncriminogenic factors will not be particularly successful in reducing recidivism. In order to be successful, treatment must address factors that can be changed (e.g., dynamic factors) and that are directly related to an individual's criminal behavior (criminogenic).

In a recent metaanalysis examining predictors of adult recidivism, Gendreau, Little and Goggen (1996) found antisocial cognitions, values, and behaviors (dynamic, criminogenic factors) along with static factors (history, age, gender, race) were the strongest predictors of recidivism. This provides support for the proposal that these changeable factors should be targeted in treatment. In contrast, self esteem, depression and anxiety were relatively weak predictors of recidivism. These characteristics are commonly targets of treatment despite the fact that they appear to have little association with recidivism.

Also important in determining whether a treatment program will be effective is the therapeutic integrity of the program or the need for effective programs to be delivered as planned and designed. Poorly implemented programs, delivered by untrained personnel, where offenders spend only a minimal amount of time in the program, can hardly be expected to successfully reduce recidivism.

Furthermore, programs must target offenders who are at sufficient risk for recidivism so that this reduction is measurable. Many offenders are low risk for future recidivism. Treatment programs that provide intensive services for such offenders will show little reduction in future criminal activities because few of these offenders will recidivate anyway.

The final principle of effective treatment is the need to deliver treatment in a style and mode that addresses the learning styles and abilities of offenders. For example, more effective programs follow a cognitive behavioral and social leaning approach rather than nondirective relationship-oriented counseling or psycho-dynamic, insight-oriented counseling.

Using these principles as the basis to classify studies of treatment as appropriate or inappropriate, Andrews et al (1990) undertook a meta-analysis of 154 treatment comparisons.⁴ Most often studies were classified as appropriate because the treatment was behavioral in nature. Few studies could be classified on the basis of risk or treatment integrity. Inappropriate treatments were those that employed deterrence (e.g., "Scared Straight"), nondirective approaches, non-behavioral milieu approaches, and group interactions. They found an effect size of .63 for appropriate treatment and this was significantly larger than the mean values for inappropriate services and criminal justice sanctions (warnings, probation, intensive probation, custody). Over all they found an effect size of .21 for the effectiveness of treatment programs. The researchers do note that, considering the enormous number of offenders who have passed through the criminal justice system, there are a comparatively small number of evaluations of appropriate correctional programming.

Lipton and Pearson (1996) found some, but limited, evidence corroborating the finding that treatment programs could be classified by the appropriateness of the treatment provided. These researchers are currently working on a comprehensive, detailed review of the evaluation research on rehabilitation programs for offenders, the Correctional Drug Abuse Treatment Effectiveness Project (CDATE). The project, funded by The National Institute on Drug Abuse (NIDA) at the National Institutes of Health, has been collecting evaluation studies conducted from 1968 until 1994 in order to assess the effects of correctional interventions on various outcome measures (e.g., drug use, recidivism). Preliminary findings from a meta-analysis of the first 500 coded evaluation studies (they anticipate over 1,500 studies) replicated the findings of the Andrews et al. (1990) study on the significance of the appropriateness of treatment. However, while Andrews et al. found a correlation of .69 between appropriateness of correctional service (as defined by the Andrews group) and recidivism (using effect size), Lipton and Pearson found a correlation of only about half that size (.34). They speculate that part of this difference may be because the conceptualization of appropriateness of correctional service still has some ambiguity that results in differences in the categorization of studies used in meta-analyses. From the perspective of crime prevention, the implication is that there are some difficulties in identifying what is appropriate treatment. However, the preliminary analysis of the CDATE data does support the conclusion that specific types of correctional treatment are associated with lower rates of recidivism. The difficulty appears to be in identifying exactly what characteristics are associated with effective treatment.

In summary, there is evidence that:

- o Rehabilitation is effective in reducing the criminal behavior of at least some offenders.

The evidence from the meta-analyses suggests that effective correctional treatment programs appear to follow some basic principles. In order to effectively reduce recidivism, treatment programs appear to need to:

- o Be carefully designed to target the specific characteristics and problems of offenders that can be changed in treatment (dynamic characteristics) and those that are predictive of the individual's future criminal activities (criminogenic) such as antisocial attitudes and behavior, drug use, anger responses;
- o Be implemented in a way that is appropriate for the participating offenders and utilizes therapeutic techniques that are known to work (e.g., designed by knowledgeable individuals, programming provided by appropriately educated and experienced staff, use of adequately evaluated programs) and require offenders to spend a reasonable length of time in the program considering the changes desired (deliver sufficient dosage);
- o Give the most intensive programs to offenders who are at the highest risk of recidivism;
- o Use cognitive and behavioral treatment methods based on theoretical models such as behaviorism, social learning or cognitive behavioral theories of change that emphasize positive reinforcement contingencies for prosocial behavioral and is individualized as much as possible.

More information is needed regarding: (1) how to ensure that treatment programs have adequate integrity; (2) what should be targeted in the treatment (antisocial attitudes, values, employment behavior, education, etc.); and, (3) what method should be used to deliver the treatment (required staff training, outpatient, in-prison programs).

5. COMMUNITY RESTRAINTS

Many of the sanctions and correctional options categorized as community restraints are frequently referred to as intermediate sanctions or alternative punishments. However, here the term community restraint refers to the fact that a group of these alternative punishments increase the amount of surveillance and control over offenders while they are in the community. In a sense, they might be referred to as "semi-incapacitation" because they are expected to reduce offenders' ability to commit crimes. Examples of restraint programs are intensive supervision, house arrest, electronic monitoring, and halfway houses. Theoretically, increasing the surveillance and control over offenders in the community will prevent criminal activities by reducing both their capacity and their opportunity to commit crimes. Additionally, it is expected that the punitive nature of the sanctions will act as a specific deterrence to reduce the offenders future criminal activity.

In response to the record numbers of convicted offenders and widespread prison crowding, correctional officials in recent years have expanded the range of intermediate sanctions that fall between traditional probation and complete incarceration (Cullen, Wright, and Applegate 1996; Tonry and Lynch 1996; Byrne, Lurigio and Petersilia; Harland 1996; Smykla and Selke 1995). House arrest, intensive supervision, curfew, day reporting and other intermediate sanctions fulfill many purposes. They provide graduated punishments that may be more appropriate than either probation or prison for some offenses, and they maintain a higher level of offender restraint and accountability than does standard probation or parole supervision. In addition, intermediate sanctions may provide enhanced levels of treatment or services for problems that are common among criminal offenders, such as drug abuse, low education levels and unemployment. Finally, when used in lieu of confinement, intermediate sanctions may reduce prison or jail populations and associated costs.

This section examines sanctions that increase the restraints on offenders in the community and studies assessing the effectiveness of these restraints in reducing criminal activity. The term restraints is used to refer to activities such as contacts with agents, urine testing (see section on drug-involved offenders, this chapter) and employment verification that represent control over offenders and increased accountability. Since these restraints and not rehabilitation are the primary focus of the research, this section examines whether the sanctions are effective in preventing the future criminal activities of these offenders. That is, the research is designed to investigate such factors as the number of contacts with probationers, curfews, or confinement to home, and not the amount of rehabilitation provided within the programs. However, when available, follow-up studies or components of studies that examine the effectiveness of rehabilitation within these restraint-focused sanctions are reviewed as well. All of these sanctions increase the restraints above what would usually occur in traditional probation or parole.

Most jurisdictions in the U.S. have some type of intermediate sanctions programs. These programs have variously been called correctional alternatives, intermediate sanctions, community corrections or, more recently, correctional options. As a result of disillusionment with the effectiveness of rehabilitation and the focus on justice and incapacitation, intermediate sanctions were proposed as an ideal way to provide a range of sanctions between probation and parole (Morris and Tonry 1990; Tonry 1996). Theoretically, these sanctions could be scaled in severity so as to be proportionate to the seriousness of the crimes committed. Furthermore, the additional control and threat of sanctions were expected to either deter offenders from future criminal acts or restrict them (in a sense incapacitate them) so they would not have the opportunity to reoffend.

Throughout the 1980s and 1990s, NIJ funded a wide range of evaluations of different correctional alternatives. There is now a body of research that permits us to draw some conclusions about the crime prevention effectiveness of these programs. This section reviews the literature and research on some of the major alternative sanctions. The focus of most of these studies has been the recidivism rates of offenders who are given sanctions that increase the degree of control and surveillance over their activities. In the majority of cases no significant differences are found between offenders placed in alternative sanctions and the comparison groups. Except in a few instances, there is no evidence that these alternatives are effective in reducing crime as measured by official record data. The problem is that most of these alternatives increase the probability of detection. It is unknown whether the actual offense rates change. That is, the increased probability of detection may mean that the intensively supervised offenders are at higher risk of being caught when a criminal act is committed, compared to the comparison offenders, who may commit crimes much more frequently.⁵

The most hopeful sign from this work is in the exploratory research that has followed most of these evaluations. This research focused on alternative sanctions that increase the treatment and therapeutic aspects of the programs and compares the effectiveness of such programs with similar alternatives that do not include treatment or therapy. The findings suggest that if sanctions include appropriate treatment, the recidivism of the offenders receiving the treatment may be reduced. From this perspective, it is not the restraints that are effective in reducing the criminal activities of the offenders, but rather, their criminal activities are reduced through the treatment they receive.

5.1 Intensive Community Supervision

Compared to regular probation and parole services, Intensive Community Supervision, usually called Intensive Supervised Probation (or Parole) or ISP, was designed to provide increased restraints on offenders in the community (Lurigio and Petersilia 1992; Petersilia and Turner 1993; Cullen, Wright and Applegate 1996; Tonry and Lynch 1996). Studies of ISP do indeed reveal that there are increased direct contacts between the offenders and the supervising probation or parole agent. Many programs combine other options such as electronic monitoring and/or home confinement with the increased agent-offender contacts. Furthermore, indirect methods of observation are also frequently combined with the ISP programs. Many times offenders are required to report for more frequent urine testing or agents may conduct regular employment verification. In all, these direct and indirect observations provide substantially increased levels of control within probation and parole programs. However, the type and level of demands placed on offenders differs enormously by jurisdiction. Offenders are often required to pay fines, keep a mandatory curfew, or provide community service and these additional requirements also differ by jurisdiction.

ISP programs grew dramatically in the 1980s, and by 1990 virtually every state in the nation had developed some type of ISP program. In part, this was the result of the initial research examining the programs in New Jersey and Georgia where the findings suggested that ISP led to a significant decrease in reincarceration (in Georgia, see Erwin 1986) and rearrests (in New Jersey, see Pearson 1987). However, critical reviews of the research demonstrated that the data did not support the initial unqualified conclusions about the ability of the ISP programs to reduce crime.

Recognizing the limitations of the prior research, the National Institute of Justice funded RAND to evaluate fourteen ISP programs in nine states using an experimental design (Petersilia and Turner 1993). The research was greatly facilitated by the addition of funds from the Bureau of Justice Assistance to assist sites in the additional costs for the increased probation and parole staff required to provide the additional supervision. This experimental design with random assignment of offenders to ISP and control groups eliminated many of the past methodological problems of the earlier studies. Recidivism was measured using arrests and technical violations. The results were disappointing for the ISP advocates. When ISP participants were compared to the control group, there were no significant differences in arrests. At the end of the one year study period, about 37 percent of the ISP participants and 33 percent of the control offenders had been arrested. In comparison, the researchers found a significant difference when the technical violation rates were examined. The average ISP violation rate was found to be 65 percent for ISP participants compared with 38 percent for the controls. In summary, while there was no evidence that the increased surveillance in the community deterred offenders from committing crimes, it did appear that this additional control increased the probability that criminal or technical violations would be detected.

In another study funded by NIJ, Deschenes, Turner and Petersilia (1995) found similar conclusions -- no difference between comparison groups and two groups of offenders on ISP programs. One ISP group was diverted from prison and the other was given ISP after release from prison. Supporting the results of the previous 14 site study, findings revealed no significant difference between groups. As shown in Table 9-3, there is a fairly substantial body of research now available on ISP. Few of the studies found statistically significant differences and the direction of the differences between the ISP groups and the comparison groups varied, sometimes favoring ISP, sometimes favoring the alternative.

Although research has not revealed a significant relationship between levels of surveillance and recidivism, there is some evidence that increased treatment of offenders in ISP programs may be related to significant reductions in rearrests. Follow-up analyses by the RAND researchers (Petersilia and Turner 1993) and also researchers evaluating ISP programs in Massachusetts (Byrne and Kelly 1989), Oregon (Jolin and Stipack 1991) and Ohio (Latessa 1993) have found evidence that rearrests are reduced when offenders receive treatment services in addition to the increased surveillance and control of the ISP programs. For example, Petersilia and Turner (1993) reported a 10 to 20 percent reduction in recidivism for those who were most active in programs while they were in the community. However, the research designs used in these evaluations do not reach the experimental rigor of the random assignment study by RAND that examined the effect of increasing the surveillance and control of ISP participants.

In summary the results indicate:

- o Increasing the surveillance and other restraints on offenders in ISP programs is not associated with decreases in recidivism;
- o The increased surveillance of ISP is often associated with increases in technical violations of the conditions of the ISP programs;
- o Incorporating treatment into the requirements of ISP programs may lead to a reduction in recidivism but this research has not been as rigorously examined.

5.2 Home Confinement

Home confinement is designed to regulate and restrict the freedom of the offender within the community (Renzema, 1992; Baumer and Mendelsohn 1992). The terms "house arrests," "home confinement" and "electronic monitoring" are often used interchangeably. However, it is important to note that house arrest, home confinement and more recently "community control" are terms describing the programs, while electronic monitoring is a tool used to monitor the compliance with the requirements of the sentence. During the 1980s, technological advances made it possible to monitor offenders electronically to insure that the offender was complying with the requirements of the program. Unlike ISP, house arrest is usually a sentence given by the court that are much more restrictive than ISP.

In general home confinement programs had targeted low-risk offenders such as those convicted of Driving While Intoxicated (DWI). However, more recently home confinement has been used for parolees (Beck and Klein-Saffran 1989) or other more serious offenders (Baumer, Maxfield and Mendelsohn 1993; Baumer and Mendelsohn 1991; Austin and Hardyman 1991). Early research examining the effectiveness of the home confinement programs suffered from poor research designs, lack of program integrity, and the low risk offenders placed in the programs.

Recidivism rates of the low-risk offenders placed in home confinement programs are usually very low. Therefore, many studies do not have the power to detect small differences that might be expected between the participants and control groups. Two studies using experimental designs shown in Table 9-4 found no significant difference in recidivism when the behavior of offenders who are electronically monitored on home confinement is compared with those being manually supervised (Baumer and Mendelsohn 1991; Austin and Hardyman 1991).

In summary:

- o Most likely because of the low-risk offenders in the programs, most home confinement programs have low recidivism and technical violations rates;
- o The available evidence indicates no significant differences in recidivism outcome when the participants are compared to control groups.

Table 9-3. Studies of intensive supervised probation/parole (ISP) showing scientific methods score and findings (from Cullen et al. 1993 and Byrne and Pattavina 1992).

Study	Scientific Methods	Findings
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	Score	
Fallen et al. (1981)	3	Recidivism lower for ISP
Erwin (1986)	3	Recidivism rates lower for ISP than probationers and lower for prison releasees.
Mitchell et al. (1986)	3	Recidivism higher for ISP than parolees and CCC.
Pearson (1987)	3	ISP recidivism rates lower
Byrne and Kelly (1989)	3	ISP lower recidivism
Molof (1991)	2	ISP lower recidivism than probationers
Jolin and Stipack (1991)	4	Recidivism rates higher for ISP than EM and work release groups
Latessa (1991a)	3	Recidivism rates higher for ISP offenders than three comparison samples
Austin and Hardyman (1991)	3	ISP-EM offenders arrested more than parolees
NCCD (1991)	3	Recidivism rates for ISP-jail probationers and ISP-parolees higher than comparisons but rates lower for ISP parolees than comparison
Latessa (1992)	3	Recidivism rates higher for ISP
Latessa (1993)	2	Offenders in drug and mental health units had higher recidivism rates than those in sex-offenders and alcohol offender units.
Moon and Latessa (1993)	3	ISP drug program participants had lower recidivism rates
Latessa (1993b)	3	ISP groups had higher recidivism than probationers.
Petersilia and Turner (1993)	5	ISP sample in 10 states had higher recidivism than comparison. ISP samples in 4 states had lower recidivism than comparison.

Table 9-4. Studies of home confinement and electronic monitoring showing scientific methods score and findings.

Study

Scientific

Findings

Methods Score

Baumer and Mendelsohn (1991)	5	EM had more revocations (21%) than Manual supervision (18%), NS.
Austin and Hardyman (1991)	5	EM arrested (14%) more than controls (11%), NS.

Note: NS=nonsignificant, S=significant **5.3 Community Facilities: Residential and Day Reporting**

Halfway houses, also called community residential centers, pre-release centers, or restitution centers, are nonconfining residential facilities for adjudicated adults or juveniles, or those subject to criminal or juvenile proceedings (pre-trial period). They are intended as an alternative to confinement for persons not suited for probation or who need a period of readjustment to the community after imprisonment. More halfway houses provide services for juveniles than for adults, and some houses specialize by client or treatment modality such as women only, pre-release, substance abusers, or developmentally disabled (Latessa and Travis 1991). The facilities are included as community restraints because most of the research reviews have focused on their use as additional restraint and not on the details of the services provided.

Research examining the effectiveness of halfway houses in reducing recidivism has indicated mixed results. In an early evaluation of correctional halfway houses, Allen et al. (1976) reviewed 35 studies. The majority of the studies used quasi-experimental designs or nonexperimental designs; only two used true experimental designs. The evidence was about equally divided between lower recidivism for the halfway house residents and no differences in recidivism in comparison to control groups in the quasi-experimental and experimental designs. In a later study focusing on parolees in halfway houses, Latessa and Allen (1982) examined 44 studies with sufficiently rigorous methodology to enable the researchers to draw reasonable assessments of post-release outcomes. As Allen et al. (1976) had found earlier, the results were mixed -- at times showing halfway house residents having lower recidivism rates and at times showing no differences or that halfway house residents did worse on recidivism rates.

Day reporting centers are a more recent correctional option that require offenders who are on pretrial release, probation, or parole to appear at specific location on a frequent and regular basis. Unlike the halfway houses, the day reporting centers are non-residential, offenders are required to report to the centers but they return to their homes to sleep at night. While at the centers they are required to participate in services (treatment, employment search, etc) or activities (urine test, meetings with agents) provided by the agency or other community agencies. These programs are currently being widely implemented in the United States. In 1990, a study by the NIJ found only 13 centers in the United States, by 1995 there were at least 114 centers in 22 states (Parent, Byrne, Tsarfaty, Valdae and Esselman 1995). The centers emphasize both strict surveillance and high levels of treatment and other services to offenders. As with the other intermediate sanctions, there is a tension between providing increased surveillance and increased treatment in the day reporting centers, and centers vary greatly in the emphasis placed on one or the other. While there have been some descriptive studies of day reporting programs, to date there have been no impact evaluations examining the effectiveness of the programs in preventing crime.

5.4 Summary of Community Restraints

A large body of research, much of it funded by NIJ, including random assignment studies, consistently shows the failure of these programs to lower recidivism. Restraining offenders in the community by increasing surveillance and control over their activities does not reduce their criminal activities. In general, they are arrested as often as their counterparts who receive less surveillance. Most research has focused on the restraining aspects of these community programs and not the treatment services delivered to the offenders. That is, the research fails to clearly identify and rigorously examine (from a research perspective) the impact of the therapeutic aspects of the community programs. When the researchers have mentioned the therapeutic integrity of the programs, it is often to note that the anticipated services or staffing did not occur (see for instance, Sontheimer and Goodstein's study or Greenwood et al.'s study of the Skillman aftercare program discussed in the juvenile programs section of this chapter). Questions remain about the impact of additional treatment within a program that increases restraints.

6. STRUCTURE, DISCIPLINE AND CHALLENGE

Correctional boot camps for adults and for juveniles and wilderness programs have been grouped together because they all focus on structure, discipline and physical and/or mental challenge. The experiences of the offenders in the programs is anticipated to change them in a positive way so that their future criminal activities will be reduced. The mechanism for this change is attributed to various factors such as self esteem, or increased bonds with staff and peers. Some also expect that these punitive programs will discourage others from committing crimes or that the individuals who spend time in the programs will be deterred from future criminal activities. At times programs combine therapeutic programming with the structure, discipline and challenge aspects. The studies of the programs focus on the recidivism rates of those who are released from the programs and compare these rates to comparison groups who served different sentences. Thus, the studies examine the specific deterrence or positive change impacts of the programs.

6.1 Boot Camps for Adults

Boot camp prisons, alternatively called shock incarceration, regimented discipline or intensive incarceration, are correctional programs designed to be similar to military basic training. These relatively new programs began in 1983 in Georgia and Oklahoma but rapidly spread throughout the nation (MacKenzie 1990; MacKenzie and Parent 1991). The early programs emphasized the military aspects of discipline, compartment and drill and ceremony.

More recently the programs have changed to include more programming and treatment and many have de-emphasized the military focus of the programs. As has occurred with other correctional options, the boot camp programs vary tremendously when cross-program comparisons are made in type of population served, treatment components, aftercare or follow-up supervision, and emphasis on military drill and ceremony. The majority of the state department of corrections have opened boot camp programs and increasing numbers of programs are being opened for juveniles and for jail inmates.

To date, there have been no random assignment studies examining the effectiveness of boot camp prisons for adult offenders. As shown in Table 9-5, most of this research had limited scientific rigor (scores of 3). Some of the research has made use of statistical controls to adjust for original differences between the boot camp releasees and comparison groups to examine their performance in the community (see for example, MacKenzie et. al 1995). In general, the results show no significant differences in recidivism between offenders who are sent to boot camps when compared to others including those who either served a longer period of time in prison or those who served their sentence on probation (MacKenzie et. al. 1993; MacKenzie and Shaw 1993; Flowers, Carr and Ruback 1991; Florida Department of Corrections 1990). However, in programs where a substantial number of offenders were dismissed from the boot camp prior to completion, the recidivism rates for those who completed the program were significantly lower than the rates for those who were dismissed (MacKenzie et al. 1995; NYDCS and NYDP 1993). Thus, while there is no evidence that the boot camps actually change offenders, there is some indication that the programs can be used to "signal" which offenders will have difficulty completing probation or parole. That is, offenders who remain in the program and complete it are at less risk for recidivism than those who are dismissed (either voluntarily dropping out or for misbehavior).

In a further exploratory analysis examining program differences and recidivism rates, MacKenzie et al. (1995) found some commonality among programs where the boot camp releasees had lower recidivism rates than comparison groups on some but not all, measures of recidivism. In particular, these programs: (1) devoted more than three hours per day to therapeutic activities such as therapy, counseling, drug treatment and education; (2) there was some type of follow-up for the offenders in the community after they left the boot camp; and (3) participants had to volunteer for the program.

The following conclusions can be drawn from the available research examining boot camps for adult offenders:

- o The military atmosphere, structure and discipline of correctional boot camps does not significantly reduce the recidivism of releasees in comparison to offenders serving time on parole or probation;
- o In programs where a substantial number of offenders are dismissed from the boot camp, the recidivism rates for those who complete the boot camp are significantly lower than the rates for those who were dismissed;
- o Exploratory analyses suggest that programs incorporating components such as therapeutic activities during the boot camp and follow-up in the community may be successful in reducing recidivism but this conclusion is tentative until more research is completed.

6.2 Boot Camps for Juveniles

Recently, four random assignment studies have been completed examining the recidivism of juveniles released from boot camps. With cooperative funding from The NIJ and the Office of Juvenile Justice and Delinquency Prevention (OJJDP) a carefully designed experimental study examining boot camps in three sites was completed. Funding was provided for sites to develop innovative demonstration programs, if they were willing to permit research to randomly assign juveniles to the boot camps or some alternative. Three sites were selected to participate. The research results are considered preliminary because data collection continued after these analyses were completed.

The fourth study of juvenile boot camps is being conducted by The California Youth Authority (CYA). This study used random assignment to evaluate the effectiveness of the CYA juvenile boot camp. The results are considered preliminary at this point because the juveniles have been in the community for only a short period of time.

As shown in Table 9-6, all of these studies are judged to be rigorous (methods score of 5). The results from three of the studies reveal no significant differences in recidivism between the boot camp youth and the control groups. In the fourth site, the CYA, more of the boot camp youth were reincarcerated than the control youth. Obviously, this presents little support for these boot camps as crime prevention techniques.

Table 9-5. Studies of correctional boot camps showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
N.Y. Department of Correctional Services and N.Y. Division of Parole (1992, 1993)	2	Male BC graduates reincarcerated less for new crimes and parole violations compared to: (1) parolees sentenced before the program began; (2) those who refused to enter; (3) dismissals from the program.
N.Y. Department of Correctional Services and N.Y. Division of Parole (1993)	2	Female BC graduates reincarcerated less for new crimes and parole violations compared to: (1) parolees sentenced before the program began; (2) those who refused to enter; (3) Dismissals from the program.
Flowers and Ruback (1991)	3	Compared with those sentenced to various alternatives, male BC graduates were reincarcerated less often. But when graduates were compared with groups most similar to BC graduates the reincarceration rates were higher for BC graduates.
MacKenzie (1991)	3	BC graduates had fewer arrests and reconvictions for new crimes when compared to samples of parolees and probationers but more arrests for technical violations. Those dismissed from the program had fewer arrests than graduates but were the same in reconviction rates.

Texas Department of Criminal Justice (1991)	2	BC releasees were reincarcerated more than parolees, ISP and restitution center releasees.
MacKenzie et al (1995)	4	Compared to probationers BC releasees had fewer rearrests in one state and more in two states; fewer revocations in three states, NS. Compared to parolees BC releases had fewer rearrests in four states; fewer revocations in five states and more revocations in one state NS.
Florida Department of Corrections (1990)	2	There were no differences between BC graduates and prison releasees in new felonies. BC graduates had more new misdemeanors but fewer technical violations.

Note: NS=nonsignificant, S=significant

Table 9-6. Studies of juvenile boot camps and recidivism showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Peters et al. (1996a)	5	More boot camp youths (38.8%) recidivated than control group (35.5%), NS.
Peters et al. (1996b)	5	Fewer boot camp youths (28.1%) recidivated than control group (31%), NS.
Peters et al. (1996c)	5	More boot camp youths (71.8%) recidivated than control group (50%), S.
Bottcher et al. (1996)	5	More boot camp youths (77.7%) rearrested than control group (77.1%), NS.

Note: NS=nonsignificant, S=significant

6.3 Summary

The boot camps reviewed in this section do not, as a whole, appear to be good candidates for crime prevention. In general, findings indicate no difference between the offenders who participated and those who did not. There was some suggestion in the research examining adult boot camps that enhanced therapeutic programming within the boot camps may have had an

impact on reducing recidivism, but the research is exploratory and did not use a strong methodology. The juvenile programs appeared less hopeful. Several questions remain. First, more information is needed about the therapeutic integrity of the programs and how the programs compare to the alternatives where the control groups spent time. Possibly, the failure to find differences in recidivism may be because the control groups were receiving enhanced treatment while the juveniles in the boot camps were spending time on physical activities. Such physical activities may have health benefits but they may not address the criminogenic needs of these offenders. Questions remain about how rehabilitation can be combined with these programs and whether this would enhance or conversely reduce the effectiveness of the rehabilitation.

7. JUVENILE OFFENDERS

7.1 Treatment Programs for Juveniles

Rehabilitation has particular appeal for use with juveniles. Juvenile crime is often serious and it may represent a large proportion of the total criminal activity in a community. However, it is usually assumed that adolescents deserve and require special handling because at this stage of life they are in a formative period and criminal behavior at this stage will not necessarily be continued into adulthood. Theoretically, rehabilitation has been the focus of correctional programs for juveniles. However, in practice, as occurs with adult programs, juvenile programs are generally poorly implemented. Juveniles have a potentially long adulthood in front of them, therefore, strategies that reduce the future criminal activities of juveniles are also particularly important. An effective preventive intervention at an early age, that results in reduced criminality over a lifetime, can have a substantial payoff.

The most extensive meta-analysis examining the effectiveness of delinquency outcome studies was conducted by Lipsey (1992). In a meta-analysis of juvenile delinquency programs, Lipsey examined the effectiveness of 443 different research studies.⁶ This meta-analysis improved on previous reviews of delinquency treatment research by: (1) broadening the coverage of the literature through an exhaustive search for relevant studies; and, (2) coding sufficient detail from each eligible study.

Among other criteria, the studies included in Lipsey's analysis were those that provided some intervention or treatment that had as its aim the reduction, prevention, treatment, or remediation of delinquency or antisocial behavior problems similar to delinquency. Delinquency was defined as behavior chargeable under applicable laws. Studies were included in the analysis only if the majority of the subjects were between the ages of twelve and twenty one.

Findings from the Lipsey (1992) study revealed that overall in 64.3 percent of the studies the treatment group did better (in most cases this refers to a reduction in recidivism) than the control group. The mean effect size for the studies was .172 which was comparable to previous meta-analyses of more highly selected sets of studies. One way to understand this effect size is to translate it into a comparison to a baseline of 50 percent. This effect size is equivalent to an average reduction in recidivism from 50 to 45 percent. That is, considering all treatment program studies combined, 45 percent of those who received treatment would be expected to recidivate in comparison to 50 percent of the non-treated control group.

In more detailed analyses, Lipsey worked to identify those characteristics most important in determining differences among treatment and control groups. Table 7 shows the estimated recidivism rates for the treated group if 50 percent of the control group had recidivated. He examined both methodological aspects of the study (sample size, equivalence of groups, attrition, outcome measures, etc.) and treatment aspects (subjects, dosage, treatment modality, philosophy). As expected, differences in study methodology were associated with effect sizes. More important for purposes here are the findings for the treatment effects (once the methodology effects are controlled). As shown in Table 7, the more effective programs were predicted to reduce recidivism substantially. For instance, in comparison to 50 percent recidivism rate for the control group, only 32 to 38 percent of the juveniles who were given employment, multi-modal and behavior programs were estimated to recidivate.

Overall, the results of the meta-analysis indicate that more effective programs were:

- o Judged to provide larger amounts of meaningful contact (treatment integrity) and were longer in duration (more dosage);
- o Provided by the researcher or in situations where the researcher was influential in the treatment setting;
- o Behavioral, skill-oriented and multi-modal treatment.

There was also some evidence that more effective programs targeted higher risk juveniles but this effect was small and nonsignificant. On the other hand, treatment in public facilities, custodial institutions, and in the juvenile justice system were

less effective than other alternatives. This suggests that treatment provided in community settings may be more effective. However, Lipsey cautions that this conclusion is confounded with dosage (intensity) and needs a more refined breakdown before definite conclusions can be drawn.

It is interesting that effective programs were those that were either provided by the researcher or where the researcher was influential in the treatment setting. This may indicate that treatment delivered or administered by the researcher was better implemented than typical programs.

Table 9-7 shows his results for individual treatment modalities. Lipsey cautions the reader to interpret the individual categories carefully because crude descriptions of treatment programs in the studies as well as the multiple elements in some programs made coding extremely difficult. He suggests instead that the reader examine the broader patterns of the rankings of treatment modalities. From this perspective, the more structured and focused treatment (e.g., behavioral, skill-oriented)⁷ and multi-modal treatments⁸ seem to be more effective than the less structured and focused approaches (e.g., counseling). Interestingly, while programs that emphasized employment are near the top in effectiveness, vocational treatment programs were associated with increased recidivism for the treated group. The reason for this is difficult to determine. Possibly the employment programs were more directly related to skills needed to find and keep jobs while the vocational training programs were school based and less directly associated with obtaining employment.

The best treatment types show delinquency effects of meaningful practical magnitude, in the range of 10 to 20 percentage points reduction in recidivism. On the other hand, there is no evidence that programs emphasizing deterrence treatments are effective and, in fact, such programs were estimated to increase recidivism (e.g., 62 percent of those who received a deterrence program were estimated to recidivate in comparison to 50 percent of the controls).

In comparing his results to the earlier findings by Andrews et al. (1990), Lipsey asserts that with few exceptions the largest effect sizes occurred for treatment that would be classified by Andrews et al. as clinically relevant. Similarly, as found by Andrews et al., deterrence treatments were associated with negative effects (e.g., an increase in recidivism). Few studies of interventions deal exclusively with the most serious or most violent juvenile offenders so, at this point, little can be said about the effectiveness of programs for these offenders.

Table 9-7. Effect size estimates for different treatment modalities after controlling for study methodology for juvenile delinquency treatment programs (Lipsey, 1992).

Treatment Modality	Estimated Recidivism Treated Group/Control Group
Employment	32/50
Multi-modal	38/50
Behavioral	38/50
Institutional, other	40/50
Skill-oriented	40/50
Community residential	42/50
Any other juvenile justice	43/50
Probation/Parole, release	45/50
Probation/Parole, reduced caseload	46/50
Probation/Parole, restitution	46/50
Individual counseling	46/50
Group counseling	47/50

Probation/Parole, other enhancement	47/50
Family counseling	49/50
Vocational	59/50
Deterrence programs	62/50

7.2 Juvenile Residential Programs

One type of program particularly popular during the late 1970s and early 1980s was the wilderness or outward bound-type programs. These programs emphasize physical challenge and demand that individuals excel beyond what they feel they can do. Winterdyk and Roesch report that they found well over one hundred wilderness programs for treating delinquent youths in North America in the early 1980s. Outcome evaluations have been extremely rare (Gendreau and Ross 1987). Recently, several other wilderness-type programs have been studied. The results are shown in Table 8. All of these programs consider themselves wilderness programs. Perhaps the most frequently cited study of this type of program in the VisionQuest study by Greenwood and Turner (1987). They examined the behavior of the juveniles during the six to 18 months after release from the program (controlling for prior arrests). Youth from VisionQuest had fewer rearrests than youth who had served time in a probation camp or who had refused to accept the VisionQuest placement and were placed in other programs. While the results appear positive, as noted on the table the research methodology makes it impossible to draw conclusions regarding the program's effectiveness.

In a more recent study, Deschenes, Greenwood and Marshall (1996) examined the Nokomis Challenge Program in the Michigan Department of Social Services. Nokomis was designed as an intensive treatment program for low to medium risk juveniles. The focus of the program was on relapse prevention. Male youth were expected to spend less time in the residential facility but a longer time in community treatment when compared with youth in the training schools. Findings (see Table 9-8) indicated that the Nokomis youth had more felony arrests after release than did the comparison (significant). It is important to note that the examination of the implementation of the program revealed that the aftercare phase of the program failed to provide many of the expected treatment programs. There was limited substance abuse treatment and control group youth had more family counseling than the treatment group.

Castellano and Soderstrom completed a study of the Spectrum program in Illinois. This wilderness program was modeled after outward bound. The thirty day course focuses on teaching wilderness survival and group living skills to pre-delinquent and delinquent juveniles. A comparison of recidivism rates indicated that 75 percent of the Spectrum participants were rearrested in the follow-up period compared with 62.6 percent of the matched comparison group (nonsignificant).

In a random assignment study, RAND researchers examined the effectiveness of the Paint Creek Youth Center (PCYC) in southern Ohio (Greenwood and Turner 1993). The program targeted youth convicted of serious felonies who were required to spend an average of almost a year in residential treatment. While the program was located in a rural setting, it would not be classified as a wilderness or challenge program because these activities were not a major component of the program. The distinguishing features of the PCYC were: small size, problem oriented focus, cognitive/behavioral methods, family group therapy and intensive community reintegration and aftercare. Youth were randomly assigned to either the PCYC or regular training schools. Their behavior in the community after release was compared. The design was weakened because a relatively large number of the youth (25 percent) were removed from the PCYC and sent to the training schools to serve the remainder of their term. Furthermore, 27 percent of the remaining youth did not complete all three phases of the residential program. Official records of recidivism indicated that 50.7 percent of the PCYC youth (including those who were removed) and 61.3 percent of the control group had been arrested during a one-year follow-up. The difference was nonsignificant. The small numbers of offenders in the study limits the power to detect differences between groups. This along with the loss of 25 percent of the PCYC youth makes it difficult to draw any definitive conclusions from the research.

Overall, these studies of juvenile residential programs had very mixed results. Although several of the studies were well designed, problems with the small number of subjects, attrition and program implementation limit the conclusions that can be drawn about the effectiveness of the programs in preventing crime. The one program that included both a strong research design and a reduction in recidivism, although this difference was not significant, was Paint Creek. Interestingly, this program

followed many of the principles proposed by Andrews et al. (1990). High risk youth were targeted for participation in the intensive program that used a cognitive/behavioral mode of treatment. However, problems with the research design severely limited the potential for detecting differences even if the program had indeed been effective. Most notably, the focus of the program was not on wilderness or challenge activities.

The other programs reviewed in this section either targeted individuals who were lower risks for recidivism (Nokomos, Spectrum), were of short duration (Spectrum), were less behavioral in treatment philosophy, or focused on non-criminogenic factors such as physical challenge (Spectrum). Thus, from the perspective of the research on rehabilitation (see section on rehabilitation and the Andrews et al. 1990 study), we would not expect them to be effective in reducing future criminal behavior.

Table 9-8. Studies of youth residential programs showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Greenwood and Turner (1987)	2	VisionQuest (39%) fewer arrests than YCC Control (71%), S.
Deschenes et al (1996)	3	Nokomis group (48%) had more arrests than control (23%), S.
Greenwood and Turner (1993)	3	Paint Creek youth had fewer official arrests (51%) than control youth (61%), NS. Paint Creek youth self-reported more serious offenses (75%) than control (62%), NS.
Castellano and Soderstrom (1992)	2	Spectrum youth did not differ from control youth in recidivism, NS.

Note: NS=nonsignificant, S=significant

7.3 Community Supervision and Aftercare for Juveniles

Approximately 55 percent of adjudicated juveniles are given probation (Butts, Snyder, and Finnegan 1994). Furthermore, those knowledgeable about juvenile corrections increasingly argue for aftercare and transitional services for juveniles following a period of incarceration. Both of the recent meta-analyses (e.g., Andrews et al. 1990; Lipsey 1992) suggest there will be greater reductions in recidivism if treatment is provided in community settings instead of in institutions. However, national surveys of intensive supervision and aftercare programs for juveniles completed during the 1980s revealed that few programs had been evaluated (Armstrong, 1988; Krisberg et al., 1989). Additionally, the evaluations that had been completed were severely limited in scientific rigor. Two exceptions to this were the New Pride Study sponsored by NIJ and OJJDP (NIJ, 1985) and The Violent Juvenile Offender Study implemented by OJJDP (Fagan et al., 1988). However, in neither study did the group who received the additional aftercare or supervision have significantly lower recidivism rates.

Most recent studies of community programs have focused on the increased surveillance and restraint aspects of the programs and not the enhanced services. While some of the programs enhance services, the research is designed to compare the increased surveillance and restraint with or without increased services. For this reason, the research is included in this section on community restraints instead of the rehabilitation section. The treatment and restraint components cannot be untangled, and

since the research designs focus on surveillance the outcomes are more indicative of the effectiveness of restraints than rehabilitation. Additionally, when the treatment integrity is examined, few differences are found between the experimental program and the control in either the services delivered or the impact on risk factors. For example, in the Greenwood et al. (1993) study described below researchers did not find that the aftercare program they studied had an effect on the targeted risk factors. This section examines some of the recent studies of increased restraints over juveniles in the community (see Table 9-9).

Using a random assignment design, Land, McCall and Williams (1990) examined the North Carolina Court Counselors' Intensive Protective Supervision Project (ISP). The majority of the subjects were status offenders who entered the program as runaways or truants. The program was designed to enhance both the surveillance and services provided to the juveniles. As shown in Table 9-9, the results indicated that youth with no prior delinquent offenses had fewer delinquent offenses compared to the control group (11.9 percent to 27.5 percent) but the ISP youth with prior delinquent offenses had more delinquent offenses (57.1 percent compared to 33.3 percent). However, there were only a small number of youth with prior delinquencies. Whether the results were the effect of surveillance or services could not be distinguished in the research design.

In another study of youth in the community, Wiebush (1993) compared the performance of youth on intensive supervision (ISP) with comparison groups of youth on probation and parole. During the 18 month follow-up, a larger percent of the ISP youth received felony complaints (50.6 percent) than the probationers (37.9) but fewer felonies than the parolees (56.6 percent). Similarly, a larger percent of the ISP group were adjudicated (76.5) when compared to the probationers (61.6 percent) but fewer than the parolees (77.6). The results were not significant. Furthermore, it is difficult to draw conclusions because the groups were not randomly assigned and the groups differed prior to the treatment.

Sontheimer and Goodstein (1993) examined whether a juvenile intensive supervision program (ISP) in Pennsylvania had an impact on juvenile's propensity to reoffend (a rehabilitative or deterrent effect) or whether the restraints provided by the officers limited the opportunity juveniles had to reoffend. The program was an intensive aftercare program for serious juvenile offenders. Probationer officers supervising juveniles in the aftercare program were required to have frequent contacts with the juveniles and significant others; however, other than these additional contacts, there was no statement of the mission or philosophy of the program. Significantly fewer of the experimental group were rearrested (50 percent) than the controls (74 percent) and their mean number of rearrests were fewer (1.02 compared to 2.07 for the controls). The researchers interpret their findings as support for the restraining effect of ISP and not necessarily a reduction in the criminal propensity of the juveniles.

There were problems with the implementation of the program studied by Sontheimer and Goodstein. Contacts were substantially less than the mandated number and there was a large turnover of staff. This turnover would be expected to create turmoil for participants and uneven staff training and accountability. This combined with the failure to clearly define the mission of the program led the researchers to question whether the results were indicative of problems in the implementation of the treatment components of the program and not what could be achieved in such programs.

Minor and Elrod (1990,1992) examined the impact of an enhanced treatment program for juveniles on intensive and moderate levels of supervision. While there were no significant differences between the groups, juveniles in the enhanced treatment ISP program had more criminal offense complaints than the juveniles on ISP but without the enhanced treatment. Follow-up analyses also indicated that the intervention did have an effect on those who had more lengthy criminal backgrounds (e.g., the higher risk group). The major problem with this research was the number of subjects was so small there was no power to detect any difference that might have existed.

Greenwood, Deschenes and Adams (1993) studied the Skillman aftercare program in Michigan and Pennsylvania. The programs were designed to provide treatment components, hence the term "aftercare", along with intensive supervision. Subjects were randomly assigned to either the aftercare ISP or the control. Results indicated no significant difference between the experimental and control groups in the proportion of the youth who were rearrested, or who self-reported either offending or drug use in a one year follow-up period. However, an examination of what the programs provided for the youth indicated that in comparison to the control group the aftercare group: did not participate more in education or work activities; had little family support; and did not associate less with delinquent peers. Thus, despite the fact that the program was designed to promote changes in these risk factors there was little evidence of such change. Consistent with the previous meta-analyses of rehabilitation, it appears that the program did not have the required "treatment integrity" to bring about the changes in the risk (criminogenic) factors associated with criminal behavior.

The above studies compared the ISP programs in the community to other community alternatives. The following studies were designed to compare the recidivism of those who spent time on community supervision with others who had spent time in training schools.

Barton and Butts (1990) evaluated an in-home ISP program compared to commitment to traditional training schools in a random assignment study. They found that the ISP groups had a higher mean number of charges but the mean seriousness of the charges was greater for the control group. These differences were not significant when time in the community was controlled in the statistical analysis.

Gottfredson and Barton (1993) used a nonequivalent comparison group design to compare the effect of the closing of a juvenile training facility to the performance of juveniles who were then managed in the community. They found that the juveniles who had spent time in the institution had significantly lower recidivism rates than the comparison group. It is important to note that the comparison group was not intensively supervised in the community and there is little information about what services they may have received in the community.

In summary, most of the results reveal no significant difference between the experimental condition and the controls. In part, this reflects the small number of subjects in the studies so there is little power to detect any differences that might exist between the groups. The two studies by Land et al. (1990) and Sontheimer and Goodstein (1993) did find lower recidivism rates for the experimental groups. In both cases it appears that the experimental group received more services than the comparison. Again, this suggests the importance of meeting the rehabilitative needs of such offenders. This may also be why the institutionalized juveniles in the Gottfredson and Barton (1993) study had lower recidivism rates -- because of the services and rehabilitation they received when they were in the institution. Whether or not the juvenile is in a facility or on ISP may not be as important as whether appropriate rehabilitation programs are a part of the correctional option.

Table 9-9. Studies of juvenile community supervision and recidivism showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Land et al (1990)	5	ISP youth (mostly status offenders) with no prior delinquent offenses had fewer delinquent offenses (12%) than control group (28%), S. ISP youth with prior delinquent offenses had more delinquent offenses (57%) than control group (33%), NS.
Weibush (1993)	3	ISP youth had more felony complaints (51%) than probationers (38%) but fewer than parolees (57%), NS. ISP youth had more adjudications (77%) than probationers (62%) but fewer than parolees (78%), NS.
Sontheimer and Goodstein (1993)	5	ISP juveniles had fewer rearrests (50%) than parolees (74%), S.
Minor and Elrod (1990)	2	ISP group had more self-reported criminal and status offenses, NS.
Elrod and Minor (1992)	2	ISP group had fewer status offenses but more criminal offenses (68%) than control group (67%), NS.
Barton and Butts (1990)	5	ISP juveniles had more charges but control group had more serious charges, NS.

Greenwood et al (1993)	5	<p>Detroit: Aftercare group (22%) had more arrests than controls (18%), NS.</p> <p>Pittsburgh: Aftercare group had fewer arrests 49%) compared to controls (48%), NS.</p>
Gottfredson and Barton (1993)	4	Institutionalized juveniles had fewer arrests than non-institutionalized, S.

Note: NS=nonsignificant, S=significant

8. DRUG-INVOLVED OFFENDERS

8.1 Treatment in Prison

Advocates of treatment and rehabilitation have perhaps made the strongest arguments in favor of increased treatment for substance abusing offenders. The need for treatment is demonstrated by the large body of research indicating the relationship between criminal activity and use of alcohol and other drugs (Chaiken 1986; Chaiken and Chaiken 1982; Inciardi 1979; Johnson and Wish 1986; Nurco, Kinlock and Hanlon, 1990; Speckart and Anglin, 1986). Furthermore, the National Institute of Justice (NIJ)'s Drug Use Forecasting (DUF) program consistently finds high rates of illicit drug use among arrestees in the 24 participating cities. In 1995, between 47 and 78 percent of the men and 44 to 85 percent of the women test positive for use of illegal drugs.

Documentation of this high level of use and the strong association between drug use and crime clearly indicates the critical need for treatment for these offenders. However, the recent focus of criminal justice policies on incapacitation and deterrence did not easily provide the necessary funds. In 1987, approximately 11 percent of prison inmates were involved in some type of drug treatment (Chaiken 1989). Although the numbers are sizeable (51,500), the majority of inmates with substance abuse problems still do not receive treatment while in prison. In 1991, 48 percent of state prisoners and 43 percent of the Federal prisoners reported that they had been in a drug program since admission to prison (BJS 1994). Yet the intensity and quality of these treatment programs is unknown.

Despite the fact that many drug-involved offenders are not treated while they are under the control of the criminal justice system, a growing body of research indicates that treatment for substance-involved offenders can effectively reduce substance use and criminal recidivism (Gerstein and Harwood 1992). Effectiveness of drug treatment is directly related to the length of time an individual remains in treatment. This is true for various treatment modalities. Furthermore, the treatment is effective whether the offender enters voluntarily or under some form of coercion (Anglin and Hser 1990a, b; Anglin and Maugh 1992; Falkin, Wexler, and Lipton 1992; Leukefeld and Tims 1992; Travis, Wetherington, Feucht, and Visser 1996). From this perspective, the criminal justice system presents an ideal opportunity to require offenders to participate and remain in treatment.

Some of the most promising evaluations of drug treatment for criminal justice have focused on the effectiveness of prison-based therapeutic communities (TCs) that operate as 24-hour live-in facilities within the prison. We examined evaluations of five such programs (Wexler et al. 1992; Martin et al. 1995; Wexler et al. 1995; Field 1989; Eisenberg and Fabelo 1996). As shown in Table 9-10, the studies were judged to be of sufficient rigor to draw conclusions about the effectiveness of the treatment programs. In all studies, the researchers found that the graduates of the programs had lower recidivism rates than those who spent less time in the programs. They concluded that the programs were effective in reducing recidivism of the offenders (See Table 9-10).

Although these studies are widely cited as evidence of the success of drug treatment, there are some concerns about the research methodology. In particular, the programs have high attrition rates (large numbers of offenders leave the programs before completing). Many of the research designs do not take this attrition into account in the data analysis. As a result, it is difficult to conclude that the programs are effective in reducing recidivism. The alternative conclusion is that the programs identify those who are ready to change and these will be the individuals who will be successful in the community. That is, the

research design does not permit one to draw conclusions about the effect of the program because offenders who complete the TC program may be very different from those who do not, a difference which could have existed prior to the program. More work needs to be done to examine program attrition and how programs can be carefully matched to the needs of offenders so that larger numbers will complete the program. It may also be possible to use the power of the criminal justice system to coerce offenders to remain in programs.

In summary research examining the effectiveness of drug treatment shows:

- o Drug treatment is effective in reducing the recidivism of offenders;
- o Offenders coerced into treatment by the criminal justice system do as well as those who enter voluntarily.

Dropouts from treatment present a major problem in terms of both evaluating the effectiveness of the programs and in the determining how successful the program will be.

Table 9-10. Studies of in-prison therapeutic communities for drug treatment and recidivism showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Wexler, et al. (1992)	4	Males: Therapeutic Community had fewer rearrests (27%) compared to Milieu (35%), S; Counseling (40%), S; No Treatment (41%), S; and all groups combined, S. Females: Therapeutic Community had fewer rearrests (18%) compared to counseling group (29%), S; No Treatment (24%) NS; and both groups combined, S.
Martin, et al. (1995)	3	Combined KEY-CREST (3%) fewer rearrests than Comparison group, S; KEY (19%) fewer rearrests than Comparison group (29%), NS.
Wexler, et al. (1995)	3	Fewer Treatment (Amity TC) plus Aftercare (Vista) participants (26%) returned to prison than control group (63%); than Treatment Drop-outs (50%), and Treatment Only (43%), S.
Field (1989)	2	Cornerstone graduates had fewer rearrests (63%) than non-graduates with 6+ months of exposure (79%); than non-graduates with 2 to 6 months of exposure (88%); and than non-graduates with 0 to 2 months of exposure, (92%). No significance tests.
Eisenberg and Fabelo (1996)	2	Texas Initiative graduates had fewer rearrests (13%) than non-completers (31%), S; and than comparison group (29%), S.

Texas Initiative graduates had fewer reincarcerations (7%) than non-completers (19%), S; and than comparison group (19%), S.

Note: NS=nonsignificant, S=significant

8.2 Urine Testing

There are a wide array of drug testing technologies including urinalysis, hair assays, and other emerging technologies such as saliva tests and sweat patches (Travis, Wetherington, Feucht, Visher 1996). These technologies are viewed as an important component of criminal justice programming for drug-involved offenders because they provide objective evidence of drug use independent of self-reports. While the new technologies hold great promise for overcoming some of the limitations of urinalysis, at this point in time urinalysis is the most commonly used testing technology.

Urine testing is currently applied throughout the criminal justice system in order to achieve a variety of program objectives. From the perspective of crime prevention, urine testing can be useful to help assess risk or to deter offenders from continued use of drugs and the associated criminal activities.

During the pretrial period, urine testing can be used as a tool for assessing the risk that defendants will reoffend or fail to appear in court. This information could be used to make decisions about who to release from jail during the pretrial period. Evaluations of the efficacy of such use of urine testing show mixed results (Travis et al. 1996; Rhodes, Hyatt and Scheiman 1994). There is some evidence that recent use of cocaine is associated with an increased risk of failure to appear for trial but this is true in only some jurisdictions. Additionally, it does not seem to be the case with other drugs. Similarly, there has been some evidence that opiate use predicts pretrial re-offending but this is not true of other drugs nor is it the case in all jurisdictions. However, in a recent study in Washington, D.C., Smith and Polsenberg (1992) found that arrestees who tested positive for any drug were significantly more likely to be rearrested before trial.

Offenders on probation or parole in the community are often required to submit to urine tests. Deschenes, et al. 1996 evaluated the effect of 3 levels of urine testing on recidivism rates for drug offenders on probation. All subjects were sentenced to standard probation supervision and then randomly assigned to one of the levels of testing conditions. Group one received no urine testing (n=168). Group two received random monthly urine testing (N=141) and group three received twice weekly, scheduled testing (N=145). Rearrest rates for "any technical violation" after 12 month follow-up were: "No Test" 39.9%, "Low-Rate" 44.7%, and "High-Rate" 54.5%. There was a significant difference between "No" and "High-Rate" testing ($p < .05$). Average number of violations" also showed a significant difference between "No" and "High-Rate" (2.1, 4.1, $p < .05$), as well as between "Low" and "High-Rate" testing, (2.5, 4.1, $p < .05$). While there were several other recidivism outcome measures, such as "average number of arrests and "percent with any arrest", there were no other significant differences among the groups, in terms of criminal recidivism. The authors conclude that increased testing frequency does not effect arrest or conviction rates. They suggest that increased testing does serve to identify sooner, rather than later, offenders "who continue to use drugs while on probation".

9. COMBINING REHABILITATION AND RESTRAINT

Some programs have begun to combine components of community restraints or challenge programs with rehabilitation. As previously reported, there is some evidence, not yet fully tested, suggesting that ISP programs that combine surveillance and treatment may be successful in reducing the recidivism of offenders. Similarly, correctional boot camps that combine the military aspects of the camps with rehabilitation and aftercare show some promise for reducing recidivism. Programs combining urine testing and treatment and the relatively new drug courts are examples of programs designed to combine restraints with rehabilitation. The research examining the crime prevention effectiveness of such programs is described in the following sections.

9.1 Urine Testing and Drug Treatment

Drug testing in combination with drug treatment can be useful as a method of monitoring progress in treatment and holding

offenders accountable for treatment participation. The question is whether such testing can reduce the criminal activities of offenders while they are in treatment. As shown in Table 11, four studies were identified that used testing and treatment interventions for offenders in the community.

Nurco, Hanlon, Bateman, and Kinlok (1985) used an experimental design to examine the effectiveness of drug abuse treatment coupled with urine monitoring compared to two groups: (1) an intensive urine-monitoring and (2) routine parole involving random urine monitoring. While the group receiving treatment and urine monitoring had fewer revocations (48 percent) than the two control groups of intensive monitoring (50 percent) and routine parole (56 percent), the differences were not significant. The study is a preliminary report and so the results are based on a small number of subjects.

In a study funded by NIJ, Hepburn and Albonetti (1994) examined the effectiveness of drug monitoring and treatment compared to drug monitoring alone using 718 probationers. While the study was designed to use random assignment, the procedure was not followed. The researchers statistically controlled for sample differences; however, this greatly reduced the scientific rigor of the study. Furthermore, the researchers describe the intervention as relatively weak.

Taxman and Spinner (1996) used a random assignment study to compare a jail-based treatment program using TASC (Treatment Alternatives to Street Crime). Approximately 80 percent of the offenders underwent drug testing while they were in community treatment programs. The experimental group who received jail-based treatment as well as follow-up treatment and urine monitoring in the community had fewer rearrests than comparison groups.

The fourth study, by Anglin, Longshore, Turner, McBride, Inciardi, and Pendergast (1996) examined the impact of five TASC programs on recidivism and drug use. Groups were randomly assigned in two sites and a quasi-experimental design was used in the remaining sites. There was no evidence that treatment plus testing decreased recidivism.

Overall, of the four programs only the jail-based treatment programs showed a significant impact on rearrests.

9.2 Drug Courts

Faced with the enormous growth and impact of drug-related criminal caseloads in most jurisdictions across the United States, many court systems have searched for alternatives to traditional methods of processing the drug-involved offenders. One solution has been drug courts. Earlier versions of drug courts were designed to rapidly process offenders through the system. However, the recently developed drug courts are treatment-oriented courts that seek to bring substance abuse treatment to bear on the problems of drug-involved felony defendants in a diversionary, alternative processing approach. A courtroom-based team approach with specially adapted outpatient drug abuse treatment is used to coerce offenders into treatment. Judges play a central and active role in the team in the unorthodox courtroom approach that brings the defense, prosecution, treatment, and other court-related agencies together. This approach combines elements of both criminal justice and drug treatment -- two perspectives accustomed to different methods and sometimes competing aims regarding drug-involvement and its reduction. Drug use is monitored through urine testing and the results are reported to the court. Frequently the courts emphasize individual accountability through a system of rewards and graduated sanctions for misbehavior.

The relatively recent development of these programs means there has been little time for outcome evaluations (see Table 9-12). We could identify only four evaluations. Harrell and Cavanagh (1996) are studying the DC Superior Court Drug Intervention Program under a grant from the NIJ. Preliminary data are encouraging because offenders who receive treatment and sanctions for noncompliance with the drug-free requirements, as well as those who receive only sanctions, test free of drugs more often than those who are on standard dockets. However, recidivism data are not yet available from this study.

Table 9-11. Studies of drug treatment and urine testing showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Nurco et al. (1995)	3	Treatment with urinalysis had fewer revocations (48%) than intensive urine monitoring (50%) and routine supervision (56%), NS.

Hepburn and Albonetti (1994)	2	No differences in revocations when treatment with urinalysis was compared to two urinalysis only conditions, NS.
Taxman and Spinner (1996)	5	Treatment with urinalysis reduced rates of new arrests (55.1%) compared to the no treatment condition (68.1%), S.
Anglin et al (1996)	3	TASC treatment with urinalysis did not reduce re-arrest rates at any site, NS.

Note: NS=nonsignificant, S=significant

Gottfredson, Coblenz and Harmon (1996) examined the Baltimore City Drug Treatment Court Program. While the numbers are quite small, the results suggest that the program may have very different impacts depending upon the court and characteristics of the offenders involved. Males in the circuit and district courts had fewer arrests and convictions than their comparison groups when their criminal risk was controlled in the statistical analysis. On the other hand, women in these two drug courts and cases that entered as probation violators had fewer new arrests and convictions than their comparisons.

Goldkamp (1994) completed a study of the original Miami Drug Treatment Court in Dade County co-funded by the State Justice Institute and The NIJ. As shown in Table 9-12, the results demonstrate a lower rearrest rate for participants in the drug court. However, there were several problems with the study making it difficult to definitely conclude that the effect can be attributed to the drug court. In particular, the groups were not randomly assigned, and, furthermore, the failure to report rates differed tremendously between the drug court participants (55 percent) and the comparisons (9 percent).

Unlike many drug courts the Maricopa County (Arizona) Drug Court is a post-adjudication program for probationers with a first-time felony conviction for drug possession. Participants are required to participate in an outpatient comprehensive drug treatment program and their progress is monitored by the judge. Under a grant from the NIJ, Deschenes, Turner and Greenwood (1996) completed a random assignment study of this court. The analysis of recidivism after twelve months indicated that drug court participants had fewer rearrests (nonsignificant) and fewer incarcerations (significant) in comparison to the control group offenders (see Table 9-12).

In contrast to many of the other intermediate sanctions, drug courts attempt to combine increased surveillance with treatment. The court's responsibility for oversight of the offender, the treatment programs, and the supervising agents also means that all involved can be held accountable for outcomes. There is yet little research to examine how effective the programs are in reducing crime but the early results appear hopeful.

Table 9-12. Studies of drug courts showing scientific methods score and findings.

Study	Scientific Methods Score	Findings
Goldkamp (1994)	2	Fewer Miami Drug Court participants were rearrested (33%) than comparisons (52%), S. More Miami Drug Court group failed to appear (52%) than comparisons (9%).

Deschenes et al. (1995)	4	Fewer Drug Court participants were rearrested than probationers, NS. Fewer Drug Court arrestees sentenced to prison (9%) compared to probationer arrestees (23%), S.
Gottfredson et al. (1996)	3	When seriousness was statistically controlled, male: drug court participants had fewer rearrests, NS, and fewer convictions than comparison, NS; female drug court participants had fewer rearrests, S, and fewer convictions, NS.

Note: NS=nonsignificant, S=significant

10. SUMMARY AND RECOMMENDATIONS

10.1 Scientific Conclusions

It is obvious from this review of the research on crime prevention in the criminal justice system that no one strategy is appropriate for all offenders and all situations. Careful system planning is required to maximize the crime prevention potential of these different strategies. Shown in Table 9-13, are some of the issues that remain unresolved in the research on these strategies. What has not been addressed in this review of the scientific evidence supporting these strategies is the differential impacts of the strategies. For example, important in any consideration of the combination of incapacitation and deterrence strategies is the effect these policies have had on the minority community (Tonry, 1995) and the unintended effect of incarceration of inmates' families (Clear, 1996). Similarly, types of rehabilitation programs may be more effective with some offenders than others. Differences in gender, mental illness, or risk level, for instance, may be associated with program effectiveness.

Despite the fact that many such topics have had to be omitted due to time and length constraints, some conclusions can be offered regarding the crime prevention effects of the different criminal justice strategies reviewed.

What works? The research examined herein provides evidence that the following strategies are effective in reducing crime in the community:

- o Rehabilitation programs with particular characteristics;
- o Prison-based therapeutic community treatment of drug-involved offenders;
- o Incapacitating offenders who continue to commit crimes at high rates.

There is now substantial evidence that rehabilitation programs work. There is a body of research supporting the conclusion that some treatment programs work with at least some offenders in some situations. Effective rehabilitation programs:

- o Are structured and focused, use multiple treatment components, focus on developing skills (social skills, academic and employment skills), and use behavioral (including cognitive-behavioral) methods (with reinforcements for clearly identified, overt behaviors as opposed to non-directive counseling focusing on insight, self esteem, or disclosure); and,
- o Provide for substantial, meaningful contact between the treatment personnel and the participant.

The best treatment programs reduced recidivism by as much as 10 to 20 percentage points.

However, in order to be effective, treatment must follow some important principles. Programs must be designed to address the characteristics of the offenders that can be changed and that are associated with the individual's criminal activities. Furthermore, the treatment provided to offenders must be of sufficient integrity to insure that what is delivered is consistent with the planned design.

The research demonstrates that drug treatment is effective in reducing the criminal activities of offenders. The current examination of prison-based therapeutic community treatment for drug-involved offenders demonstrates that these programs are an effective method of providing prison-based treatment. These intensive, behaviorally-based programs target offenders' drug use, a behavior that is clearly associated with criminal activities.

Incapacitating offenders who will continue to commit crimes at a high rate and who are not at the end of their criminal careers is effective in reducing crimes in the community. Studies investigating the effectiveness of these incapacitation techniques show there are advantages in locking up the high-rate career criminals who commit serious crimes. The difficulty is in identifying who these high-rate offenders are, and the diminishing return on invested dollars with the increased incarceration rates. It is clear that the most serious offenders such as serial rapists should be incapacitated. However, locking up those who are not high-rate, serious offenders or those who are at the end of their criminal careers is extremely expensive.

Table 9-13. Different strategies for preventing crime by the courts and corrections showing issues unresolved by the research.

THE COURTS AND CORRECTIONS		CRIME PREVENTION BY			
Structure, Discipline and Challenge	Combining Incapacitation and Restraints and Rehabilitation	Deterrence	Rehabilitation	Community Restraints	
such programs enhance or conversely	Limited ability to predict future high risk offenders. How to insure well-implemented	What types of deterrents (e.g., day fines) are effective with what types of offenders (e.g., DWI)?	Retaining offenders in treatment. How to insure well-implemented intensive rehabilitation programs.	How to combine with treatment. Does increased surveillance reduce of	Do
UNRESOLVED ISSUES effectiveness treatment? program. What components are associated with success failure?	Financial rehabilitation costs and increases in imprisonment rates. How to coordinate treatment and Diminishing surveillance		Most effective targets(attitude s, values,	Do violations of conditions of supervision or	

<p>to maximize the effectiveness of each.</p>	<p>returns with increased incarceration rates.</p> <p>Adequacy of estimates of length of criminal career and rates of offending unknown.</p> <p>Negative impact on minorities</p> <p>Unintended Consequences.</p> <p>Increased use may decrease deterrent effects.</p> <p>Self-reported crime rates of those monitored in the community.</p>	<p>employment) for "signal" new change. criminal activity?</p> <p>Most effective service delivery methods for change.</p>
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What Does Not Work? Studies of poorly implemented rehabilitation programs given to low risk offenders using vague behavioral targets were not be effective in reducing crime. Nor were programs that emphasized characteristics such as discipline, structure, challenge, and self esteem that are not directly associated the offender's criminal behavior. Rehabilitation programs that did not reduce the recidivism of offenders:

- o Emphasized specific deterrence such as shock probation and Scared Straight;
- o Used vague, nondirective, unstructured counseling.

Studies demonstrate little evidence that continuing the policies of the past several decades emphasizing the increased use of incarceration will have a major impact on reducing crimes at this point in time. As incarceration rates grow there appear to be diminished returns (e.g., reduced impact on crime rates) because lower rate offenders are being locked up. It may also be counterproductive by limiting the deterrent effect of prison because people have less fear of incarceration. The impact on minority communities has been disastrous. An additional difficulty with the strategy is that, at this point in time, we cannot intelligently make the distinction between those who will commit serious crimes in the future and those who will not.

Community restraints without programming and services were not effective in reducing the recidivism rates of offenders. There is now an extensive body of research examining the crime prevention effects of community sanctions designed to restrain offenders while they are in the community. The studies are scientifically rigorous, so it is possible to draw conclusions

about the effectiveness of these efforts. The following programs were not effective in reducing the criminal activities of either adult or juvenile offenders, if they were not combined with rehabilitation:

- o Intensive supervised probation or parole (ISP)
- o Home confinement
- o Community residential programs
- o Urine testing

Evaluations of these programs have focused on the impact of increased control. The results have been discouraging because there are usually no differences between those in the intermediate sanctions and the comparison groups. In fact, in many cases the group receiving the intermediate sanction has had more technical violations. It is important to note that, while these sanctions may not reduce recidivism, they do not do any worse than other forms of "management as usual" and they may have other advantages when compared to incarceration such as reduced costs. The failure to find differences in recidivism means these sanctions do not result in increased public safety concerns by increasing the recidivism. Therefore, they may compare favorably with other sanctions on grounds other than recidivism.

Other programs that were not shown to be effective (again, if they were not combined with rehabilitation) are those emphasizing structure, discipline and challenge such as:

- o Correctional boot camps using the old-style military model
- o Juvenile wilderness programs

As with the research examining community restraints, there are a reasonable number of scientifically credible studies that have been completed, so conclusions about the effects of the programs are clear. It is unclear why these programs have failed to show crime reduction effects. Possibly individuals in the programs spend more time in the physical challenge activities and not in therapeutic activities that would more directly address the problems they have that are associated with their criminal activities. Another possibility is that the programs are group-oriented and do not offer enough individualized programming to address specific difficulties of the individual participants.

Deterrence programs that increase the punitive impact of the sentence such as Scared Straight or shock probation do not reduce crime. Reviews of the literature on these programs as well as the meta-analyses of rehabilitation continually show that these programs are not effective in preventing crime. In fact, some research suggests that such programs are associated with increases in the later criminal activities of the participants (see the meta-analysis by Lipsey, 1992).

What's promising? There are, however, some promising signs. Several strategies have been shown in only one study to reduce recidivism of offenders so we classify these as promising. The following are promising programs:

- o Drug courts combining both rehabilitation and criminal justice control.
- o Day fines
- o Juvenile aftercare
- o Drug treatment combined with urine testing

What we don't know. We do not know whether rehabilitation combined with ISP or with boot camps will be effective in reducing the recidivism of offenders because the research has been exploratory in nature (e.g., a one or two on our scale). Research examining these programs reveals that these combinations may be effective in preventing the criminal activities of offenders. The exploratory follow-up studies of ISP have investigated the differences in recidivism that can be attributed to treatment. The results from these investigations suggest that rehabilitation programs combined with community restraint programs may be effective in reducing recidivism. Similarly, the research from the discipline, structure and challenge programs suggests that combining these programs with rehabilitation may effectively reduce the later criminal behavior of participants. The idea of combining control and rehabilitation is also supported by the drug treatment research revealing that

substance abusing offenders who are coerced into treatment stay in treatment longer and they do as well as others who were not coerced.

From this perspective, intensive supervision programs, and correctional boot camps may be effective in reducing recidivism if the programs incorporate treatment programs that follow the principles of effective rehabilitation. The question is how to combine the programs so that the integrity of the treatment program is not lost. Those responsible for the control and surveillance and those responsible for providing the treatment will have to be held accountable for the component of the program they are expected to deliver. Furthermore, there will have to be close coordination between the groups to insure a close working relationship between the treatment and control providers.

Day reporting programs also hold potential program for combining the treatment and community control of offenders. However, to date there are no studies showing whether these can be effective. Furthermore, there is a possibility that the programs will emphasize the control and surveillance aspects of the program and not the combination of treatment and control.

10.2 The Effectiveness of DOJ Programs.

Research on the effectiveness of different strategies of crime prevention in the courts and corrections, much of it supported by the Office of Justice programs (OJP), has provided some clear guidance for the next steps in crime prevention in this setting. Shown in Table 9-14, are some of the major funds provided by OJP bureaus for programs in courts and correctional. Most of the funding goes to prison construction, correctional boot camps, residential substance abuse treatment for state prisoners, correctional alternatives, graduated sanctions and aftercare for juveniles, and drug courts. The following sections examine these programs based on the scientific evidence of effectiveness.

Alternative sanctions and community restraints. The OJP bureaus have completed exemplary work examining the effectiveness of restraint-type programs for offenders in the community and old-style military boot camps models. There is an considerable body of high quality research examining various community restraint-type programs. The results point clearly toward the ineffectiveness of these programs in reducing criminal activities of offenders, at least as measured by official measures of recidivism. The research has focused on the restraint and control of offenders in the community. That is, the research has been designed to compare those in a restraint program versus those who are not. There has been little focus on the quality of the therapeutic programming within the different correctional options. Nor have studies examined other measures of criminal activities, such as self-reported crimes.

Under the Byrne Grant Funding, BJA has funded the local development of alternative sanctions and correctional options. The research evidence does not demonstrate that the programs will be effective in reducing the criminal activities of offenders unless they are combined with treatment. Much of research appears to replicate earlier studies examining the effectiveness of the restrain aspect of the programs. Thus, it does not provide additional information about how to improve the programs in order to maximize the crime prevention potential.

What is needed in the future are high quality studies with experimental assignment of subjects to programs with different rehabilitation components focusing on participants with varying characteristics. The meta-analyses reviewed in this manuscript suggest that it will be important to have researchers involved in the program design and implementation. Certainly the research on rehabilitation suggests that many offenders will benefit from treatment programs. Again, it is important to note that future research on rehabilitation will have to consider the costs and benefits of such programs.

OJJDP's Intensive Community-Based Aftercare. When intensive supervision programs are combined with treatment and follow a term in an institution, they are often referred to as "aftercare" programs. The as OJJDP aftercare program was designed first to document information about aftercare in various jurisdictions throughout the U.S. This information was used to develop a model aftercare program that will be tested in selected jurisdictions. The program targets chronic and serious juvenile offenders who initially require secure confinement; the community aftercare follows this period of confinement. A prototype model for the aftercare has been developed. According to the model, aftercare planning begins when the juvenile first enters a facility. Each youth is assessed for risk and service needs, and an individualized plan is developed to address the identified needs.

If this program is studied with a experimental design that will compare experiences of the juveniles who receive the aftercare to others, it will provide important information about the combination of rehabilitation and community restraint. The intensive aftercare for high-risk juveniles proposes a model of treatment that is consistent with successful treatment programs according to our review of the rehabilitation literature. The model fits many of the principles identified as necessary for effective rehabilitation programs by the meta-analysis by Andrew and his colleagues. It targets high risk juveniles for an intensive

program. Surveillance and services are integrated in an attempt to coerce the juveniles to participate in rehabilitation programs.

Table 9-14. Major Federal Funding of the Office of Justice Programs for Corrections and Court Programs FY96 and FY97.

DOJ Office and Program	Purpose Areas	Total Funding	
Corrections Program Office	Residential Substance Abuse Treatment for State Prisoners	FY96	\$ 27 million
		FY97	\$ 30 million
	Prison Construction	FY96	\$405 million
	Correctional Boot Camps	FY95	\$ 24.5 million
Violence Against Women Office	Training Programs for Probation and Parole Offices to Work With Released Sex Offenders	FY96	\$ 1 million
		FY97	\$ 1 million
Drug Courts Program Office	Drug Courts	FY95	\$ 12 million
		FY96	\$ 15 million
		FY97	\$ 30 million
Bureau of Justice Assistance			
Byrne Grant Funding ⁹	Courts, Corrections, Drug Treatment	FYL96	\$109 million
Local Law Enforcement Block Grants	Drug Courts	Unable to determine portion allotted to specific programs	
Office of Juvenile Justice and Delinquency Prevention			
Title V Comprehensive Strategy for SVCs	Graduated Sanctions for SVCs	unable to determine portion allotted to these two programs	
Intensive Community-Based Aftercare	Aftercare for Juveniles		

Correctional Boot Camps. There are a reasonable number of evaluations demonstrating that the boot camps do not have an impact on the recidivism rates of offenders. The only hopeful sign is in one follow-up study examining programs that provided intensive rehabilitation-type activities in the boot camp and aftercare upon release. The scientific rigor of this analysis was low as it was an exploratory analysis but it did suggest that such enhancements may reduce the recidivism of participants. Again, most of the research focus has been on the control aspects of the programs and not the rehabilitation components. It appears that these programs will have to be changed if they are going to have an impact on reducing crimes in the community.

During FY95, as directed by Congress, all prison construction money appropriated to OJP was given for the construction and

planning of correctional boot camps. Prior to that time NIJ and OJJDP had funded studies of adult and juvenile correctional boot camps. The programs were not effective at reducing the recidivism of the participants once they were released. Using this results of this research, and the research on rehabilitation, OJP held meetings for interested applicants for the prison construction money. At these meetings, those who were developing boot camp programs were informed of the results of the research and they were encouraged to develop "new generation" models of correctional boot camps. These models would move the focus of the boot camps from the traditional old-style military boot camps that are not effective to new models emphasizing leadership, restorative justice or work skills.

We do not know if adding therapeutic programming into the boot camps will be more or less effective than similar programs that have the therapy but not the military aspects of the correctional boot camps. This is an ideal area for random assignment studies and several such studies are currently underway.

Prison construction. Approximately \$471 million will be available in 1997 for formula grant awards to build or expand correctional facilities for violent offenders; build or expand temporary or permanent correctional facilities for nonviolent offenders and criminal aliens to free prison space for violent offenders; and build or expand jails.¹⁰ Whether these funds will help prevent serious crime remains a matter of great debate and small scientific evidence.

From 1980 until 1995, there was an overall 242 percent increase in prison populations. In 1980 the total inmate population was 330,000, but by 1995 this had grown to approximately 1.1 million inmates. Reflecting this growth in inmate populations, U.S. prison annual operating costs have swelled from \$3.1 billion in fiscal year 1980 to about \$17.7 billion in fiscal year 1994. Forecasting groups anticipate that the growth will continue at least for the foreseeable future. According to a recent report by GAO (1996), the growth is a function of factors such as crime levels, sentencing laws and law enforcement policies, most recently it can be traced to major legislation intended to get tough on criminals, particularly drug offenders (GAO). The question is whether the increased funding for prison construction for such offenders will reduce crime in the community.

The research suggests that this massive increase in imprisonment does reduce the number of crimes because some offenders who would be active criminals will instead be locked in prison. However, the question is whether the incarceration rate has grown so large that now there is a diminished return on every dollar invested. That is, the offenders now sent to prison may be those who would be committing few crimes if they were in the community. Thus, relatively few crimes will be prevented by the continued expansion of the capacity to incarcerate. Furthermore, little is said about who will be incarcerated in the prisons built by the monies provided for prison construction. Studies reveal that the effectiveness of incapacitation will be dependent upon identifying and incarcerating high frequency offenders who are not at the end of their criminal careers. Researchers have not been able to identify these individuals so that the effectiveness of this strategy can be maximized.

Many state and local jurisdiction have begun to invest time and money into system planning in order to rationally distribute offenders in prisons and alternatives (boot camps, intensive supervision, etc.). There is little research examining the effectiveness of such system planning. What research there is focuses on descriptive studies and not the impact of such policies. This would be a fruitful avenue for future research if it uses rigorous research designs to examine impact.

Drug Courts. Given the enormous number of drug-involved offenders that are arrested each year, the association between drug involvement and criminal activities, and the enormous number of these offenders in prisons, one important body of research focuses on the drug-involved offenders. Two OJP funding programs address drug-involved offenders: drug courts and residential drug treatment for state prisoners. Both programs move beyond the deterrence options and increased restraints that have failed to reduce the criminal activities of these offenders. Substantial scientific evidence shows that drug treatment is an effective method of reducing both drug use and crime by these offenders. Furthermore, the criminal justice system can coerce offenders to remain in treatment longer. The longer they stay in treatment the better they do later, and those who are coerced do as well as comparisons who volunteer for treatment. One advantage of drug courts is that the court can oversee and supervise the coordination of the treatment and the community restraint. Theoretically the court has the authority to hold each provider accountable for their responsibilities in an effort to force the offender to change.

We rank the current scientific evidence on the effectiveness of drug courts as promising. While evaluations to date show encouraging results, the studies were of limited scientific rigor. Drug courts also vary widely in the services provided, populations served, and when interventions are offered. Given these large differences in programs, it will be crucial to examine what components of programs are effective for what target population using what intervention.

As with the boot camps, it is anticipated that the people developing the programs will be hesitant to initiate a rigorous experimental design to examine these programs. Yet, this will be required in order to determine the effectiveness of the programs and to justify the proliferation of such courts without evidence of effectiveness. Programs that will be used as models

for other new drug courts should be required to provide evidence of the effectiveness of the programs.

Residential Substance Abuse Treatment for State Prisoners. As with the drug courts, the prison-based substance abuse programs appear to be a promising way to reduce the drug use and associated criminal activities of offenders, once they leave prison. In general, the studies of in-prison therapeutic community programs demonstrated that such programs reduced the recidivism rates of offenders once they were released. While the studies suffered from design problems such as attrition and comparison group deficiencies, several used sufficiently strong methodology to warrant the conclusion that they successfully reduced the recidivism rates of participants. All of the programs studied provided intensive programming for participants in prison. Further reductions in recidivism were associated with the length of time offenders spent in the programs, and whether they participated in aftercare following release from prison.

Future research needs to focus on determining whether offenders who are at different stages in the change process would benefit from different types of programs. In addition, research should focus on methods of keeping offenders in the programs, once they have decided to enter.

10.3 Improving The Effectiveness Through Research

The development of more effective crime prevention in the courts and corrections would be improved if the following steps were taken.

Support research on incapacitation.

Large-scale research studies examining the effects of increasing the capacity of prisons are needed to determine the effects of incapacitation strategies. There has been little rigorous research examining the impact of incapacitation strategies. This is evident in a recent study of research articles published on the topic of deterrence, rehabilitation and incapacitation. Zimring and Hawkins (1995) examined the titles of articles found in Social Scisearch (SOSCISCH) system. From 1980 until 1989, over 4,000 studies had rehabilitation/recidivism in the title, 610 had deterrence but only 45 had incapacitation/preventive detention.

Self-report studies of the criminal activities of offenders are needed to determine crime rates after arrest or when offenders are serving time on probation, parole or in some alternative sanction in the community.

Require (and provide the substantial financial investment to enable) rigorous evaluation using experimental designs of rehabilitation models that are guided by the principles of effective programs revealed in meta-analyses.

While there appear to be an enormous number of studies examining the effectiveness of rehabilitation (see for instance, the Zimring and Hawkins study described above), researchers completing reviews of the literature and meta-analyses report that there are a relatively limited number of studies that use a scientifically adequate methodology. As a result, it is impossible to draw unequivocal conclusions about the effectiveness of the programs.

Support the development of a methodology to study the therapeutic integrity (implementation, staff training, treatment modality) of rehabilitation to insure that programs can be held accountable for implementing programs that are effective in reducing recidivism.

Many times the evaluation of programs is unsuccessful because the program is not implemented as designed or is designed so poorly that it would reasonably be expected to have an impact on the individual participants. More research needs to be completed to identify methods of holding rehabilitation programs accountable for the treatment and services delivered.

Provide funding for research test sites that enable researchers to be intimately involved in the design and implementation of programs.

Congress has earmarked funds for many of the OJP programs like prison construction, drug courts and boot camp prisons. To insure that these programs will be evaluated, OJP has transferred money to NIJ to be used for evaluations. For example, in FY 1996 OJP transferred over \$3 million to NIJ for corrections. For some of the programs, jurisdictions receiving funding have been required to agree to participate in an evaluation. This arrangement between NIJ and the programming money causes some difficulties that require researchers to play "catch-up" in trying to design the research and obtain agreements from sites. Many programs would benefit greatly if the researchers were involved from the beginning and the money was tied to the requirement

that sites would participate in studies. Such test-site research would insure close cooperation between the programs and the research. This is a particular concern with the funding for the boot camps and drug courts because the effectiveness of these programs have not been demonstrated.

Research examining intermediate sanctions, alternative punishments or correctional options should be carefully designed to address the questions that are still unanswered by the research.

These programs are not effective in reducing the recidivism rates of offenders as measured by official records. Self-report measures of criminal activities may reveal that the crime rates are reduced for offenders in such alternatives but that the increased attention to offenders means their misbehavior is more apt to be detected. Furthermore, research should examine whether combining these options with rehabilitation is successful in reducing criminal activity.

More research is need on the programs identified as promising in this report: Drug Courts; Day Fines; Juvenile Aftercare; and, Drug Treatment combined with Urine Testing.

In summary, what is clear from this report is that none of these strategies should be eliminated as an option. In particular situations, each strategy has some support for successfully reducing crime in the community. What will be important is a strategic plan defining who should be incapacitated, who should be rehabilitated, who can be deterred, and how to combine restraint and rehabilitation to effectively reduce crime. Important in this plan will be measures to insure that each program is held accountable for the expected outcome. The question is whether we can reduce the future criminal activities of offenders by holding the individual accountable for his or her own behavior, the treatment program accountable for outcomes and the criminal justice system for sanctioning offenders who do not comply with requirements. Equally as important are questions addressing the differential impacts of programs for individuals who differ in characteristics such as gender, home community (urban/rural), race/ethnicity and age. The argument is not which of these different strategies of crime prevention should be used, but when and where the effect of each strategy can be used to maximally prevent crime in the community.

NOTES

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²It should be noted that this research made use of a complex statistical model with reasonable estimates of the relevant factors completed by a respected group of researchers. Although, there is still debate about the estimates used in the statistical models, it is important to distinguish the predictions from unscientific estimates given in some policy debates. For example, Hawkins and Zimring (1995) describe one unscientific estimate that would have produced a \$300 billion savings in the cost of crimes prevented, and, as noted by Hawkins and Zimring this unreasonable estimate is greater than the federal deficit or the national defense budget.

³Note that this is the proportion of all the studies reviewed that show positive and significant reductions in recidivism when the treated group is compared to the control group.

⁴While this analysis included both adult and juvenile treatment programs, the majority of the studies dealt with juvenile programs.

⁵A current NIJ study is examining the self-reported crime rates of offenders on probation. This information will provide some estimates of the crime rates and the association between these rates and the conditions of probation in order to determine whether those who are more intensively supervised have lower self-reported crime rates (MacKenzie, Browning and Prui 1996).

⁶This was a more extensive analysis than previous meta-analyses that had focused on delinquents in residential programs (Garrett 1984;1985), at-risk juveniles (Kaufman (1985), and treatment of adjudicated delinquents (Gottschalk et al.1987; Whitehead and Lab 1989). While the conclusions from these analyses differed, all yielded a positive mean effect of about the same order of magnitude (1/4 to 1/3 of a standard deviation superiority for the treatment group outcome compared with the control group outcome). See also the early discussion of the Andrews et al. (1990) meta-analysis in this chapter.

⁷Behavioral interventions are strategies that focus on changing behaviors by setting behavioral goals and using positive and negative reinforcement to encourage or discourage clearly identified behaviors.

⁸Multi-modal or multi-components treatment programs are those that combine several different treatment strategies in one program.

⁹These amounts were extrapolated from the Dunworth, et al. (1997) analysis of the award of grants in 1989-94, proportionately applied to the FY96 allocation of \$475 million.

¹⁰Office of Justice Programs Crime Act Programs Fiscal Year 1997 Update.

REFERENCES

Allen, H. E., Seiter, R. P., Carlson, E. W., Bowman, H. H. Grandfield, J. J., & Beran, N. J. (1976). National Evaluation Program Phase I: residential inmate aftercare, the state of the art summary. Columbus, OH: Ohio State University, Program for the Study of Crime and Delinquency.

Andrews, D.A., Zinger, I, Hoge, R.D., Bonta, J., Gendreau, P, & Cullen, F.T. (1990). Does correctional treatment work? A clinically-relevant and psychologically-informed meta-analysis. Criminology,28,369-404.

Andrews, D.A. Bonta, J., & Hoge, I. (1990). Classification for effective rehabilitation: rediscovering psychology. Criminal Justice and Behavior, 17, 19-52.

Andrews, D.A., & Bonta, J. (1994). The Psychology of Criminal Conduct. Cincinnati, OH: Anderson Publishing Co.

Anglin, M. D., & Hser, Y.I. (1990). Treatment of drug abuse. In M. Tonry and J.Q. Wilson (Eds.). Drugs and crime. Chicago, IL: University of Chicago Press.

Anglin, M.D., & Maughn, T.H. (1992). Overturning myths about coerced drug treatment. California Psychologist,14,20-22.

Anglin, M.D, Longshore, D., Turner, S., McBride, D., Inciardi, J., & Pendergast, M. (1996). Studies of functioning and effectiveness of Treatment Alternatives to Street Crime (TASC) programs: final report. Washington, DC: National Institute on Drug Abuse.

Armstrong, T. (1988). National survey of juvenile intensive probation supervision: Parts 1 & 2. Criminal Justice Abstracts, 20(2,3):342-348, 497-523.

Austin, J & Hardyman, P. (1991). The use of early parole with electronic monitoring to control prison crowding: Evaluation of the Oklahoma Department of Corrections pre-parole supervised release with electronic monitoring. Unpublished report to the National Institute of Justice.

Bailey, Walter C. (1966). Correctional outcome: An evaluation of 100 reports. Journal of Criminal Law and Criminology and Police Science, 57 (2).

Barton, W. H., & Butts, J. A. (1990). Viable options: intensive supervision programs for juvenile delinquents. Crime and Delinquency,36(2), 238-256.

Baumer, T.L., & Mendelsohn, R.I. (1991). Comparing methods of monitoring home detention: the results of a field experiment. Paper presented at the meeting of the American Society of Criminology, San Fransisco.

Baumer, T.L., & Mendelsohn, R.I. (1992). Electronically monitored home confinement: Does it work? In J.M. Byrne, A.J. Lurigio, & J. Petersilia (Eds.). Smart sentencing: the emergence of intermediate sanctions. Newbury Park, CA: Sage.

Baumer, T.L., Maxfield,M.G., & Mendelsohn, R.I. (1993). A comparative analysis of three electronically monitored home

detention programs. Justice Quarterly,10, 121-42.

Beck, A. & Klein-Saffran, J. (1989). Community control project. (Report No. 44). Washington, DC: United States Parole Commission.

Benekos, P. J. & Merlo, Alida V. (1996). Three strikes and you're out: The political sentencing game. In J.W. Marquart and J.R. Sorensen, eds. Correctional Contexts: Contemporary and Classical Readings. Los Angeles, CA: Roxbury Pub. Co.

Blumstein, A., and Cohen, J. (1973). A theory of the stability of punishment. Journal of Criminal Law and Criminology, 64:198-206.

Blumstein, A., and Cohen, J. (1979). Estimation of individual crime rates from arrest records. Journal of Criminal law and Criminology, 70:561-85.

Blumstein, A., Cohen, J. Roth, J. A. And Visher, C. A. (Eds) (1986). Criminal Careers and "Career Criminals." Washington, D. C.: National academy Press.

Bottcher, J., Isorena, T., & Belnas, M. (1996). Lead: a boot camp and intensive parole program: an impact evaluation: second year findings. State of California, Department of the Youth Authority, Research Division.

Boudouris, J. & Turnbull, B.W. (1985). Shock probation in Iowa. Journal of Offender Counseling Services and Rehabilitation, 9:53-67.

Buckner, J.C. & Chesney-Lind, M. (1983). Dramatic cures for juvenile crime: An evaluation of a prison-run delinquency prevention program. Criminal Justice and Behavior, 10:227-247.

Bureau of Justice Statistics 1995. The nation's correctional population tops 5 million. Washington, D.C.: U.S. Department of Justice Bureau of Justice Statistics (NCJ-156432)

Bureau of Justice Statistics 1996. Prison and Jail Inmates, 1995. Washington, D.C.: Bureau of Justice Statistics Bulletin (NCJ-161132).

Butts, J.A., H.N. Snyder and T.A. Finnegan (1994). Juvenile court statistics 1992. Washington DC, U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Byrne, J.M., & Kelly, L.M. (1989). Restructuring probation as an intermediate sanction: An evaluation of the Massachusetts intensive probation supervision program: final report to the National Institute of Justice. Lowell, MA: University of Lowell, Department of Criminal Justice.

Byrne, J.M., Lurigo,A.J., Petersilia, J. (1996). Smart Sentencing: The Emergence of Intermediate Sanctions. Newbury Park, CA: Sage Publications.

Casale, Silvia, G., and Hillsman, S. T. (1986). The enforcement of fines as criminal sanctions: The English experience and its relevance to American practice. New York: Vera Institute of Justice.

Castellano, T.C., & Soderstrom, I. R. (1992). Therapeutic wilderness programs and juvenile recidivism: a program evaluation. Journal of Offender Rehabilitation,17(3/4), 19-46.

Chaiken, M. R. (1986). Crime rates and substance abuse among types of offenders. In B. D. Johnson & E. Wish (Eds), Crime rates among drug-abusing offenders. Final report to the National Institute of Justice. New York: Narcotic and Drug Research, Inc.

Chaiken, M.R. (1989). In-prison programs for drug involved offenders. National Institute of Justice: Issues and Practices.

Chaiken, M. R. & Chaiken, J. M. (1982). Varieties of criminal behavior. Santa Monica, CA: Rand Corp.

- Clarke, S.H. (1974). Getting 'em out of circulation: Does incarceration of juvenile offenders reduce crime? Journal of Criminal Law and Criminology, 65 (4): 528-35.
- Clarke, S.H. (1994). Increasing imprisonment to prevent violent crime: Is it working? Popular Government, (Summer), 16-24.
- Clear, T. R. (1996). The Unintended Consequences of Incarceration. Paper presented at the NIJ workshop on corrections research, Feb. 14-15.
- Cohen, J., & Canela-Cacho, Jose, A. (1994). Incarceration and violent crime. In Albert J. Reiss, Jr. & Jeffery A. Roth (eds). Understanding and preventing violence: Consequence and control. vol. 4. Washington, D.C.: National Academy of Sciences.
- Cohen, J. (1983). Incapacitation as a strategy for crime control: possibilities and pitfalls. In M. Tonry and N. Morris : (eds). Crime and Justice, An Annual Review of Research. Chicago: University of Chicago Press.
- Cohen, J. (1984). Selective Incapacitation: An assessment. University of Illinois Law Review, 2 :253-90.
- Cole, G., Mahoney, B., Thornton, M., Hanson, R. A. (1987). The practice and attitudes of trial court judges regarding fines as a criminal sanction. Final report submitted to the National Institute of Justice, U.S. Department of Justice, Washington, D.C.
- Cullen, F.T. , & Gendreau, P. (1989). The effectiveness of correctional rehabilitation: reconsidering the "Nothing Works" debate. In L. Goodstein & D. Mackenzie (Eds.). The American prison: issues in research and policy. NY: Plenum Press.
- Cullen, F. T. & Gilbert, K. E. (1982). Reaffirming Rehabilitation. Cincinnati, OH: Anderson publishing, Co.
- Cullen, F.T., Wright, J.P. & Applegate, B.K. (1996). Control in the community: The limits of reform? In A.T. Harland Choosing correctional options that work: defining the demand and evaluating the supply. Thousand Oaks, CA: Sage Publications Company.
- Deschenes, E. P., Greenwood, P., & Marshall, G. (1996). The Nokomis challenge program evaluation. Santa Monica, CA: RAND Corp.
- Deschenes, E.P., Turner, S., Greenwood, P., & Chiesa, J. (1996). An experimental evaluation of drug testing and treatment interventions for probationers in Maricopa County, Arizona. RAND Corp.
- Deschenes, E.P., Turner, S., & Petersilia, J.. (1995). Intensive community supervision in Minnesota: A dual experiment in prison diversion and enhanced supervised release. Final report to The National Institute of Justice, Washington DC.
- Dunworth, T., Haynes, P. & Saiger, A.J. (1997). National Assessment of the Byrne Formula Grant Program. Washington, DC: National Institute of Justice.
- English , K., & Mande, M. J. (1992). Measuring from many of the studies about the effectiveness of the programs. crime rates of prisoners. Denver: Colorado Department of Public Safety, Division of Criminal Justice, Office of Research and Statistics.
- Eisenberg, M., & Fabelo, T. (1996). Evaluation of the Texas correctional substance abuse treatment initiative: the impact of policy research. Crime and Delinquency, 42(2), 296-308.
- Elrod, H. P., & Minor, K.I. (1992). Second wave evaluation of a multi-faceted intervention for juvenile court probationers. International Journal of Offender Therapy and Comparative Criminology, 36(3), 247-262.
- Erwin, B. (1986). Turning up the heat on probationers in Georgia. Federal Probation. 50:17-29.
- Fagan, J., Forst, M. & Vivona, T. (1988). Treatment and reintegration of violent juvenile offenders: Experimental Results. San Francisco: URSA Institute.
- Falkin, G. P. , Wexler, H. K. & Lipton, D. S. (1992). Drug treatment in state prisons. In D. R. Gerstein & H. J. Harwood (Eds). Treating Drug Problems (Vol. II, pp. 89-132). Washington, D.C: National Academy Press.

- Fallen, D.L., Apperson, C.G., Hall-Milligan, J., & Aos, S. (1977). Report: intensive parole supervision. Washington, DC: Department of Social and Health Services.
- Field, Gary (1989). The effects of intensive treatment on reducing the criminal recidivism of addicted offenders. Federal Probation, 53: 51-56.
- Finckenaue, James O. (1982). Scared Straight and the Panacea Phenomenon. Englewood Cliffs, NJ: Prentice-Hall.
- Florida Department of Corrections. (1990). Florida executive summary: boot camp: a 25 month review. Tallahassee, FL: Florida Department of Corrections.
- Flowers, G.T., Carr, T.S., & Ruback, R.B. (1991). Special alternative incarceration evaluation. Atlanta, GA: Georgia Department of Corrections.
- Gendreau, P. (1981). Treatment in corrections: Martinson was wrong. Canadian Psychology, 22, 332-338.
- Gendreau, P & Ross , R. R. (1979). Effective correctional treatment: Bibliotherapy for cynics. Crime and Delinquency, 25 : 463-489.
- Gendreau, P & Ross , R. R. (1981). Correctional potency: Treatment and deterrence on trial. In R. Roesch & R. Corrado (eds) Evaluation Research and Policy in Criminal Justice. Beverly hills: Sage.
- Gendreau, P & Ross , R. R. (1987). Revivification of rehabilitation: Evidence from the 1980's. Justice Quarterly, 4 349-407.
- Gendreau, P, Little, T, & Goggin, C. (1995). A meta-analysis of the predictors of adult offender recidivism: What works! University of New Brunswick, St. John, Canada. Unpublished manuscript.
- Gerstein, D.R. and Harwood, H.J. (Eds). (1992). Treating Drug Problems. Washington, DC: National Academy Press:119-20.
- Glaser, D. and Gordon, M.A. (1988). Use and Effectiveness of Fines, Jail, and Probation. Los Angeles: University of Southern California, Social Science Research Institute.
- Goldkamp, J.S., & Weiland, D. (1993). Assessing the impact of Dade County's felony drug court. Washington, DC: U.S. Department of Justice.
- Goldkamp, J. S. (1994). Miami's treatment drug court for felony defendants: some implications of assessment findings., The Prison Journal,73(2), 110-166.
- Gordon, M.A., & Glaser, D. (1991). The use and effects of financial penalties in municipal courts. Criminology, 29(4), 651-676.
- Gottfredson, D.C., & Barton, W.H. (1993). Deinstitutionalization of juvenile offenders. Criminology, 31(4), 591-611.
- Gottfredson, D.M., Coblenz, K., & Harmon, M.A.(1996). A short term outcome evaluation of the Baltimore city drug treatment court program. College Park, MD: Department of Criminology and Criminal Justice, University of Maryland.
- Gottfredson, M.R. (1979). Parole guidelines and reduction of sentence disparity. Journal of Research in Crime and Delinquency, 16 :218-31.
- Gottfredson, S.D. and Gottfredson, D.M. (1994). Behavioral prediction and the problem of incapacitation. Criminology, 32:441-474.
- Greenberg, David F. (1975). The incapacitative effects of imprisonment: Some estimates. Law and Society, 9(4): 541-586.
- Greenwood, Peter W., with Allan Abrahamse (1982). Selective incapacitation. Santa Monica , CA: RAND Corp.

- Greenwood, P., Model, K., Rydell, C., & Chiesa, J. (1996). Diverting children from a life of crime: measuring costs and benefits. Santa Monica, CA: RAND Corp.
- Greenwood, P.W., Rydell, C.P., Abrahames, A.F., Caulkins, J.P., Chesia, J., Model, P. E.& Klein, S.P. (1994). Three strikes and you're out: Estimated benefits and costs of California's new mandatory sentencing law. Santa Monica, CA: RAND Corp.
- Greenwood, P.W., Deschenes, E.P., & Adams, J. (1993). Chronic juvenile offenders: final results from the Skillman aftercare experiment. Santa Monica, CA: RAND Corp.
- Greenwood, P.W., & Turner, S. (1993). Evaluation of the Paint Creek center: a residential program for serious delinquents. Criminology, 31(2), 263-279.
- Greenwood, P & Zimring, F. E. (1985). One more chance: The pursuit of promising intervention strategies for chronic juvenile offenders. Santa Monica, CA: Sage Publications.
- Greenwood, P., & Turner, S. (1987). The VisionQuest program: an evaluation. Santa Monica, CA: RAND Corp.
- Halleck, S & Witte, A. E. (1977). Is rehabilitation dead? Crime and Delinquency. 372-382.
- Hepburn, J.R. & Albonetti, C.A. (1994). Recidivism among drug offenders: a survival analysis of the effects of offender characteristics, type of offense, and two types of intervention. Journal of Quantitative Criminology, 10(2), 159-179.
- Harland, A.T. ed. (1996). Choosing Correctional Options That Work: Defining the Demand and Evaluating the Supply. Thousand Oaks, CA: Sage Publications.
- Harrell, A. and S. Cavanagh. 1996. Preliminary results from the evaluation of the DC Superior Court Drug Intervention Program for Drug Felony Defendants. Unpublished manuscript presented at the National Institute of Justice Research in Progress Seminar (July). Washington, D.C.
- Hillsman, S.T. (1990). Fines and day fines. In M. Tonry & N. Morris (Eds.). Crime and justice: a review of research. Vol. 12. Chicago, IL: University of Chicago Press.
- Hillsman, S. T., Joyace, L. Sichel, and Mahoney, B. (1984). Fines in sentencing: A study of the use of the fine as a criminal sanction . New York: Vera Institute of Justice.
- Hillsman, S.T. and Green, J.A. (1987). Improving the Use and Administration of Criminal Fines: A Report of the Richmond County, New York, Criminal Court Day-Fine Planning Project. New York: Vera Institute of Justice.
- Hillsman, S.T. and Green, J.A. (1988). Improving the Use and Administration of Monetary Penalties in Criminal Cases: An Experiment to Apply Means based Fining Concepts and Practices to the Superior Court of Maricopa County, Arizona. New York: Vera Institute of Justice.
- Horney, J., & Marshall, Haen I. (1991). Measuring lambda through self-reports. Criminology 29 (3): 471-95.
- Inciardi, J. A. (1979). Heroin use and street crime. Crime and Delinquency, 25: 335-46.
- Johnson, Bruce D & Wish, Eric D (1986). The impact of substance abuse on criminal careers. In Alfred Blumstein, Jacqueline Cohen, Jeffrey A. Roth & Christy Visher (eds). Criminal Careers and "Career Criminals". Vol. 2. Washington, D.C.: National Academy Press.
- Jolin, A., & Stipack, B. (1991). Clackamas county community corrections intensive drug program: program evaluation report. Portland, OR: Portland State University, Department of Administration of Justice.
- Kirby, B.C. (1954). Measuring effects of treatment of criminals and delinquents. Sociology and Social Research. 38:368-374.
- Krisberg, B. Rodriguez, O., Baake, A., Neuenfeldt, D. & Steele, P. (1989) Demonstration of post-adjudication non-residential

intensive supervision programs: Assessment report. San Francisco: National council on Crime and Delinquency.

Lab, S.P., & Whitehead, J.T. (1988). An analysis of juvenile correctional treatment . Crime and Delinquency, 34: 60-83.

Land, K. C. McCall, P. L., Williams, J.R. (1990). Something that works in juvenile justice: an evaluation of the North Carolina court counselors' intensive protective supervision randomized experimental project, 1987-1989. Evaluation Review, 14 (6), 574-606.

Latessa, E. J. & Allen, H. E. (1982). Halfway houses and parole: A national assessment. Journal of Criminal Justice, 10 (2):153-163.

Latessa, E. J. (1991). A preliminary evaluation of the Cuyahoga county adult probation department's intensive supervision groups. Unpublished manuscript. Cincinnati, OH: University of Cincinnati.

Latessa, E. J. (1992). Intensive supervision and case management classification: an evaluation. Unpublished manuscript. Cincinnati, OH: University of Cincinnati.

Latessa, E. J. (1993a). An evaluation of the Lucas county adult probation department's IDU and high risk groups. Unpublished manuscript. Cincinnati, OH: University of Cincinnati.

Latessa, E. J. (1993b). Profile of the special units of the Lucas county adult probation department. Unpublished manuscript. Cincinnati, OH: University of Cincinnati.

Latessa, E.J., & Travis, L.F. III. (1991). Halfway house or probation: a comparison of alternative dispositions. Journal of Crime and Justice, 14(1), 58-75.

Leukefeld, C.G. , & Tims, F. M. (Eds). (1992). Drug abuse treatment in prisons and jails. National Institute of Drug Abuse, Research Monograph Series, No. 18. Washington, D.C.: U.S. Government Printing Office.

Lewis, R.V. (1983). Scared straight-California style: Evaluation of the San Quentin squire program. Criminal Justice and Behavior, 10: 209-226.

Lipsey, M. (1992). Juvenile delinquency treatment: a meta-analytic inquiry into the variability of effects. In T. Cook, et al. (Eds.). Meta-analysis for explanation: a casebook. New York, NY: Russell Sage Foundation.

Lipton, D. And Pearson, F.S. (1996). The CDATE Project: Reviewing research on the effectiveness of treatment programs for adult and juvenile offenders. Paper presented at the Annual Meeting of the American Society of Criminology, Chicago, IL.

Lipton, D., Martinson, R., & Wilks, J. (1975). The effectiveness of correctional treatment: A survey of treatment evaluation studies. New York: Praeger.

Logan, C. (1972). Evaluation research in crime and delinquency: An reappraisal. Journal of Criminal Law Criminology, and Police Science, 63: 378-387.

Lurigio, A. J., & Petersilia, J. (1992). The emergence of intensive probation supervision programs in the United States. In J.M. Byrne, A. J. Lurigio, & J. Petersilia (Eds.). Smart sentencing: the emergence of intermediate sanctions, (pp. 18-41). Newbury Park, CA: Sage Publications.

MacKenzie, D. L. (1990). Boot camp prisons: Components, evaluations, and empirical issues. Federal Probation, 54 (3): 44-52.

MacKenzie, D.L., Browning, K. & Prui, H. (1996). Self-reported criminal activities of probationers. Paper presented at the Annual Meeting of the American Society of Criminology, Chicago, IL.

MacKenzie, D. L. & Parent, D. G. (1991). Shock incarceration and prison crowding in Louisiana. Journal of Criminal Justice, 19: 225-237.

- MacKenzie, D. L., & Shaw, J.W. (1993). The impact of shock incarceration on technical violations and new criminal activities. Justice Quarterly,10, 463-487.
- MacKenzie, D. L. , Shaw, J.W., & Gowdy, V. (1993). An evaluation of shock incarceration in Louisiana. Washington, D.C. , National Institute of Justice.
- MacKenzie, D. L. (1991). The parole performance of offenders released from shock incarceration (boot camp prisons): a survival time analysis. Journal of Quantitative Criminology(3), 213-236.
- MacKenzie, D. L. Brame, R., MacDowall, D., & Souryal , C. (1995). Boot camp prisons and recidivism in eight states. Criminology,33(3), 327-358.
- Marques, K.H., & Ebener, P.A. (1981). Quality of Prisoner Self-Reports: Arrest and Conviction Response Errors. Santa Monica, CA: Rand Corporation.
- Martin, S., Sechrest, L., & Redner. (Eds) (1981). New directions in the rehabilitation of criminal offenders. Washington, DC: National Academy Press.
- Martin, S.S., Butzin, C.A., & Inciardi, J. (1995). Assessment of a multistage therapeutic community for drug involved offenders. Journal of Psychoactive Drugs, 27(1), 109-116.
- Martinson, R (1974). What works? -Questions and answers about prison reform. The Public Interest .10 :22-54.
- Minor, K.I., & Elrod, P. (1994). The effects of a probation intervention on juvenile offenders self-concepts, loci of control, and perceptions of juvenile justice. Youth and Society, 25(4), 490-511.
- Minor, K.I., & Elrod, H.P. (1990). The effects of a multi-faceted intervention on the offense activities of juvenile probationers. Journal of Offender Counseling, Service and Rehabilitation, 1(2), 87-108.
- Miranne, A.C., & Geerken, M.R. (1991). The New Orleans inmate survey: A test of Greenwood's predictive scale. Criminology, 29(3): 497-518.
- Mitchell, C.J.Z., & Butter, C. (1986). Intensive supervision/early release parole. Utah Department of Corrections.
- Molof, M. (1991). Study of the intensive probation supervision for multiple DUI offenders in Linn county, Oregon. Linn county, OR: Integrated Research Services.
- Moon, M.M., & Latessa, E.J. (1993). The effectiveness of an outpatient drug treatment program on felony probationers. Paper presented at the annual meeting of the Academy of Criminal Justice Sciences, Kansas City.
- Moon, M.M., & Latessa, E.J. (1994). Drug treatment in adult probation: an evaluation of an outpatient and acupuncture program. Evaluation and Program Planning, 17(2), 217-26.
- Morris, N., & Tonry, M. (1990). Between Prison and Probation: Intermediate Punishments in a Rational Sentencing System, New York: Oxford University Press.
- National Council on Crime and Delinquency. (1991). Evaluation of the Florida community control program. San Francisco: Author.
- New York State, Department of Correctional Services, Division of Parole. (1995). Annual Shock Legislative Report. New York: Author.
- New York Department of Correctional Services (1992). The fourth annual report to the legislature on shock incarceration and shock parole supervision. Albany: Department of Correctional Services and Division of Parole.
- New York Department of Correctional Services (1993). The fifth annual report to the legislature on shock incarceration and

shock parole supervision. Albany: Department of Correctional Services and Division of Parole

Nurco, D., Hanlan, T. & Kinlock, T. (1990). *Offenders, drugs and treatment*. Washington, D.C.: United States Department of Justice.

Nurco, D.N., Hanlon, T.E., Bateman, R.W., & Kinlock, T.W. (1995). Drug abuse treatment in the context of correctional surveillance. *Journal of Substance Abuse Treatment*, 12(1), 19-27.

Palmer, T. (1975). Martinson revisited. *Journal of Research in Crime and Delinquency*. 12:133-152.

Palmer, T (1983). The 'effectiveness' issue today : an overview. *Federal Probation*, 46 : 3-10.

Parent, D.G., Byrne,J., Tsarfaty, V. Valdae, L., & Esselman, J. (1995). *Day Reporting Centers*. Vol.1 and 2. Washington, DC: National Institute of Justice.

Pearson, F. S. (1987). *Research on New Jersey's intensive supervision program* . Washington, D.C: U.S. Department of Justice, National Institute of Justice.

Peters, M. (1996a). *Evaluation of the impact of boot camps for juvenile offenders: Denver interim report*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Peters, M. (1996a). *Evaluation of the impact of boot camps for juvenile offenders: Cleveland interim report*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Peters, M . (1996b). *Evaluation of the impact of boot camps for juvenile offenders: Mobile interim report*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Petersilia, J & Greenwood, Peter W. (1978). Mandatory prison sentences: their projected effects on crime and prison populations. *Journal of Criminal Law and Criminology*, 69: 604-615.

Petersilia, J., & Turner, S. (1993). *Evaluating intensive supervision probation/parole: results of a nationwide experiment*. Washington, DC: National Institute of Justice.

Petersilia, J., & Turner, S. (1993). Intensive probation and parole. In *Crime and justice: a review of research*, Vol. 19, (pp. 281-335). Chicago, IL: University of Chicago Press.

Peterson, M.A., Greenwood, P. W. & Lavin, M. (1977). *Criminal Careers of Habitual Felons*. Santa Monica, CA: Rand Corporation.

Peterson, M.A., & Braiker, H.B. (1980). *Doing crime: A survey of California prison inmates*, Report R-2200-DOJ. Santa Monica, CA: Rand Corporation.

Peterson, M.A., & Braiker, H.B., with Polich , S.M. (1981). *Who Commits Crimes: A Survey of Prison Inmates*. Cambridge, MA: Oelgeschlager, Gunn, and Hain.

Peterson, M., Chaiken, J., Ebener, P. ,& Honig, P. (1982). *Survey of Prison and Jail Inmates: Background and Methods*. Santa Monica, CA: Rand Corporation.

Renzema, M. (1992). Home confinement programs: development, implementation, and impact. In J.M. Byrne, A.J. Lurigio, & J. Petersilia (Eds.). *Smart sentencing: the emergence of intermediate sanctions*. Newbury Park, CA: Sage Publications

Rhodes, W., Hyatt, R. & Schiman, P. (1994) /1996

Sechrest, L., White, S., & Brown, E (1979). *The rehabilitation of criminal offenders : problems and prospects*. Washington, D.C.: The National Academy of Science.

- Smith, D.A. & Polsenberg, C. (1992). Specifying the relationship between arrestee drug test results and recidivism. Journal of Criminal Law & Criminology, 83, 364-377.
- Sontheimer, H., & Goodstein, L. (1993). Evaluation of juvenile intensive aftercare probation: aftercare versus system response effects. Justice Quarterly, 10, 197-227.
- Smykla, J. O & Selke, W. L. (Eds.) (1995). Intermediate Sanctions: Sentencing in the 1990s. Cincinnati, OH: Anderson Publishing Co.
- Speckart, G., & Anglin, D.M. (1986). Narcotics and crime: A causal modeling approach. Journal of Quantitative Criminology. 2 : 3-28.
- Spelman, W. (1984). A sensitivity analysis of the Rand Inmate surveys. Paper presented at 1984 meeting of the American Society of Criminology, Cincinnati, Ohio. Washington, D.C: Police Executive Research Forum.
- Spelman, W. (1994). Criminal Incapacitation. New York, NY: Plenum Press.
- Stojkovic, S. (1994). The President's crime commission recommendations for corrections: the twilight of idols. In J. Conley (Ed.), The 1967 President's crime commission report: Its impact 25 years later (pp.37-55). Cincinnati, OH: Anderson.
- Taxman , F.S., & Spinner, D.L. (1996). The jail addiction services (JAS) project in Montgomery county, Maryland: Overview of results from a 24 month follow-up study. Unpublished Manuscript, University of Maryland, College Park, MD.
- Texas Department of Criminal Justice. (1991). Shock incarceration in Texas: special incarceration program. Austin, TX: Author.
- Tonry, M. (1995). Malign Neglect: Race, Crime, and Punishment in America. New York, NY: Oxford Press.
- Tonry, M., & Lynch, M. (1996). Intermediate sanctions. In M. Tonry. (Ed.). Crime and justice: a review of research, vol.20. Chicago, IL: The University of Chicago Press.
- Tonry, M. (1996). Sentencing Matters. (pp.72-99). New York, NY: Oxford University Press.
- Travis, J., Wetherington, C., Feucht, T.E., & Fisher, C. (1996). Drug involved offenders in the criminal justice system. Washington, DC: National Institute of Justice, Working Paper - 96-02.
- Turner, S., & Petersilia, J. (1996). Work release: recidivism and corrections costs in Washington state: research in brief. Washington, DC: National Institute of Justice.
- Van Dine, Stephan, Conard, John P. , & Dintz, Simon (1977). The incapacitation of dangerous offender: A statistical experiment. Journal of Research in Crime and Delinquency, 14: 22-35.
- Van Voorhis (1987). Correctional effectiveness: The high cost of ignoring success. Federal Probation, 51 (1): :56-62.
- Visher, C.A. (1987). Incapacitation and crime control: Does a 'lock'em up' strategy reduce crime? Justice Quarterly, 4(4), 513-543.
- Vito, G., & Allen, H. E. (1981). Shock probation in Ohio: a comparison of outcomes. International Journal of Offender Therapy and Comparative Criminology, 25(1), 7075.
- Vito, G. (1984). Developments in shock probation: a review of research findings and policy implications. Federal Probation, 48, 2227.
- Von Hirsch, Andrew, & Gottfredson, D. (1984). Selective incapacitation: Some queries on research design and equity. New York University Review of Law and Social Change 12 (1): 11-51.

Walker, S. 1985. Sense and nonsense about crime: A policy guide. Monterey, CA: Brooks/Cole.

Worzella, D. 1992. The Milwaukee Municipal Court Day-Fine Project. In D.C. McDonald, J. Green, C. Worzella (eds) Day Fines in American Courts: The Staten Island and Milwaukee Experiments. Issues and Practices in Criminal Justice, National Institute of Justice, Washington, D.C.:61-76.

Weibush, R.G. (1993). Juvenile intensive supervision: the impact on felony offenders diverted from institutional placement. Crime and Delinquency, 39(1), 68-89.

Wexler, H.K., Falkin, G.P., & Lipton, D.S. (1992). Outcome evaluation of a prison therapeutic community for substance abuse treatment. Criminal Justice and Behavior, 17(1), 71.

Wexler, H.K., Graham, W.F., Koronowski, R., Lowe, L. (1995). Evaluation of Amity in-prison and post-release substance abuse treatment programs. Washington, DC: National Institute of Drug Abuse.

Whitehead, J.T., & Lab, S.P. (1989). A meta-analysis of juvenile correctional treatment. Journal of Research in Crime and Delinquency, 26, 276-295.

Winterdyk, & Rask, R (1981). A wilderness experimental program as an alternative for probationers: An evaluation. Canadian Journal of Criminology, 23, 39-49.

Wolfgang, M.E., Figlio, R. M., & Sellin, T. (1972). Delinquency in a Birth Cohort. Chicago, IL: University of Chicago Press.

Zedlewski, Edwin M .(1987). Making confinement decisions. Washington, D.C.: U.S. Department of Justice.

Zimring, F. E., & Hawkins, Gordon. (1995). Incapacitation: penal confinement and the restraint of crime. New York: Oxford University Press.

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Chapter Ten

CONCLUSION:**THE EFFECTIVENESS OF LOCAL CRIME PREVENTION FUNDING**

by Lawrence W. Sherman

The effectiveness of most crime prevention strategies will remain unknown until the nation invests more in evaluating them. That is the central conclusion of this report. The inadequacy of that investment to date prevents a judgment for or against the effectiveness of the \$3 Billion in federal crime funds, at least to a reasonable degree of scientific certainty. Using "rigorous and scientifically recognized standards and methodologies"--the mission Congress set out for this report--the review of over 500 impact evaluations reveals only a handful of conclusions that can be generalized from those studies to similar programs around the nation. By scientific standards, there are very few "programs of proven effectiveness."

This lack of evidence is not a reflection on the DOJ programs themselves. Nor does it reflect the quality of their administration. It is a direct consequence of the legislative plan for federal funding of local crime prevention. That consequence was not by Congressional intent. For over a quarter century, the Congress has asked the Department of Justice to evaluate the effectiveness of local crime prevention funding. But as the preceding Chapters show, the Congress has never provided the tools needed to get the job done. Those tools include adequate funding for program evaluation, and a structure of federal program funding that permits controlled testing of crime prevention effectiveness.

In order for Congress to learn whether DOJ programs are effective, it must provide a more balanced approach to program funding and evaluation. The latter cannot be accomplished without some small compromise in the principle of State and local control over how most of the federal funding is spent. While this principle may have many merits for the federal support of State and local **operations**, it is a roadblock to federal production of sound **guidance** on what works to prevent crime. Exclusively local control of funding conflicts with the scientific principles of controlled field testing, preventing DOJ-funded program evaluations from using "rigorous and scientifically recognized standards and methodologies." A statutory evaluation plan can remove this obstacle by setting aside just ten percent of operational funding for federal-local partnerships to accomplish scientifically controlled field tests. This would allow DOJ to control program funding in ways that will help insure reliable evaluation results.

A secondary legislative obstacle to evaluating crime prevention is insufficient funding for employing scientifically recognized standards and methodologies. There are substantial costs of using such scientific evaluation techniques as victimization surveys, systematic observations of program implementation, field interviews of offenders and case screening for randomized controlled trials. These techniques can make evaluations cost as much as or more than the programs being evaluated. Under-funding of DOJ evaluations is ultimately wasteful, spending substantial amounts for descriptive evaluations but not enough to answer the primary questions

about program effectiveness. Congress can solve this problem by limiting the scope of required evaluations, but requiring that evaluations that are funded receive sufficient funding levels to answer the important questions. In order for this approach to be effective, Congress must also match the ten percent of program funding earmarked for field-tested programs with another ten percent to pay for the evaluations.

The third legislative obstacle to evaluating crime prevention is the structural separation of research and program funding. From an evaluation perspective, this has often put the cart before the horse, forcing evaluators to play "catch-up" or "patch-up" in evaluating programs that are implemented too quickly or not at all. Evaluator control of operational funding for field testing programs is the standard approach in private industry and has good precedents within DOJ. Congress can remove the obstacle to this approach by appropriating the ten percent for field-tested operations and ten percent for evaluating those operations to the direct control of a central evaluation office within the Office of Justice Programs. Such an office can then be held directly accountable for the amount and strength of scientific evidence it produces.

This chapter summarizes what is known about the effectiveness of local operations supported by various DOJ funding mechanisms. The specific findings are reported in detail at the end of each of the seven preceding chapters. This chapter integrates those findings into a more critical assessment of the effectiveness of DOJ programs in addressing the known risk factors for crime and delinquency, especially youth violence, in each of those settings. This analysis centers on two key questions:

1. **Using Knowledge.** How well do DOJ-funded programs correspond to what is known about causes and prevention of crime?
2. **Creating Knowledge.** How well do DOJ-funded programs help to increase what is known about the effectiveness of crime prevention?

In general, DOJ-funded programs do a better job of using than creating knowledge. The answers to the first question show increasing responsiveness to accumulating research evidence on the risk factors associated with crime, and the systematic use of evaluation results in designing prevention programs. The exceptions to that conclusion are duly noted in each section below.

The answers to the second question are much less encouraging. Despite substantial improvements in DOJ's institutional capacity for crime prevention evaluation science, the legislative obstacles to using scientifically recognized methodologies have prevented DOJ from measuring the impact of most of its programs on crime. The chapter extends this conclusion into an analysis of the scientific requirements for improving the answers to the second question, concluding with the recommendation for the statutory evaluation plan summarized at the Chapter's outset.

THE EFFECTIVENESS OF DOJ FUNDING FOR CRIME PREVENTION

The national debate over DOJ funding for crime prevention primarily concerns the relative effectiveness of investment in the different institutional settings. The current legislative outcome of that debate allocates more than half of all DOJ local assistance prevention funding to the police, and another quarter to the rest of the criminal justice system (including prisons). It would be helpful to draw upon a substantial body of evidence to assess the effectiveness of that allocation, but that evidence is unavailable. The current state of crime prevention science does not allow comparisons of crimes prevented per taxpayer dollar across different strategies in different institutional settings. A lack of comparable measures on lifetime effects of each program is compounded by problems in generalizing from local to national samples. For example, while the prevention effect of home nurse visitation is known for a sample of high-risk rural families, the national benefit of that program for all families on average is not known. Some simulations and estimates have been offered comparing early childhood to early adult prevention strategies (Greenwood, et al, 1996), but the empirical basis for such analysis is too limited to make such direct comparisons as police to infant visitation nurses, or school-based prevention programs to prison.

This report does suggest that the most money is going to settings where we have the most evidence about preventing **serious** crime. The only direct evidence showing programs that work to prevent predatory stranger violence is about police and prisons. While there are good theoretical reasons to believe that communities, families, schools, labor markets and places could be even more effective in preventing predatory stranger violence, that theory has not yet been turned into successfully tested practice. That gap may itself reflect a failure of imagination, or a bias toward testing as well as funding police and criminal justice programs. But in the current state of the evidence, it is fair to say we do not yet know how to spend a large operational investment in other institutional settings that may have profound effects on serious crime.

What we do know how to do is to create such knowledge, by investing substantial funding in rigorous tests of program innovations. The prime opportunities for that investment are clearly indicated by available research, such as universal infant visitation combined with parental-involvement preschool programs. While there is strong evidence that small pilot programs of this kind are effective in preventing child abuse and later delinquency, we do not have a tested model for operating such programs on a large scale. Creating such tests would be the next scientific step for providing the evidence appropriate to the large scale funding required. Unless new legislation is passed to authorize DOJ to pursue a "big science" program of testing universal early prevention, however, it seems likely that federal funding for crime prevention will continue to be focused mostly on criminal justice and police--and perhaps miss the most effective approach to preventing serious violence.

Community-Based Prevention: OJP Discretionary Programs

The community is an institutional setting in which the Congress has given a clear mandate to DOJ for developing crime prevention strategies. Viewed from the perspective of a priority on youth violence, however, current legislation could provide more effective tools for using available knowledge, and especially for creating new knowledge, about what works in

community-based prevention.

Using Knowledge. The relatively modest amounts of DOJ-funded discretionary programs focused on high-crime neighborhoods effectively use much available scientific knowledge about crime. Operation Weed and Seed, BJA's Comprehensive Communities Program, and OJJDP's Title V Incentive Grants all attempt to concentrate federally funded effort in the small number of communities where the national problems of serious youth violence are most heavily concentrated. Local grantees appear to vary in their use of serious violence as the primary criterion for selecting program neighborhoods, and the programs themselves vary in the extent to which such a focus is called for. Operation Weed and Seed is apparently the most focused on such areas, while all of them share a concern with addressing risk factors cutting across settings: families, schools, labor markets, places, police and criminal justice. While these programs are only a beginning of the long-term effort needed to learn how to combat the interdependent risk factors of hypersegregated urban poverty areas, they are clearly pointed in the direction indicated by the available science. The concentration of resources in high-risk areas makes better use of epidemiological knowledge about violence than the more costly Byrne Formula Grant population-based allocations across States and localities.

Congressional earmarks for community-based DOJ discretionary programs make less effective use of knowledge when allocating funds to programs for recreation, mentoring and crime prevention advertising. There is no strong evidence that these programs are effective in preventing serious youth violence, although Big Brothers/Big Sisters mentoring is "promising" for preventing substance abuse and recreation (Boys and Girls Clubs) is promising for reducing housing project vandalism. While it is possible that this approach is effective, there have simply been no longer term tests providing an adequate scientific basis for evaluation.

Community-based discretionary programs could be more effective in using knowledge about community risk factors if they did not define "comprehensive" programs primarily in terms of interagency collaboration. A more scientifically informed definition would be tied to effective impact on each of the institutional settings affecting community risk factors. This is particularly true of labor markets and families (see below). Finally, discretionary programs with anti-gang components could make more effective use of the available results from gang prevention and intervention evaluations, especially in cautioning grantees against programs that could increase gang cohesion.

Creating Knowledge. Community-based discretionary prevention programs are the prime example of the need for a Congressionally mandated evaluation plan. The current programs are not effective in creating knowledge about what works. Insufficient resources are available for the scientific techniques required to measure program content and impact. Insufficient federal control of the mix of local program elements prevents scientifically controlled comparisons within cities. Insufficient evaluator control of site selection prevents valid comparisons of results across cities, making the data in each site much less useful as a basis for drawing general conclusions about what works. The fact that no controlled experiment in crime prevention has ever used cities, or communities across cities, as a unit of analysis indicates the severe constraints the present legislation imposes upon the work needed to create useful knowledge

about program impact.

Community-Based Prevention: OJP Formula Grants

Using Knowledge. DOJ-funded formula grants for community-based prevention may be less effective than the discretionary grants. The available, if moderately weak, scientific evidence shows that community mobilization strategies are ineffective, especially in high-crime neighborhoods. Statutory purpose areas for Byrne formula and Local Law Enforcement Block Grants include community crime prevention initiatives, funded at an estimated \$50 million in FY 1996. Programs supported by these funds are most likely to be ineffective, and the funding could be better spent on creating knowledge about more effective approaches to community prevention.

The statutory plan for Byrne Formula Grants also fails to make effective use of epidemiological evidence on the geographic concentration of crime within States. Statutory allocation plans for Local Law Enforcement Block Grants make better use of that evidence in allocations across cities. Neither program incorporates the evidence on geographic concentrations within cities, by neighborhood and even specific places, which inform the Discretionary DOJ programs. Congressional direction of funding to high crime neighborhoods or Census tracts seems likely to be more effective than the current allocations, which may allow State and local decisions to put substantial funding in moderate to low-crime areas.

Creating Knowledge. The current formula grant legislation for community-based prevention lacks a viable statutory plan for evaluating that funding using scientifically recognized standards and methodologies. The current requirement that **all** Byrne Formula Grants include an evaluation is at best meaningless and at worst wasteful. While some States have attempted to invest more Byrne resources in scientific impact evaluations, the legislation offers no protection against the inevitable political pressures to spend as much money as possible on operational purposes. A quarter-century of State-level evaluation requirements and hundreds of millions of dollars spent for such purposes (Rubinstein, 1977a; Feeley and Sarat, 1980) has failed to produce scientifically rigorous, published impact evaluations that can increase the effectiveness of crime prevention. Uneven capacity across states in their institutional infrastructure needed for rigorous evaluation science compounds the insufficient funding and control needed to learn what works with Formula Grants for local crime prevention.

Family-Based Delinquency Prevention

The family is an institutional setting for crime prevention in which the Congressional mandate to DOJ is not clear. While the Office of Juvenile Justice and Delinquency Prevention has long worked on programs involving families in delinquency prevention, the appropriated funding emphasis has been more on criminal sanctions than family life. Requests by State and local juvenile justice officials for more prevention funding resulted in the 1992 enactment of the Title V delinquency prevention grants, but that program's mandate to work with families is enmeshed in a broader mandate for comprehensive mobilization of local youth-serving agencies. Similarly, the 1994 Crime Act's Violence Against Women grants imply a great deal about

family-based prevention, but without a clear mandate for DOJ to work with families. Traditionally the domain of the Department of Health and Human Services, which has funded much of the available delinquency prevention research, the family is the new frontier of crime prevention science. The long-term effectiveness of the national effort to prevent crime may depend on both clarifying and expanding the mandate for DOJ support of family-based prevention efforts, perhaps in closer collaboration with HHS.

Using Knowledge. DOJ discretionary funding of family-based delinquency prevention appears effective in its use of available scientific knowledge. The five-year OJJDP Safe Futures Program in six cities (in collaboration with the Violence Against Women Grants Office and the Executive Office of Weed and Seed) provides much of the research results reviewed in this report to local grantees designing specific programs. The possibility that local grantees, in turn, do not make the best use of the scientific evidence is a risk that results from the current statutory framework of local control. The Operation Weed and Seed plan to replicate the Rochester University early infancy home nurse visitation plan is also consistent with the strongest scientific evidence. The Title V OJJDP support of parent training strategies for troublesome pre-adolescents is also informed by scientific evidence showing success at reducing risk factors. These pre-adolescent efforts are all the more important in light of the strong scientific evidence of the failure of massive investment in adolescent prevention for high-risk youth in high crime areas (Harrell, 1996).

These discretionary programs, however, constitute a very small part of the total DOJ funding to prevent crime. There are no corresponding large scale formula grants making use of the strong scientific evidence now available. Nor is there a legislative basis for DOJ to pursue a "big science" program of developing a universal program of delinquency prevention support of all families, from early infancy onward. The scientifically recognized evidence on developmental crime prevention is now sufficiently strong for the Congress to consider a major effort to discover cost-effective means of family-based prevention.

Creating Knowledge. Congressional attention to family-based prevention of youth violence should also recognize the current weaknesses in creating knowledge. The current structure of funding does not generally provide sufficient funding or control for scientifically recognized methodologies in evaluating family-based prevention. Family programs are often included in a mix of other treatments, making it difficult to separate the effects of each ingredient in the mix. While a commitment to comprehensive programming makes theoretical sense in the long run, it is scientifically problematic in the short run. A more explicit commitment to knowledge building in family-based prevention would allow the accumulation of strong evidence about each specific approach, both separately and in combination with other elements. The funding and statutory mandate for such a big science effort has not been available to DOJ, and the creation of new knowledge with DOJ funds has thus been limited in this area.

The most practical question emerging from the available evidence is how to deliver a universal home visitation-preschool program similar to those already found effective in reducing delinquency. Issues of implementation, such as training and recruitment of effective staff, are as important to answering that question as issues of long-term impact. Collaboration between DOJ

and other agencies appears essential, especially if one model to be evaluated would be an extension of the Head Start program. But rapid advances in this direction seem unlikely to occur absent a Congressional mandate.

It is important to note that both OJJDP and NIJ have made significant contributions to basic science of family factors in delinquency causation over the last decade. The OJJDP Program of Research on the Causes and Correlates of Delinquency birth cohort studies in Denver, Rochester and Pittsburgh, and the NIJ-MacArthur Foundation partnership Program on Human Development in Chicago Neighborhoods are both likely to inform the design of delinquency prevention strategies for years to come. The success of these research programs are an indicator of the substantial capacity for rigorous science within DOJ. Applying the same standards of scientific evidence to program evaluation, however, will require more powerful statutory tools for controlled field testing.

Preventing Family Violence

Using Knowledge. The challenge of this task is that there is little knowledge to use. The Congressional mandate for DOJ to prevent family violence, especially against women, is undermined by the paucity of scientific impact evaluations (Reiss and Roth, 1993; Crowell and Burgess, 1996). Most of what is being funded under current programs is therefore necessarily of unknown effectiveness. In recognition of this problem, the Assistant Attorney General for OJP has transferred modest portions of Crime Act funding to the National Institute of Justice for research and program evaluation. At the current rate of investment in program evaluation, however, it will be many years before the development of scientifically recognized impact evaluations to guide some \$200 million in annual funding.

Creating Knowledge. The Congress has requested, and the Department of Justice has very recently supplied, a National Academy of Sciences report on a research agenda for preventing violence against women, including family violence (Crowell and Burgess, 1996). The Congress has not, however, yet had an opportunity to respond to that report, which seems likely to require authorizing DOJ to expend \$50-60 million to carry out the agenda. Congressional action on that report's recommendations in FY 1998 would therefore be the most effective federal strategy for preventing family violence.

School-Based Prevention

The Congressional mandate to DOJ for school-based crime prevention is even less clear than the mandate for family-based prevention. Despite substantial scientific evidence of the effectiveness of some school-based programs, it remains an opportunity the Congress has lost for preventing crime. The Congressional mandate in this setting for DOJ is for less than \$25 million per year, and supports some of the least effective programs available. This includes the earmarked \$1.75 million Byrne Discretionary Program funding of Drug Abuse Resistance Education (DARE), as well as the estimated \$20 million annual Byrne Formula Grants for the education purpose area (including DARE). These expenditures are small in comparison to over \$500 million in annual school-based prevention funds appropriated through DOE and DHHS,

and tiny compared to \$2 billion invested in police strategies. Given the potential to integrate school-based prevention into a comprehensive strategy on youth violence, the Congress could profitably consider expanding the DOJ role in advancing this area.

Using Knowledge. Congress has not made effective use of available evidence from scientific evaluations. In choosing to support DARE, Congress has passed over other school-based prevention programs with scientific evidence of greater crime prevention effectiveness than DARE. The most widely used version of DARE has been found ineffective at preventing substance abuse. Other DOJ-supported school-based programs have been evaluated, but the evaluation methods were not scientifically adequate for drawing conclusions about program impact. The following programs are therefore of unknown effectiveness: Law-Related Education, Gang Resistance Education and Training, and Cities in Schools. In addition, Byrne funds may be supporting prevention programs that are reasonably certain to be ineffective: peer-group counseling, recreation, and programs based on fear arousal or moral appeal.

The more general conclusion about the legislation funding school-based prevention is that it takes a piecemeal approach. Scientific evidence shows this approach is less likely to be effective than comprehensive interventions in a school's capacity to teach behavioral norms and social competency skills. Stand-alone programs for preventing specific problems, from drugs to shootings, fare less well in the evaluation literature than programs changing the overall climate and order of the school. Many schools, particularly in disorganized urban areas, lack the organizational infrastructure even to provide adequate instruction in basic skills. These schools are staffed by demoralized adults whose failure to exercise control over rebellious students results in chaos, violence, and fear. Schools' failure as agents of social control perpetuates community disorganization, poverty, and crime. Research shows that building schools' organizational capacity to conduct their basic function in society is an effective crime prevention strategy. Programs for communicating and clarifying norms, such as antibullying campaigns, are also effective elements of delinquency prevention programs in schools, as are programs for teaching selfcontrol. Yet DOJ currently lacks Congressional appropriation for investing in these programs of proven effectiveness.

Creating Knowledge. DOJ funding for school-based prevention is least effective in creating new knowledge. Appropriation levels for evaluations have been too low for scientifically recognized methods to be employed. This common problem arises from a good faith effort to support evaluation, within constraints that defeat the purpose of trying to measure program impact. A prime example is the "catch-up" evaluation (post-test only, non-equivalent treatment and control group) design of the \$16.2 million Gang Resistance Education and Training program. Funded at only \$265,000 for eleven cities with less than a year to produce a Congressionally-mandated report, the evaluators (Esbensen and Osgood, 1996) were compelled to use such a weak evaluation design (Scientific Methods Score = 2) that it has almost no value in measuring the prevention effects of the program (Cook and Campbell, 1979).¹

Similarly, the "national evaluation" of DARE commissioned by NIJ in the early 1990s was designed to be a secondary analysis of evaluations that were far too weak scientifically to merit such investment. A higher level of funding for a controlled, long-term field test still remains a

high priority for evaluating DARE, especially in comparison to other programs shown to have larger preventive effects. The cost-effectiveness of such approaches is clear. DARE is a well-institutionalized program, nationally and internationally (Lindstrom, 1996). It seems likely to continue with a wide diversity of funding sources, regardless of whether Congress continues to fund it. But only Congress has the capacity to provide a sufficient investment of scientific resources to allow an objective test of the long-term effectiveness of the program at preventing substance abuse.

Evaluations of efforts to implement the elements of school life known to prevent crime also merit a high priority. Programs for increasing school order, and teaching social competency, face a wide range of obstacles in different school systems, especially in high crime neighborhoods. Learning how to overcome those obstacles could clear the way for more schools to prevent more crime. Many schools, particularly in disorganized urban areas, lack the organizational infrastructure even to provide adequate instruction in basic skills. These schools are staffed by demoralized adults whose failure to exercise control over rebellious students results in chaos, violence, and fear. Schools' failure as agents of social control perpetuates community disorganization, poverty, and crime. Research shows that building schools' organizational capacity to conduct their basic function in society is an effective crime prevention strategy. Programs for communicating and clarifying norms, such as antibullying campaigns, are also effective elements of delinquency prevention programs in schools, as are programs for teaching selfcontrol,

Labor Markets

Labor markets are the institutional setting some analysts stress the most in causing serious youth violence (Wilson, 1996). This setting also has the least DOJ history of a Congressional mandate. The available evidence suggests that including this setting in DOJ's mandate will increase the effectiveness of programs focused on high-crime areas. It also suggests that most other approaches to using labor markets to prevent crime have been ineffective.

Using Knowledge. The available evidence supports DOJ's limited involvement in labor market strategies. Employment programs aimed at older male ex-offenders no longer under court supervision appear effective at preventing crime. Such programs cannot prevent serious youth violence, but they are at least known to be a profitable investment for older males. More speculative, but theoretically supported, is the labor market component of Operation Weed and Seed, in which DOJ funding serves as seed money to attract other federal and private funds. This may enhance labor force participation rates in high crime areas, and provide more social capital for the community to encourage individuals to enhance their human capital job skills. This same rationale supports expanded DOJ participation in interagency Enterprise Zones and Empowerment Communities programs, especially to the extent that such programs serve high crime areas.

The evidence is also fairly strong that stand-alone investments in human capital--job skills--will not reduce crime. Rigorous scientific impact evaluations funded by the Department of Labor have generally found no effects of job training on crime rates for high-risk youth. The major

exception is the moderately strong evaluation evidence on the Job Corps, a residential employment training program found to produce lower crime rates in program clients than similar persons not provided with Job Corps experiences. There is also mixed evidence on transitional aid programs for inmates leaving prison; while it is possible that DOJ Correctional Options funds spent in this manner are effective, the actual effects remain unknown.

Creating Knowledge. The most important mandate Congress could give DOJ on labor markets and crime risk factors is to add the issue of crime to the agenda of unemployment programs. A wide range of federal initiatives are attempting to solve problems of unemployment. Many of these are being evaluated. Few of them are providing adequate measurement of crime prevention effects. These programs include the 1996 major reform of the welfare system, Community Development Block Grants, reverse commuting, school-to-work programs, employment bonds and targeted wage subsidies. DOJ funded evaluations of these programs from a crime prevention perspective would give the Congress critically important knowledge about the effects of these programs on crime.

Place-Based Prevention

Basic research supported by NIJ for a quarter century has shown increasing evidence that crime is highly concentrated not just in neighborhoods, but at specific premises (see Chapter Two). Extensive investment by the British government in testing place-based crime prevention strategies, as well as increasing numbers of evaluations in the US, show consistent, but scientifically weak, evidence that such programs can be effective. Cameras, cash control, guards, fences, lighting, and other preventive devices are still of unknown effectiveness, but worthy of further evaluation. The promise of the consistently positive but scientifically weak available findings must be treated with appropriate caution, especially given the differences in gun crime between Britain and the US. The growing public and private investment in such strategies, however, suggests that a clearer Congressional mandate to DOJ in this area may be warranted. Recent findings showing the effectiveness of place management strategies in combating drug dealing and alcohol-related violence

provides further evidence of the need for more DOJ attention to crime prevention at places.

Using Knowledge. The federal funds provided to New York City police under the initial COPS programs made use of this DOJ-produced knowledge to focus their resources on high-crime locations. How much if any of New York's 50 percent reduction in homicide was caused by the federal funds cannot be determined with reasonable scientific certainty. But to the extent that place-focused crime strategies are supported by Byrne Formula, Weed and Seed, and Local Law Enforcement Block Grants, there is modest evidence that the funding has some potential to be effective. NIJ support of the Drug Market Analysis Program (DMAP), a computerized crime mapping strategy, has been put to widespread use as police agencies around the country employ similar software to identify and "problem-solve" high crime places. What is still unknown is the extent to which any particular strategy of problem-solving is effective in any particular kind of place with any particular kind of crime problem.

Building Knowledge. With sufficient resources and a clear mandate, a central research arm of NIJ could build a body of scientifically rigorous impact evaluations of place-based prevention strategies. Systematic observations of high crime locations, large samples of similar places with similar problems with half randomly assigned the tested prevention systems, and other scientific techniques are necessary for creating reasonable certainty about the effectiveness of prevention at places. DOJ has been able to produce some knowledge of this kind about police efforts against places. More of it is needed about efforts by owners, managers, residents, liquor licensing boards and other branches of government to develop place-based prevention strategies.

Policing for Prevention

Current appropriations invest far more federal funds in the police than in any other crime prevention institution. The estimated \$2 billion annually for police is more than half of all federal assistance for local crime prevention. While there is growing evidence that police can be effective in preventing crime, there are still many questions about how to use the federal funding most effectively. Depending upon how each police agency elects to use its federal funding, the taxpayer investment in that strategy may be more or less effective at preventing crime.

Using Knowledge. There is reasonable scientific certainty that the following police practices prevent crime: extra police focused on high crime "hot spots," police units focused on serious repeat offenders, proactive enforcement of drunk driving laws, and arrests of employed suspects for misdemeanor domestic violence. There is also reasonable certainty that the following practices are ineffective: increased random patrols of entire beats, more rapid response time to 911 calls, neighborhood watch, arrests of some juveniles for minor offenses, arrests of unemployed suspects for domestic assault, arrest crackdowns at drug markets, and community policing programs with no clear focus on crime risk factors. There is no certainty, however, that the current federal legislation produces more police effort with the effective practices than with the practices known to be ineffective.

The accumulated body of police practice evaluations, largely funded by NIJ, provides one of the best examples of using science to identify programs of proven effectiveness. Under the principles of local control, however, there is no requirement that federal funds be used for practices proven effective, except under the Byrne Formula Grants. Even there, lack of statutory clarity about the definition of proven effectiveness makes it little different from programs without that legislative requirement.² A key question for Congress is therefore whether to use the available scientific knowledge to limit the eligible purpose areas for federal funding of local police. This would not be possible, however, at the level of generality of the current 33 purpose areas under the Byrne and LLEBG programs. Police overtime, for example, cannot be evaluated as a crime prevention practice, but various uses of police overtime can be. Thus within each purpose area it could be possible to distinguish proven and unproven areas of effective practice.

The most basic issue of DOJ funding effectiveness at addressing crime risk factors is the formula basis for allocating police assistance, noted above. Concentrating police funding in the

census tracts, and not just the cities, with the highest rates of serious crime and youth violence, would appear to be more effective than present formulas based on population size. Promising evidence on reductions in gun crime from such concentrations lends further support to the value of testing the hypothesis that putting police where crime is most serious would be the most cost-effective means of combating the national epidemic of violence.

Creating Knowledge. DOJ has been generally effective in creating new knowledge about the impact of police practices on crime. This reflects a substantial commitment of resources to several large and costly projects over the past two decades. The results are encouraging evidence that DOJ has a substantial capacity for big science in this area, including controlled evaluations using city-wide police practices (such as traffic enforcement or gun seizures) as the unit of analysis. This capacity could be put to even better use if NIJ had control over some portion of federal funding for local police overtime or extra hiring to allow it to structure controlled tests of patrol dosage and tactics in high-crime areas. Scientific evidence produced by this kind of evaluation design would directly address the key Congressional issue of how best to allocate the federal funds for police. While the COPS office has transferred 1 percent of program funds to NIJ for evaluation purposes in FY 1996, the scientific strength of those evaluations will be limited in the absence of statutory authority to allocate program funds for evaluation purposes.

Additional appropriations are needed for NIJ to replicate the growing number of strategies rated as "promising:" police traffic enforcement patrols to detect illegally carried handguns, "Chicago-style" community policing, community policing efforts for increasing police legitimacy in minority poverty areas, "zero-tolerance" enforcement of minor violations, and adding extra police to cities or areas, regardless of what they do. Untested but theoretically promising strategies such as community-based restorative justice for minor juvenile offenses are also high priorities for creating new knowledge about policing. Several police strategies for preventing serious domestic violence are ready to be evaluated if sufficient funds are available.

Criminal Justice and Crime Prevention

The Congressional mandate for DOJ to fund prisons and other criminal sanctions is clear. What remains unclear is how to spend that money most effectively. Based on the review of the available scientific evidence, the effectiveness of current legislation in funding criminal justice to prevent crime is mixed, but more remains unknown than known.

Using Knowledge. There is reasonable scientific certainty that federal funding is effective to the extent that it supports three broad strategies: prison-based therapeutic community treatment of drug-involved offenders, incapacitation of high-rate serious repeat offenders, and structured rehabilitation programs focused on individual risk factors. These strategies can be supported under DOJ funding for Drug Courts, Residential Substance Abuse Treatment for State Prison Inmates, OJJDP's Intensive Community-Based Aftercare, Byrne Formula Grants under the drug treatment purpose area, and the Violent Offender Incarceration Grant Program (prison construction). Whether the funding is actually used in the ways the scientific evidence finds effective, however, is up to the local control of the grantees.

One of the major concerns about prison construction, for example, is whether it will actually produce incapacitation of the most serious offenders. If increased capacity is eventually used to increase the incarceration of **non-violent** offenders, there may at least be a pattern of diminishing returns, and at worst a very expensive investment in locking up low-risk offenders when the money could be spent more effectively on other forms of prevention.

There is also reasonable scientific certainty that the following programs are ineffective in preventing crime: correctional boot camps using military basic training models, other "harshness" programs like "Scared Straight" and shock probation, and community-based alternative sanctions lacking treatment programs and services. The latter include Intensive Supervised Probation or Parole (ISP), home confinement, urine testing, community residential programs, and juvenile wilderness programs. (Urine testing combined with drug treatment, however, enjoys scientific evidence that is promising.) These ineffective programs can be supported by DOJ funding under the Byrne Formula Grants for the alternative sanctions and drug testing purpose areas Program, and by the prison construction grants.

Creating Knowledge. Scientific conclusions can be drawn about only a small portion of all correctional strategies and federal funding. The effects of sanctioning on repeat offending are generally found to vary by type of offense, type and dosage of sanction, type of offender, and the characteristics of the communities to which incarcerated offenders return upon release from prison. The identification and codification of the full range of these effects is a massive task that has barely begun, but can be accomplished by a systematic long-term investment in controlled testing of sanctions.

The biggest obstacle to such a program of systematic impact evaluations may not be federal funding, but State and local cooperation with controlled testing. The widespread resistance to controlled testing of early boot camp programs is indicative of the difficulty of creating such partnerships. The major advantage DOJ could bring to creating such knowledge is conditional program funding, which would only be made available to grantees if they cooperated with a controlled field test design. Using DOJ local assistance funding in this way would be particularly helpful in producing controlled tests of programs found promising in Chapter Nine: drug courts, day fines, juvenile aftercare, and drug treatment combined with urine testing. Current evaluations of these programs without scientific controls will not be useful for creating knowledge about their effectiveness.

STRONGER PROGRAM EVALUATIONS

In the three decades of DOJ funding for local crime prevention assistance, four prior reports have made recommendations for improving program evaluation. Each report was followed by Congressional or administrative action to implement the recommendations, at least in part. Yet as the evidence reviewed in this report suggests, the Congressional mandate to evaluate has yet to be satisfactorily accomplished. This section briefly reviews the prior reports, as well as the conditions needed for effective program evaluation. The report then closes with recommendations for a statutory plan that would create those conditions, and improve the

effectiveness of federal funding through stronger evidence on program effectiveness. The prime example of this approach is a comprehensive program for cooling off "hot spot" neighborhoods.

Previous Reports on DOJ Crime Prevention Evaluations

From the earliest days of the Law Enforcement Assistance Administration (LEAA), the issue of evaluation has been paramount. Lacking a large body of scientific knowledge on the effectiveness of crime prevention programs, LEAA was forced to invent new ideas under conditions of high public visibility and enormous Presidential pressure to reduce crime. The results of those programs were crucial to the public debate. By 1972, Congress amended the Safe Streets Act to require LEAA to conduct evaluations of its action grants (Feeley and Sarat, 1980: 113). It also increased the amount of money the States could spend evaluating their LEAA-funded grants. This model of giving primary responsibility for evaluating each and every grant to the State Planning Agencies (SPAs) administering the funds remains largely unchanged today.

The State-level evaluation tasks were supplemented a year later with national evaluation tasks to be performed within DOJ. In 1973 a Columbia University symposium on LEAA concluded the worst flaw in the program was the lack of useful evaluations (Rubinstein, 1977: 148). The Congress responded by amending the Crime Control Act that year to require that the National Institute of Law Enforcement and Criminal Justice (the predecessor to NIJ) "undertake, where possible, to evaluate the various programs and projects carried out under this title." A year later, two GAO reports criticized the Institute for its continued inability to conduct **outcome** evaluations of the more than 30,000 LEAA-funded grants awarded in the agency's first five years. GAO called the available evaluations inconsistent and relatively useless (Rubinstein, 1977: 148).

At that point the LEAA administrator released a new report on program evaluation policy.³ The report assigned to the National Institute the Congressional mandate to evaluate, focused in its new Office of Evaluation (OE). The Report gave that office three goals: obtain and disseminate information on the cost and effectiveness of crime prevention, ensure that the information gets used in program planning, and develop a capacity for evaluation in state and local units of the criminal justice system. As a National Academy of Sciences report later concluded about this plan, it was an enormous challenge (Rubinstein, 1977: 149):

OE found itself with limited resources confronting a field fraught with uncertainty and controversy. Evaluation of social action projects was a relatively new field; evaluation in criminal justice was in its infancy. OE's mandate was so broad as to be undelineated.

Perhaps the greatest challenge was to develop a capacity to carry out evaluations in operational agencies at a time when the capacity did not even exist in most research universities. The Institute was unable to give \$2 million to the LEAA State and Regional Planning Agencies to develop evaluation units; only 12 of the 500 eligible units even applied for the money. The program succeeded in at least spreading the definition of evaluation as a scientific assessment of effects caused by the program (Feeley and Sarat, 1980: 114), but few of the evaluations done by

State agencies to comply with federal rules ever came near that definition.

By 1977, the National Academy of Sciences evaluation of the National Institute of Law Enforcement and Criminal Justice (White and Krislov, 1977) recommended that the Institute try to get away from program evaluation and focus on basic research. Describing the quality of Institute research at that point as "parochial and, overall, mediocre," the report attacked the Institute's emphasis on "immediate solution applied research" (White and Krislov, 1977: 94-95). This report moved the Institute into peer-reviewed competitions for awarding research grants, and established research programs on basic questions like deterrence. Many grants funded under these "basic" research programs, such as the domestic violence arrest experiments, were later treated as "evaluations" (Reiss and Roth, 1993: chapter 7)--thereby suggesting the limitations of the distinction. The 1977 report recommended that evaluation functions be integrated into the broader research programs of the Institute.

To a large extent, NIJ has followed the blueprint of the 1977 report for two decades. Congressional decisions to cap available funding levels and maintain structural separation of NIJ from the DOJ program funding bureaus have helped to constrain NIJ in that direction. That path was not changed despite a bipartisan 1981 Report of the Attorney General's Task Force on Violent Crime that recommended a very different role for evaluation as the centerpiece of federal crime control policy. On August 17, 1981, President Ronald Reagan's Attorney General, William French Smith, received the report of his bipartisan Task Force on Violent Crime, co-chaired by former Attorney General Griffin Bell and Illinois Governor James R. Thompson. The report said this about the federal role in evaluating crime prevention (p. 73):

Recommendation 53. The Attorney General should ensure that

a. Adequate resources are available for the research, development, demonstration, and independent evaluation of methods to prevent and reduce serious crime.... *We are in unanimous agreement that the federal government has a unique responsibility to conduct research on criminal justice issues, to develop creative programs based on research findings, to test and evaluate these programs rigorously* [italics added], and to demonstrate them in several jurisdictions with varying characteristics to be sure that the programs would be successful if implemented in other jurisdictions. At present, research directly applicable to the problems of state and local criminal justice systems is performed by the National Institute of Justice (NIJ), the National Institute of Corrections (NIC), and the National Institute of Juvenile Justice and Delinquency Prevention (NIJJDP). NIJ and NIC do not have the funds needed to support the substantial testing, demonstration, and independent evaluation we believe are necessary. The Attorney General should ensure that adequate funds are available for these agencies to bring research ideas to the stage at which they become demonstrated, independently evaluated programs that can be implemented in state and local jurisdictions.

Put another way, the 1981 Task Force recommended that the federal role should be to advise local governments about proven programs of crime prevention, based on a scientific process of basic research, program development, and--most important--rigorous independent field tests of

demonstration programs in several different jurisdictions. Based on our review of the scientific evidence underlying crime prevention programs in 1996, we can only conclude that this recommendation has been ignored. We are unable to find a single program for which the federal government has played the role recommended in 1981. There are numerous programs that have been developed based upon research and implemented in several jurisdictions. What has been lacking is the statutory structure and resources needed to carry out the scientifically rigorous evaluations the Attorney General's Task Force recommended.

In 1988, the passage of the Anti-Drug Abuse Act saw yet another plan for program evaluation enacted into law. The Act required that States conduct evaluations of each grant, but did not require that a certain percentage of Byrne Formula funds be used for that purpose. It also called upon NIJ and BJA to sponsor "a reasonable number of comprehensive evaluations of programs" funded under both formula and discretionary grants.⁴ **The Congress did not however, appropriate any funding for NIJ or BJA to evaluate what is now \$475 million in annual formula grants, forcing them to draw on their general appropriations for that purpose.** Of the first 5,000 Byrne Grants, NIJ and BJA were able to sponsor evaluations of 150. Once again, the federal agencies attempted to compensate for limited evaluation funding by developing an evaluation capacity in the State Planning Agencies. Just as it did in 1974, NIJ invited States to seek evaluation funding. But in 1990 when the proposals were submitted, as a recent NIJ report on the Byrne Program reported, most were methodologically weak, and as a result few were funded. Not surprisingly, this suggested that many State agencies did not have the research staff necessary to conduct evaluations (Dunworth, et al, 1997: 8).

Once again, as the Institute did in 1974, NIJ and BJA have undertaken "technical assistance programs to expand State evaluation capabilities" (Dunworth, et al, 1997: 8). Also, an annual NIJ-BJA conference on program evaluation funded by BJA brings State Planning officials to Washington to hear the most recent evaluation findings. But these steps can do little to deal with the four underlying structural factors limiting DOJ's capacity to generate satisfactory evaluations of Byrne Grant programs (Dunworth et al, 1997: 8-9): 1) state legislators often resist spending Byrne funds on evaluations, believing the money should be spent for program purposes; 2) Congress has not given NIJ or BJA any funding for Byrne evaluations; 3) insufficient evaluator control over program conditions often compromises the scientific integrity of evaluation results; 4) information on evaluation results has not been accessible to those who need it.

The Crime Act of 1994 began to address at least one of those obstacles, lack of appropriated funding. The Act created the first set-aside directing evaluation of program funding, authorizing the Attorney General to use up to 3 percent of COPS program funds in any given year for studies or evaluations...in furtherance" of the purposes of the COPS program.⁵ The law also contained authority for evaluations to be funded from the Violence Against Women Act, the Drug Courts program, and the Corrections Title. But these steps do not address the structural issue of control over program funds that is central to the scientific standards of an evaluation. Thus despite repeated reports and legislation, the nation still lacks a satisfactory solution to the problem of achieving the Congressional mandate to evaluate--using scientific standards. The next section describes those standards and the statutory elements needed to create them.

Scientific Standards of Program Evaluation

The Omnibus Crime Control and Safe Streets Act of 1968 defines an "evaluation" as follows:

the administration and conduct of studies and analyses to determine the impact and value of a project or program in accomplishing the statutory objectives of this chapter⁶

By this definition, an evaluation cannot be only a description of the implementation process, or "monitoring" or "auditing" the expenditure of the funds. The terms "impact" and "accomplishing" require claims about cause and effect. The scientific standards for inferring causation have been clearly established in the literature on research design and methods (Cook and Campbell, 1979; Federal Judicial Center, 1981). They include, at minimum, the following:

- 1) the ability to measure the dosage, timing and content of the project or program,
- 2) the ability to gather baseline data prior to the start of the project, if necessary, and
- 3) the ability to gather comparable data from both the program group and appropriate comparison groups where the program is not operating.

These elements of science are not unrealistic for crime prevention program evaluations. They do not rise to the "gold standard" of level 5 scientific methods scores used by the Food and Drug Administration in testing new drugs. Rather, these elements constitute the requirements for a level 3 evaluation, the agreement of two of which generally satisfied this report's criteria for programs that "work"--programs of proven effectiveness.⁷ Crime prevention program evaluation would be better served by raising that scientific standard to level 4, with this additional element:

- 4) the ability to eliminate or control for most known rival hypotheses that could account for the same results other than the program or project being evaluated

It would even be better to adopt the gold standard, in which the evaluator is given this capacity:

- 5) the ability to select program and comparison groups in advance of the program by use of equal probability formulas.

But the basic task of the Congress in fulfilling the mandate to evaluate is to insure that the first three elements can be achieved with reasonable certainty whenever DOJ funds a program evaluation. That is not the case at present. The structural separation of program administration and evaluation, combined with local control over the expenditure of grant funds, makes the first three elements extraordinarily difficult to achieve. Thus despite three decades of defining evaluation in these scientific terms, the Safe Streets Act has never included a realistic statutory plan for achieving adequate impact evaluations. The next section offers such a plan, based upon

"rigorous and scientifically recognized standards and methodologies."

A Statutory Evaluation Plan

Three principles for evaluating crime prevention programs emerge from the evidence reviewed for this report. One principle is that not every grant needs to be evaluated. A second is that scarce evaluation funds should generally be conserved for strong scientific evidence of program impact. The third principle is that every impact evaluation should be done at a scientific methods score of no less than level 3, and where possible at level 4 or 5.

Not every grant requires an evaluation. Since the early days of LEAA, the use of the term evaluation has been confused by the requirement that every grant be evaluated. Absent the resources and the skill needed for achieving the statutory definition of an evaluation as an impact assessment, the requirement that everything be evaluated has resulted in almost nothing being evaluated. There are enough similarities in program content across sites so that the Attorney General's Task Force on Violent Crime recommendation is a reasonable one. Testing a program in several different sites under different conditions provides an adequate basis for recommending that the program can be used generally, if the results are consistently favorable. Spending large amounts of money for strong evaluations in a few sites is far more cost-effective than spending little amounts of money for weak evaluations in thousands of sites.

Evaluation Funds Should be Conserved for Impact Assessments. Inadequate funding levels have forced DOJ to choose between many descriptive evaluations or a few impact evaluations. In general, the choice has been to appropriate \$200,000-\$300,000 for a national evaluation of each major program, regardless of how much or little can be learned for that amount. Very little can be learned about the impact of JUMP (Juvenile Mentoring Program) for the less than \$200,000 that was available for its evaluation. Even less can be learned about the HIDTA (High Intensity Drug Trafficking Area) program for the \$200,000 budgeted for a national evaluation of a \$100 million program operating in six sites. That funding level limits an evaluation to only the most superficial description of what the program is doing, and cannot say anything about its impact. While funding for basic research must be preserved, and while methods for tracking field innovations should be included, studies of specific federal funding programs do not provide Congress with the information it requires unless there is enough funding for a scientifically valid impact assessment. Such studies routinely cost \$15 million or more in other agencies, but there is no precedent for such "big science" at DOJ.⁸ Since there was no precedent for a \$30 Billion Crime Bill either, there is clearly room for adopting a new approach to evaluation.

Impact Evaluations Should Be Conducted at a Level Three Scientific Methods Score or Higher. If the Congress needs to know the effectiveness of a program, it needs to know that answer to a reasonable degree of scientific certainty. Just as the U.S. Supreme Court has asked Federal Judges to be the gatekeepers of valid science to be placed in the hands of a jury,⁹ Congress can ask that independent peer review panels serve the same function for Congressional evidence. The panels can be asked to certify that impact evaluations recommended for funding by DOJ are at least designed with a Scientific Methods Score of 3 or

more. The criteria employed by this report for assigning that score are sufficiently broad as to correspond to the "flexible inquiry" the court requested of the federal bench into the validity of scientific evidence. But they are also sufficiently clear as to change the current pattern of funding descriptive studies and calling them "evaluations." Imposing this standard will force the issue back to its proper decision point: the Congress. The issue of evaluation funding levels will become much clearer in light of a bright line between impact evaluations and all other ways of studying federal programs.

All three principles should be firmly established by their enactment in a legislative plan for program evaluation. But in order to make the third principle possible, the statutory plan must restructure the entire evaluation process as a central purpose of the federal role in crime prevention. That restructuring can meet the scientific requirements for achieving that goal with a ten percent set aside of program funding for evaluated programs, a ten percent set-aside for program evaluations, and a structural location of both set-asides in a central research office within OJP. This plan closely tracks the 1981 recommendation of the Attorney General's Task Force on Violent Crime, as well as modern business practices in large corporations.

The Business Precedent: Beta Sites. The Attorney General's Task Force recommendation reflects a pattern of new product development widely used by large American corporations, called "beta sites." This pattern employs test sites as a means to determine the potential success of a new product, and possible conditions in local markets that could predictably affect sales. For example, in recent years the McDonalds' restaurant chain developed a new low-fat hamburger, then tested its customer appeal in a limited number of cities. These tests apparently found some demographic correlates for the success of the product. The product was subsequently offered in many, but not all, local markets nationwide, with selections made on the basis of local market demographic factors revealed by the beta site testing. Similar variations in the effectiveness of crime prevention programs could be revealed by the use of such a strategy, but only if the program "beta sites" are selected for the explicit purpose of conducting a test, rather than just supporting local operations.

This model can be achieved by Congressional enactment of the following recommendations:

1. Set aside ten percent of all DOJ funding of local assistance for crime prevention (as defined in this report) for operational program funds to be controlled by a central research office within OJP. This recommendation solves the inadequate evaluator control over program conditions for inferring cause and effect. A wide variety of strong scientific research designs become possible when program funding is available as an incentive for local agency evaluation partnerships. Police overtime, prison treatment programs, school-based prevention strategies could all be implemented in ways that may be less than optimally convenient for the local operational units, but which greatly increase the strength of the scientific evidence.

2. Authorize the research office to distribute the ten percent "evaluated program" funds on the sole criteria of producing rigorous scientific impact evaluations, the results of which can be generalized to other locations nationwide. Allocating these funds for research purposes simply adds to the total funding for which any local jurisdiction is eligible. Thus the

"evaluated program" funding becomes an additional incentive to cooperate with the research plan on a totally voluntary basis.

3. Set aside an additional ten percent of all DOJ local assistance appropriations for crime prevention as defined in this report to fund the scientific evaluation costs. This recommendation makes clear the true expense of using rigorous scientific methods to evaluate program impact. The imperfections of most indicators of crime and justice require multiple measurement, already reflected in the statutory language authorizing COPS program evaluations. Victimization interviews, offender self-reported offending, systematic observation of high crime locations, observations of citizen-police interaction, and other methods can all cost as much or more than the program being evaluated. The costs can also be amortized over the many years of use to which strong scientific evidence can be put in guiding effective crime prevention.

A prime example of the value of this approach is implied by the central hypothesis that emerges from this report: that serious youth crime in America can be reduced most substantially by a simultaneous investment in all seven institutional settings for crime prevention, focused on the small number of neighborhoods in the nation where serious youth violence is concentrated. The results of the Children at Risk evaluation (Harrell, 1996) suggests that programs focused only on individual adolescents at risk may be unable to succeed because the neighborhood around them does not change. It may be that the best results would come from an expanded version of Weed and Seed, in which a systematic effort to build community social capital includes

- o helping families to establish clear and consistent discipline and emotional bonding, using home visits and preschool involvement from early infancy
- o helping schools to establish a capacity for self-regulation of student conduct with clear norms and expectations, as well as adequate physical security
- o helping labor markets to raise labor force participation rates in the neighborhood from 20% to 80%,
- o using physical and other place-based prevention to reduce opportunities for crime,
- o using massive increases in neighborhood police patrols (and respectful interactions with youth) to get guns off the streets and maintain high standards of civil conduct in public places, and
- o using courts and corrections to provide highest priorities to cases arising from these neighborhoods for effective treatment and control of convicted offenders.

This "hot spots" hypothesis has substantial support from theoretical models and the indirect evidence supporting those models. It can only be tested in practice, however, by the kind of statutory evaluation plan recommended above. Only a large number of neighborhoods with and

without such a program can provide an adequate sample for using scientifically recognized standards and methodologies. And if only such a program can make a long-term difference in serious youth violence, the Congress has a clear opportunity to consider. For if the hypothesis is correct, a comprehensive program to cool off the nation's hot spots of youth violence could not only lower the national crime rate. It may also create a tipping point against an epidemic of youth violence, and make the rest of the nation safer as well.

NOTES

¹Here again, legislative requirements cause poor science. The Treasury Department bill funding GREAT contained the following clause: "The Committee further instructs ATF to provide semi-annual reports evaluating the programs and identifying the affect [sic] GREAT has had on deterring gang violence." This requirement included no appropriation for evaluations. But even with massive appropriations for evaluation, the concept of semi-annual evaluations of program effects has no precedent under scientifically recognized standards and methodologies.

²The 1988 Anti-Drug Abuse Act's statutory definition of "proven effectiveness" is as follows: "a program, project, approach, or practice has been shown by analysis of performance and results to make a significant contribution to the accomplishment of the objectives for which it was undertaken.." 42 U.S.C. 3782 Sec. 801 (b) (19).

³U.S. Department of Justice (1974), LEAA Evaluation Policy Task Force, LEAA EVALUATION POLICY TASK FORCE REPORT. Washington, D.C.: USDOJ.

⁴42 U.S.C. S 3766 (a)(2); 3782 (b).

⁵42 U.S.C. Section 3793 (a)(11)(B).

⁶42 U.S.C. Section 3791 (10)

⁷It was also necessary that the preponderance of the other evidence be in accord with the results of the two level 3 or higher evaluations.

⁸For example, several of the Department of Labor job training experiments have cost in excess of \$15 million.

⁹Daubert v. Merrell Dow, 113 S. Ct. 2786 125 L. Ed. 2d 469 (1993).

REFERENCES

Cook, Thomas D. and Donald T. Campbell

1979 Quasi-Experimentation: Design and Analysis Issues for Field Settings. Chicago: Rand-McNally.

Crowell, Nancy A. and Ann W. Burgess, eds.

1996 Understanding Violence Against Women. Washington, DC: National Academy of Sciences.

Dunworth, Terence, Peter Haynes, and Aaron J. Saiger

1997 National Assessment of the Byrne Formula Grant Program. National Institute of Justice Research in Brief. Washington, DC: US Department of Justice.

Esbensen, Finn-Aage and Wayne Osgood

1996 GREAT Program Effectiveness: Results from the 1995 Cross-Sectional Survey of Eighth Grade Students. Unpublished Technical Report Available from the Author.

Federal Judicial Center

1981 Experimentation in the Law. Washington, DC: Federal Judicial Center.

Feeley, Malcolm and Austin Sarat

1980 The Policy Dilemma: Federal Crime Policy and the Law Enforcement Assistance Administration, 1968-78. Minneapolis, MN: University of Minnesota Press.

Greenwood, Peter, K.E. Model, C.P. Rydell & J. Chiesa.

1996 Diverting Children from a Life of Crime: Measuring Costs and Benefits. Santa Monica, CA: RAND. et al

Harrell, Adele

1996 Evaluation of the Children At Risk Program: Preliminary Findings. Paper Presented to the National Evaluation Conference, National Institute of Justice, Washington, DC.

Lindstrom, Peter

1996 Paper Presented to the Conference on Problem-Oriented Policing as Crime Prevention.

Stockholm: Swedish National Police College.

Reiss, Albert J. Jr., and Jeffrey A. Roth, eds.

1993 Understanding and Preventing Violence. Washington, DC: National Academy of Sciences.

Rubinstein, Juanita L.

1977a Case Study: Office of Evaluation. In Susan O. White and Samuel Krislov, eds. Understanding Crime: An Evaluation of the National Institute of Law Enforcement and Criminal Justice. Washington, DC: National Academy of Sciences.

1977b Case Study: Impact Cities. In Susan O. White and Samuel Krislov, eds. Understanding Crime: An Evaluation of the National Institute of Law Enforcement and Criminal Justice. Washington, DC: National Academy of Sciences.

White, Susan O. and Samuel Krislov

1977 Understanding Crime: An Evaluation of the National Institute of Law Enforcement and Criminal Justice. Washington, DC: National Academy of Sciences.

Wilson, William Julius

1996 When Work Disappears: The World of the New Urban Poor. NY Alfred A. Knopf.

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APPENDIX: RESEARCH METHODS

by Lawrence W. Sherman and Denise Gottfredson

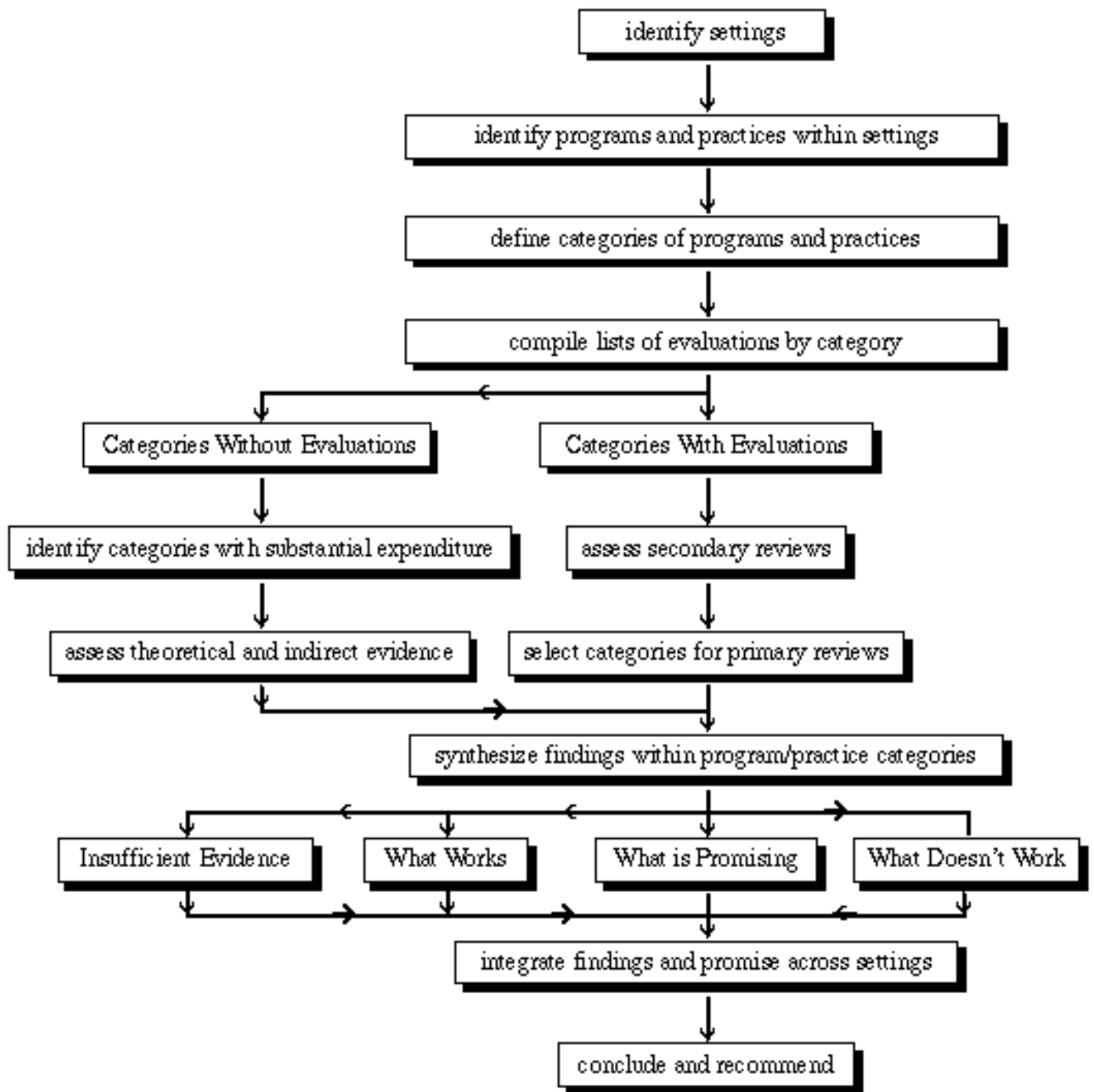
The challenge of this review is to make a substantial contribution to science in a very short time frame. The US Congress only allowed the Attorney General nine months for a comprehensive scientific review of crime prevention programs. While the time frame may be appropriate for the legislative process, it is virtually unprecedented in science. Similar reviews performed for the Congress by panels of the National Academy of Sciences typically last several years, and even those are usually much narrower in the scope of the research questions considered. Few scientists would expect a team of senior scholars and graduate students to even locate copies of all relevant evaluations of crime prevention programs in the available time frame, let alone to code them carefully and reliably for the purpose of a systematic review.

Our approach strikes a compromise between breadth and depth, without any compromise in scientific integrity. It attempts to rely as much as possible on other recently completed reviews of the literature we find generally reliable. Given the limited time to undertake intensive review of primary evaluation research, we reserve that method for only the highest priority program areas. This appendix provides a rationale for that strategy and the criteria employed for setting the priorities.

This review makes hard choices at four levels of analysis. One is the level of institutional settings, the rationale for which is described in Chapter Two. The next level is the choice of high and medium priority program areas of crime prevention within each setting. The third level, found within each high priority program area, is the kinds of evidence most worth relying on in assessing the effectiveness of that kind of program. The fourth level, found within each medium priority program, is how much to rely on secondary reviews of the literature, in which the federal government has recently invested millions of dollars. What follows next describes the process and criteria for making the last three of those choices. Figure 1 provides a flow chart illustrating the various steps in the process which lead us to our conclusions and recommendations in this review.

Figure 1

Diagram of Assessment Process



Sorting Programs and Practices

Our standard method for each chapter begins with a review of the literature, culminating in a list of all categories of crime prevention programs and practices in that institutional setting. We annotate each category on the list with definitions and illustrations. We circulate the list and its annotations among colleagues in our own department, and nationally-known experts chosen for the purpose. Based on their feedback, we revise the categories or definitions.

Unit of Analysis. Note that the basic unit of analysis we employ throughout is the **category** of program or practice that is conceptually coherent and subject to evaluation. Basic institutional

"practices" such as police patrols, and innovative "programs" experimentally added to institutional practice such as home nurse visitation, can both be defined as analytic categories of factors potentially affecting crime prevention. The list of such categories need not distinguish programs and practices, since the two are often merged in actual practice (as in the COPS program). What our method attempts is a theoretically clear definition of the independent variable hypothesized to produce crime prevention consequences.

Evidence and Resources. In the process of constructing the list of program and practice categories, we develop a rough estimate of both the volume and quality of the scientific evidence on the effectiveness of that category. We also acquire some data on level of governmental and private resources, especially the Office of Justice Programs, is investing in programs in each category.

Based on these data, we sort categories according to the available evaluation evidence. If evidence is available, we retain the category for potential discussion and analysis in the chapter. For programs and practices with no available evidence, we sort on the basis of public (or in some cases private) resources expended on that category. If the resources are substantial, we retain the category for potential discussion in the chapter. Categories with neither evidence available nor substantial resources are set aside at that point. For the categories with evidence, regardless of resource levels, we engage in one process. For programs without evidence, we engage in another.

Categories With Evidence

The first step for categories with evidence is to consult recent secondary reviews wherever possible. The reviews themselves can be evaluated on the basis of their reliability, based on such criteria as the level of detail they provide and the completeness and accuracy of the discussion of primary sources known to our review team. If a secondary review is deemed reliable, we rely on it for a determination of the strength of the evidence about the category. If there is no secondary review available for a category, we conduct a primary evidence analysis.

Primary Evidence Analysis. For the selected categories subjected to full assessment of primary evidence, the chapter research team identifies every primary evaluation it can locate from all sources. These evaluations are reviewed for a basic in-versus-out decision. The "in" decision is based solely on whether the study reports data on outcomes measuring crime or risk and protective factors in relation to the program being evaluated. Studies which contain only process measures are excluded from any data collection other than citation data and the reason for exclusion. Studies which include outcome measures are coded using an instrument (shown at the end of this appendix) adapted for this study from an instrument designed for the National Structured Evaluation of Drug Abuse Programs, which previous research has found to produce acceptable inter-rater reliability (Center For Substance Abuse, 1995). A codesheet for each study is prepared by at least one graduate student and reviewed by a faculty member. An overall rating of methodological rigor for each study is obtained from item #8 in Section II of this codesheet.

Standard Measures of Effect Size. Given the variation in the reporting of effects discussed

above, our method does not impose a standard definition of effect size across all analyses. Some chapters report effects in terms of statistical significance as well as percentage differences or percentage reductions in rates of offending. Chapters for which measures of criminal offending are rare (e.g., the school chapter) attempt to translate effects for the array of possible outcomes into standardized effects sizes using, to the extent possible, Cohen's *d*, defined as treatment group mean minus control group mean, divided by the pooled groups' standard deviation. Information on the statistical significance of and the magnitude of the effects are coded for each study using Section III of the codesheet. The decision about which metric to use for reporting on the magnitude of the effect is left to the senior author of each chapter.

Integration of Evidence. The end product of the analysis of empirical evidence contains a range of findings with respect to effectiveness. In the interests of clarity of presentation for policy analysis purposes, we organize the presentation of material in each chapter by the content of the findings, rather than the priority of the program. The content is defined both the strength of the scientific evidence and the strength (and

direction) of the program effects. We ultimately report on four categories of effectiveness.

Program categories are sorted into these effectiveness categories using the following rule:

Works (1): At least two studies with methodological rigor greater than or equal to "3" reporting significance tests have found crime prevention effects for the program condition, and where effect sizes are available, the effect is at least one-tenth of one standard deviation (e.g., effect size = .1) better than the effects for the control condition, and the preponderance of the evidence supports the same conclusion.

Doesn't Work (2): At least two studies with methodological rigor greater than or equal to "3" reporting significance tests have found no effect favoring the program condition, and the preponderance of other evidence supports the same conclusion.

Promising (3): At least one study with methodological rigor greater than or equal to "3" reporting conventional significance levels has found crime prevention effects for the program condition, and where the effect size is available, the effects are at least one-tenth of one standard deviation better than the effects for the control condition OR the preponderance of evidence favors the program.

Don't Know (4): Categories with empirical evidence which do not fit one of the above are included in this residual category.

We must, of course, be extremely careful in labeling any program category as highly certain to be good or bad in its effects. Yet we must also be clear enough to make our conclusions useful, no matter how much we anticipate that science is always provisional and that our conclusions may be changed by next year. The large number of programs to be reviewed almost guarantees that some have strong evidence of extreme effects, both positive and negative. Yet most extreme results are from single, unreplicated studies. It is just as important not to conclude too much

from a single negative result as from a single positive one. A single evaluation, even with strong evidence, cannot be assumed to generalize to all or most other settings. The primary objective of identifying promising results should be to foster replications, and the more promising the results the greater the replication need. Where there is substantial consistency of evidence in one direction, the senior author of each chapter makes a judgement and defends it in the text.

The code sheet employed in primary coding is attached. In cases of secondary analysis, effect sizes have been estimated in some chapters where sufficient detail about research design has been provided in the secondary review. This method is not without some risk of error, but it is more informative given time constraints than the alternative of not ranking studies reported in detail in secondary reviews. Where the level of detail reported in secondary reviews about the primary source research design is too low, the studies are reported as scientific methods score unranked.

Categories Without Evidence

For categories without evidence, the chapter conclusions reflect some theoretically based assessments. The report makes less use of such assessments than it might, given the concern for potential bias in assessments. Where theoretical rationales are embodied in conclusions, they are usually well-supported by empirical evidence, such as the concentration of serious youth violence in urban areas of concentrated poverty.

Code Book for Methodological Rigor and Effect Size Computation

At least one code sheet is filled out for each study. This scheme assumes the existence of a database for each setting containing the identifying information for the publication and the codes for program category. The document number will be used to merge information from this codesheet with the existing information.

I. Identifying Information and Funding Source

1. Document # _____ [Note: document numbers are four-digit numbers, beginning with the setting code in #3 below]

2. First author last name: _____

3. Institutional setting (circle one):

(1) Family

(2) School

(3) Community

(4) Labor Market

(5) Place

(6) Police

(7) Courts/Corrections

4. Type of publication:(1) Peer-Reviewed Journal

(Circle one) (2) Other publication (e.g., book; book chapter; published gov't report)

(3) unpublished (e.g., technical report, convention paper)

5. Type of funding (circle all that apply -- usually found in the acknowledgment note)

(1) OJP (Office of Justice Programs, including National Institute of Justice; Bureau of Justice Statistics; Bureau of Justice Assistance; Office of Juvenile Justice and Delinquency Prevention; Office for Victims of Crime)

(2) Department of Education (including National Institute of Education; Office of Educational Research and Improvement; Office of Elementary and Secondary Education)

(3) Department of Health and Human Services (including National Institute on Drug Abuse; National Institute on Alcoholism and Alcohol Abuse; National Institute of Mental Health; National Institute on Drug Abuse; Center for Substance Abuse Prevention; Center for Substance Abuse Treatment; Centers for Disease Control and Prevention; Administration for Children Youth and Families)

(4) Other Federal (e.g., Corporation for National Service; Housing and Urban Development; U.S. Dept. Of Labor; Dept. of the Interior; Office of National Drug Control Policy)

(5) Other

(6) Not specified

5. Identification of MODULES for coding: Number of different "modules" included in report.

Some studies include sub-studies for which evaluation results are reported separately. These sub-studies often use different methodologies and must be summarized separately. A "module" is defined as a study component for which a distinct treatment group is identified and separate

evaluation results are reported. If a study reports on four different trials of an intervention, each trial having a different treatment group, the study has four modules. If a study includes several different program activities but these are all applied to one group of individuals, the study has only one module. If the study identifies two different groups, one of which receives certain program components and the other of which receives other components to another group, AND the results for each of the two groups are reported separately as though they were two different programs, the program has two modules. An example of the latter is when an evaluation of a school-level intervention involving one set of interventions is reported in the same article as an evaluation of a different set of interventions targeting high-risk youths in the same schools. If more than one treatment group is involved, more than one module will generally be involved unless the study uses a factorial design.

Code remaining questions for each module.

II. Methodological Rigor

1. Sample size

Fill in the number of cases for each separate unit of analysis used in the module. Report only for those units for which separate analysis is conducted. Report the sum of the treatment and comparison units actually analyzed. If n's differ for different analyses, record the range of n's used:

individuals_____

families_____

classrooms_____

schools_____

blocks, cities, states, or other geographical units_____

communities_____

other collectivity (specify)_____

2. Presence of comparison group(s)

1=No comparison group present

2=Separate comparison group present, but non-randomly constituted and limited (e.g., only demographic variables) or no information on pre-treatment equivalence of groups

3=Separate comparison group present but non-randomly constituted; extensive information provided on pre-treatment equivalence of groups; obvious group differences on important variables

4=Separate comparison group present; extensive information provided on pre-treatment equivalence of groups; only minor group differences evident

5= Random assignment to comparison and treatment groups; differences between groups are not greater than expected by chance; units for random assignment match units for analysis

Note: Sometimes random assignment takes place at a different level than the analysis. For example, classes or schools are randomly assigned to conditions, but students are the unit of analysis. These cases should not be treated as random assignments.

3. Use of control variables to account for initial group differences

1=No use of control variables to adjust for initial group differences

3=Control variables used, but many possible relevant differences uncontrolled

5=Most relevant initial differences (e.g., differences on a pre-treatment measure of the dependent variable or variables highly associated with the dependent variable) between groups controlled statistically OR random assignment to groups resulted in no initial differences.

4. Variable measurement

1=No systematic reproducible approach to variable measurement is employed

2=No indication of how study variables were constructed or obtained

3=Some attention to constructing or obtaining high quality measures, but reliability not demonstrated

4=Variables developed or selected with some consideration of use in prior studies and reliability of measurement; reliability reported; not all measures demonstrated to be reliable

5= Careful selection of relevant variables considering their prior use and reliability demonstrated for all or most of the measures

5. Control for effects of attrition from study

1=Attrition from treatment or control group is greater than 50% and no attempt is made to determine the effects of attrition on the outcome measures.

2=No accounting given of cases that dropped out of study or attrition from treatment or control group is moderate and no attempt is made to determine the effects of attrition on the outcome measures.

3=Differences between study participants (both treatment and comparison) who were present at the pre-test and absent at the post-test are identified and discussed.

4=Differences between study participants (both treatment and comparison) who were present at the pre-test and absent at the post-test are identified and discussed; possible differential attrition between treatment and comparison groups is discussed.

5=Careful statistical controls for the effects of attrition are employed, or attrition is shown to be minimal; threat of differential attrition for treatment and comparison groups is addressed adequately.

Note: Attrition is loss from the initial sample or population identified as the treatment group or the comparison group. Sometimes attrition occurs even before a pre-test is administered.

6. Post-treatment measurement period

Length of time from end of treatment to last follow-up (in months)_____

7. Use of statistical significance tests

0=No statistical tests or effect sizes

1=Statistical tests used or effect sizes computed

8. Overall evaluation methodology

1=No reliance or confidence should be placed on the results of this evaluation because of the number and type of serious shortcomings(s) in the methodology employed

3=Methodology rigorous in some respects, weak in others

5=Methodology rigorous in almost all respects

Note: Key elements in your rating of overall methodology should be:

Control of extraneous variables: Have the influences of independent variables extraneous to the purposed of the study been minimized (usually through random assignment to conditions, matching treatment and comparison groups carefully, or statistically controlling for extraneous variables)?

Minimization of error variance: Are the measures relatively free of error?

Sufficiency of power to detect meaningful differences

The power of a test is the probability that a false null hypothesis will be rejected in favor of a true alternative hypothesis. The smaller the anticipated effects of the intervention, the larger the sample size must be in order to decrease the sampling variation relative to the size of the effect to be detected.

III. Identification of Outcome Measures

Complete this section only if at least one comparison is available in the study (e.g., treatment vs. control or pre-post)

Check here if no comparison is available _____

1. Level of criminal involvement of targeted population (circle one):

(A) General population, unspecified criminal involvement

(B) High-risk population (but not known to be involved in criminal justice system)

(C) Known to be not yet involved in criminal justice system

(D) Known to be involved in criminal justice system

2. Measure of Problem Behavior (circle all that apply):

(A) Crime, delinquency, theft, violence, illegal acts of aggression

(1) participation (e.g., yes/no for a specific period; proportion of population arrested in a specific period)

(2) frequency (e.g., number of crimes for a specific period; number of arrests per unit population for a specific period)

(3) seriousness level of crime (e.g., a scale ranging from status offense to murder, rape, and arson)

(4) variety (e.g., number of different crimes admitted)

(B) Alcohol and other drug use

(1) participation (e.g., yes/no for a specific period; proportion of population used in a specific

period)

(2) frequency (e.g, number of times used in a specific period; number of uses per unit population for a specific period)

(3) variety (number of different substances used)

(C) Victimization experience

(1) participation (e.g., yes/no experienced victimization in specific time frame; number of victims per unit population in specific time frame)

(2) frequency (e.g., number of times victimized in specific time period; number of victimizations per unit population in specific time period)

(3) seriousness (e.g., harm done)

(4) variety (number of different victimization experiences)

(D) Rebellious behavior, anti-social behavior, aggressive behavior, defiance of authority, disrespect for others (include suspension and expulsion unless it is specifically for behaviors in categories A or B)

(E) General problem behavior (combination of different behaviors above)

3. Risk or protective factors examined in study. Circle all risk/protective factors measured as outcomes of the intervention.

Individual-level:

(A) Employment

(B) School dropout

(C) Truancy or school tardiness

(D) Association with delinquent peers

(E) School academic performance (e.g., grade promotion, school grades, academic achievement test scores, schoolwork or homework completion)

(F) Educational attainment (except dropout by persons required by law to attend school)

(G) Disposition to self-control, impulsiveness, or recklessness

(H) Social competencies or skills

(I) Conscientiousness, belief in conventional rules or moral character, dutifulness

(J) Intentions to engage in or abstain from ATOD use, delinquent behavior, crime

(K) Commitment to education or work

(L) Caring about/Attachment to school, work, or prosocial others

Family:

(M) Parental supervision

(N) Family or parental behavior management practices

Community or School Environment:

(O) Rules, norms, expectations for behavior

(P) Availability of weapons or drugs

(Q) Community or organizational capacity for self-management (e.g. morale, leadership)

(R) Community unemployment rate

(S) Community disorganization (e.g., divorce rate, female-headed households)

IV. Program Effects and Effect Size Computation

Choose up to three outcome measure from III.2 above for summary of program effects and effect size computation. Base your selection on the following criteria: (a) the measure is used in all or most of the studies in a category (facilitating comparison of outcomes within the category) and (b) reporting of statistics for the outcome is extensive. Fill in the numbers and letters from III.2 above as well as the exact names of the measures:

A) _____

B) _____

C) _____

Outcome Measure _____ (A,B, or C):

Answer all questions for which relevant statistics are provided in the study. Fill in "NA" if statistic is not available.

1. Base rate: This is the level of the problem behavior for the treatment group prior to the treatment or for the comparison group

___ Pre-treatment for treatment group:

Mean_____

Standard deviation_____

Time period covered, in months (e.g., 12 months, 24 months)_____

___ Comparison group:

Mean_____

Standard deviation_____

Time period covered, in months (e.g., 12 months, 24 months)_____

2. Post-treatment measurement period. This is the time elapsed from pre-test or beginning of intervention to post-test measurement -- in months):_____

3. Effect size.

For pre to post comparison for the treatment group: _____

For pre to post comparison for the comparison group: _____

For post-treatment comparison of treatment and comparison group: _____

4. Means and standard deviations or proportion (for rates) for the outcome measure for the treatment and comparison groups

Treatment group mean or proportion:_____

Comparison group mean or proportion:_____

Treatment group

standard deviation:_____ or

variance:_____

Comparison group

standard deviation:_____ or

variance:_____

Pooled standard deviation _____ or

variance_____ for treatment and comparison groups

5. Means and standard deviations or proportion (for rates) for the pre- and post measures for the treatment group

Post-treatment group mean or proportion:_____

Pre-treatment group mean or proportion:_____

Post-treatment group

standard deviation:_____ or

variance:_____

Pre-treatment group

standard deviation:_____ or

variance:_____

Pooled standard deviation _____ or

variance_____ for pre- and post

6. Pearson correlation between measure of experimental status (treatment/control) and outcome measure: _____

7. Statistical test used for assessing probability that difference (between treatment and comparison groups or pre- to post) is due to chance.

(A) Chi-square statistic (with one degree of freedom, i.e. from a 2X2 table):

chi-square value _____

Total study sample size _____

Exact 2-tailed p-level: _____

Nominal significance level (2-tailed; circle one):

$p < .05$: Yes or No

$p < .01$: Yes or No

(B) t statistic (for difference between means):

t-value: _____

degrees of freedom _____

or sample size for each condition:

Treatment group or post-condition "n": _____

Comparison group or pre-condition "n": _____

Exact 2-tailed p-level: _____

Nominal significance level (2-tailed; circle one):

$p < .05$: Yes or No

$p < .01$: Yes or No

(C) ANOVA :

F-statistic: _____

degrees of freedom in the numerator: _____

degrees of freedom in the denominator: _____

eta:_____

eta squared:_____

sum of squares in the numerator:_____

sum of squares in the denominator:_____

number of cases in each condition:

treatment group or post-condition "n":_____

comparison group or pre-condition "n":_____

Exact 2-tailed p-level:_____

Nominal significance level (2-tailed; circle one):

p<.05: Yes or No

p<.01: Yes or No

(D) Other statistical test used:

Name of test:_____

Exact 2-tailed p-level:_____

Nominal significance level (2-tailed circle one):

p<.05: Yes or No

p<.01: Yes or No

8. Direction of effect:

For treatment/comparison group designs: (Check one)

Treatment group has less problem behavior at post-test than comparison group:_____

Comparison group has less problem behavior at post-test than treatment group:_____

No difference exists between groups at post-test:_____

For pre-post designs: (Check one)

Post-level of problem behavior is lower than pre-level: _____

Pre-level of problem behavior is lower than post-level: _____

No difference exists between pre- and post-measures: _____

Repeat section IV, questions 1 - 8 for Outcome Each Additional Selected Outcome Measure.School-based Programs:

Also code:

Grade level of treatment group:

(Check more than one if group is split fairly evenly across levels below)

_____ Mostly early elementary (K-3)

_____ Mostly upper elementary (4-5)

_____ Mostly middle school (6-8)

_____ Mostly high school (9-12)

Range of grade levels included in treatment group: _____ to _____

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