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Michael Tonry and David P. Farrington

Strategic Approaches to Crime Prevention

No one wants themselves or their loved ones to be victimized by crime or to live in fear. Most theories of the state make public safety a core responsibility of government. The problem facing modern governments, however, is that the principal tools used to advance public safety—enactment and enforcement of criminal laws and punishment of offenders—are increasingly understood to have modest effects on rates or patterns of serious crime. As a result, a number of Western governments, including those in France, England, Sweden, and the Netherlands, have established specialized agencies to develop, test, and evaluate crime preventive initiatives using other than law enforcement tools.

North American countries lag behind, but there are signs of similar policy movements. In 1993, the Standing Committee on Justice and the Solicitor General of the Canadian government issued a report urging establishment of a national crime prevention agency and a shift in primary policy emphasis from law enforcement to crime prevention (Standing Committee on Justice and Solicitor General 1993). In 1994, the American Congress enacted the Violent Crime Control and Law Enforcement Act, a \$30 billion package of anticrime legislation which for the first time since the 1970s included a major prevention component (representing roughly a third of the contemplated funds).

Building a Safer Society is an effort to transcend national and disciplinary boundaries to summarize what is now known about a variety of different strategic approaches to crime prevention. We have identified

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four major prevention strategies: law enforcement, and developmental, community, and situational prevention. The first of these is discussed only in this introduction and principally to explain why we do not give it greater emphasis. In addition, an essay by Mark Moore compares and contrasts the public health approach to prevention with the law enforcement approach. We do not consider the public health approach as a distinctive prevention strategy because developmental, situational, and community strategies all include elements of the public health approach.

Some explanation of the selection of those three strategies is probably warranted. Organizing this volume provided an opportunity to reconsider the schema for crime prevention that are commonly used. In terms of government, until very recently the primary initiatives launched in the name of crime prevention have consisted of changes in criminal laws, enforcement techniques, and sentencing policy; mass media advertising campaigns intended to convince offenders that crime doesn't pay or to persuade citizens to take private preventive actions; and various situational measures intended to make particular offenses more difficult to accomplish. These are all appropriate parts of a government's crime prevention effort, but they neglect many factors known to influence crime and delinquency which, if addressed, promise to have important preventive effects.

Thus our aim is to provide a preventive framework that encompasses a much fuller range of initiatives than governments typically pursue. One possibility that we considered but rejected is the public health typology of primary, secondary, and tertiary prevention (e.g., Last 1980). This has the advantage of comprehensiveness but the disadvantage of all specialized uses of words with commonly understood meanings—only specialists are likely to understand the distinctions being made. Although efforts have been made to import the public health vocabulary into criminology (e.g., Brantingham and Faust 1976; van Dijk and de Waard 1991), no widely shared understanding has emerged of what they might mean when applied to crime.

By developmental prevention, we mean interventions designed to prevent the development of criminal potential in individuals, especially those targeting risk and protective factors discovered in studies of human development. By community prevention, we mean interventions designed to change the social conditions that influence offending in residential communities. By situational prevention, we mean interventions designed to prevent the occurrence of crimes, especially by reduc-

ing opportunities and increasing risks. Essays in this volume by Richard Tremblay and Wendy Craig, Tim Hope, and Ronald Clarke provide exhaustive surveys of the state of knowledge about developmental, community, and situational prevention.

Our proposed classification system for crime prevention initiatives is by no means watertight. There is overlap at the borders of developmental and community prevention and again at the borders of community and situational prevention. Developmental and community prevention are often included under the general heading of "social" crime prevention, but we think that they are so different that they should be distinguished.

Notwithstanding overlaps and imprecision, the classification scheme used in this volume seems to us sound because it includes a much broader conceptualization of the ambit of crime prevention than is common and because it allows coverage in one book of research and program developments occurring in many disciplines and agencies of government that, if heeded, offer important guidance on how to build a safer society. In the sections that follow, we sketch findings from research on the effects and limits of law enforcement and criminal justice approaches; somewhat more fully introduce developmental, community, and situational prevention; and outline key questions for future research and key theoretical, measurement, implementation, and evaluation issues that need to be addressed.

I. Law Enforcement and Criminal Justice

Most people see crime prevention as the primary reason why criminal laws are enacted and why the criminal law is enforced. H. L. A. Hart (1968), this century's most influential writer in English on the philosophy of punishment, for example, took it as given that criminal laws exist and are enacted in order that fewer of the proscribed behaviors should take place and that general prevention is the primary justification for maintaining a system of criminal punishment.

Most lawyers and many elected officials have long believed that crime represents a moral failure on the part of the wrongdoer and that law enforcement, including the imposition of sanctions that express condemnation of the offender, is the only morally appropriate broad-based state policy for crime prevention. This is why, in the United States, policy makers including former attorneys general Edwin Meese, Richard Thornburgh, and William Barr called for increasingly harsher penalties and disparaged recommendations by others for pre-

ventive policies aimed at addressing the "root causes" of crime. This is also why, according to Jon Bright (1992), research director of the English private-sector crime prevention organization, Crime Concern, American officials have been largely unsympathetic to preventive approaches that have attained support in other countries; other preventive approaches obscure the recognition of offenders' moral culpability.

No reasonable or informed person can doubt that enactment and enforcement of criminal laws affect behavior directly and indirectly or that law enforcement must be a component of any country's effort to protect its citizens from crime. Similarly, no reasonable or informed person can doubt that some potential offenders are deterred by fear of sanctions or that some crimes are prevented by confining some offenders or otherwise controlling their movements or activities. Those things acknowledged, however, there is an emerging consensus among researchers and public officials in many countries that law enforcement's potential effects are limited and modest and that public safety policies that rely solely or primarily on law enforcement are incomplete and insufficiently protect the public.

Law enforcement or criminal justice prevention is conventionally seen as operating directly through deterrence, incapacitation, and rehabilitation and indirectly through effects on socialization. In addition, in a politically important if intellectually vacuous sense, crimes can be caused or prevented (in the sense of eliminated) by revisions of criminal codes. We discuss these phenomena in reverse order.

A. Indirect Effects of the Criminal Law

By itself, without regard to their implementation, the enactment of criminal laws is sometimes said to serve preventive purposes. Arguments about statutory policy are often premised on the assumption that behavior is affected by statutory changes. Opponents of drug use, homosexuality, and prostitution, for example, argue that decriminalizing those behaviors would widely be viewed as tacit (or express) acknowledgment of their legitimacy. Their fear is that decriminalization, by reducing the stigma associated with unwanted behaviors, would reduce social and psychological pressures against them and lead to increases in their incidence.

Changes in criminal laws can operate preventively in a number of indirect ways. Some people who might engage in activities if they were legal refrain from them because they are illegal. Probably more important, the existence and enactment of laws serve as part of the

normative context within which individuals' personal values and beliefs take shape. Many people refrain from violent and property crimes because they have been socialized to believe that those actions are wrong; they are not "that kind of person."

Indirect preventive effects have long been recognized. The nineteenth century French sociologist Emile Durkheim wrote of the criminal law's dramaturgical role in socialization (Garland 1991). The Norwegian criminal lawyer Johannes Andenaes (1974) revived interest in the "moral-educative" effects of punishment as distinct from its deterrent effects. "Communicative" theories are at the heart of modern writing on the philosophy of punishment (Duff 1995). Precisely how, to what extent, in what ways, and concerning what kinds of behavior the enactment and administration of the criminal law has indirect preventive effects is a little-examined empirical question.

The criminal law no doubt has indirect effects on socialization. In what may be no more than an admission of ignorance, we know of no rigorous evaluations that attempt to document these indirect preventive effects of the criminal law. However, socialization occurs mostly through primary institutions like the family, the church, the school, and peer networks; the effects of laws and legal processes are likely to be modest.

B. Direct Effects of the Criminal Law

The implementation and enforcement of the criminal law are widely thought to serve preventive purposes. For many writers on the philosophy of punishment, including both utilitarians (Hart 1968; Morris 1974) and retributivists (von Hirsch 1976), "general prevention" or deterrence is offered as the primary purpose and justification for the maintenance of state-administered systems of criminal punishment.

Overall, few people doubt that having some penalties instead of none influences behavior or that some crimes are prevented by means of incapacitation or that some rehabilitation programs that offer regimes tailored to the particular needs and characteristics of particular categories of offenders can reduce offenders' later offending and enhance their later social functioning.

Usually discussions among lawyers and lawmakers concern the deterrent, incapacitative, and rehabilitative effects of formal sanctions imposed after a conviction, but preventive mechanisms are broader than that. Social scientists, for example, study and demonstrate preventive effects of preadjudication criminal processes. Many people

have examined the deterrent effects of arrests (e.g., Sampson 1986). The largest set of linked research projects on a single subject in the United States in recent years were replications in six sites of Sherman and Berk's (1984) Minneapolis domestic violence experiment on the deterrent effects of a mandatory arrest policy (irrespective of subsequent case processing; dismissals were the normal follow-up) for alleged domestic violence misdemeanors. The title of Malcolm Feeley's book on the operation of misdemeanor courts in New Haven, Connecticut, *The Process Is the Punishment* (1979), similarly acknowledges the effects of preadjudication processes.

There is widespread agreement over time and space that alterations in sanctioning policies are unlikely substantially to influence crime rates. In the United States, this was the conclusion of the President's Commission on Law Enforcement and Administration of Justice (1967), the National Academy of Sciences Panel on Research on Deterrent and Incapacitative Effects (Blumstein, Cohen, and Nagin 1978), and the National Academy of Sciences Panel on the Understanding and Control of Violent Behavior (Reiss and Roth 1993). Although the statistical and methodological sophistication of efforts to examine the effectiveness of sanctions has increased over time, the conclusions have changed little. The most recent National Academy of Sciences Panel, for example, in a much quoted passage, asked, "What effect has increasing the prison population had on violent crime?" and answered, "Apparently very little . . . If tripling the average length of sentence of incarceration per crime [between 1975 and 1989] had a strong preventive effect, then violent crime rates should have declined" (Reiss and Roth 1993, p. 6). They had not.

In the interests of brevity, we do not carefully distinguish the separate preventive mechanisms of deterrence, incapacitation, and rehabilitation. We also do not discuss the evaluation literature concerning the deterrent effects of mandatory penalties; with no significant exception, these studies find no, modest, or transient crime-reductive effects. (These studies are examined in some detail in Tonry [1995], chap. 5.) Also, we do not discuss the preventive effects of policing strategies (see Tonry and Morris 1992).

The conclusion that the direct marginal crime-reductive effects of foreseeable changes in the criminal law or criminal justice processes are modest has been reached in most countries that have an empirical research tradition concerning criminological subjects. In England, for example, the Home Office white paper presaging the Criminal Justice

Act 1991 observed: "Deterrence is a principle with much immediate appeal . . . But much crime is committed on impulse . . . and it is committed by offenders who live from moment to moment . . . It is unrealistic to construct sentencing arrangements on the assumption that most offenders will weigh up the possibilities in advance and base their conduct on rational calculation" (Home Office 1990, para. 2.8). More concisely, but to similar effect, the Canadian Sentencing Commission (1987) concluded: "Deterrence cannot be used, with empirical justification, to guide the imposition of sentences." In Finland, Patrik Törnudd reports, government policy to reduce the prison population over two decades was premised on similar views: "Can our long prison sentences be defended on the basis of a cost/benefit assessment of their general preventive effect? The answer of the criminological expertise was no" (Törnudd 1993).

II. Developmental, Community, and Situational Prevention

The modest claims that can be made for the preventive effectiveness of sanctions are not grounds for despair. Different crimes have different causes, different offenders commit crimes for different reasons, and sensible prevention policies should take account of those differences. Many assaults and sexual crimes, for example, are impulsive and committed under the influence of intoxicants and powerful emotions. Robberies often involve planning, while shoplifting and vandalism are often spur-of-the-moment activities. Some offenses occur as anomalous acts in generally law-abiding lives, while others occur as routine events in generally antisocial lives. Effective crime prevention must be as varied and shaped to take account of important differences in crimes and criminals.

The diversity of crimes and criminals is one reason why law enforcement is a necessary but not sufficient strategy for crime prevention. Crimes of impulse, emotion, and intoxication and crimes by individuals socialized into deviance are not likely to be much affected by law enforcement threats and criminal justice processes. A comprehensive governmental crime prevention strategy, in addition to law enforcement, should include developmental, community, and situational approaches, and we now introduce these in a little more detail.

A. *Situational Prevention*

Dating as a self-conscious prevention strategy from the late 1970s, when it became a major policy focus in England's Home Office Re-

search and Planning Unit, and from the later establishment of the Home Office Crime Prevention Unit in 1983, situational crime prevention has grown rapidly as a viable strategy for reducing the occurrence of crimes.

Based on the premise that much crime is contextual and opportunistic, situational initiatives typically alter the context to diminish the opportunities. Situational prevention is not conceptually new (what is?). People have presumably always responded to perceived risks by altering their behavior to reduce the risks. Doors get locked, windows shuttered, dogs purchased, and alarm systems installed in order to make the intending malefactor's work more difficult. Merchants likewise have presumably always contemplated the economic trade-offs between easier customer access to merchandise and heightened risks of theft and have reduced access when that seemed the economically rational thing to do. (In Joanna Shapland's essay, in this volume, they are described as "amoral calculators of profit and loss.")

What is different about situational crime prevention is the systematic strategic effort of the last decade to develop and test situational techniques and the increasingly widespread recognition that situational approaches can complement law enforcement approaches. Although debates have long continued about whether situational approaches prevent crimes or merely displace them to other times, places, and targets, a consensus seems to be taking shape that some situational methods are effective in some circumstances.

Numerous situational initiatives seem to have achieved net preventive effects, both directly and indirectly through "diffusion of benefits" to adjoining areas that did not experience the new initiative but were aware of it. Convincing evidence is available of net preventive effects even after displacement of various kinds is taken into account. Moreover, since Barr and Pease (1990) showed that displacement may be benign (the frustrated shoplifter playing basketball instead) or malign (the frustrated shoplifter committing an armed robbery instead), and that predictable displacement can also be thought of as redirection, analysis has moved far beyond discussion of whether displacement is partial or total. Ronald Clarke's essay in this volume concludes that concerns about displacement and worries about the "fortress society" have generally receded in recent years.

B. Community Prevention

Communities have crime rates, and sometimes these are independent of the changing composition over time of the resident population. Put

the other way around, whether individuals commit crimes often is probabilistically related to where they live. This is the key insight on which community crime prevention is premised; changing the community may change the behavior of the people who live there.

In the first half of the twentieth century, Shaw and McKay's (1942) Chicago School of Criminology focused on ecological and community explanations for crime and promoted an emphasis on community organization as a crime prevention strategy. They initiated the Chicago Area Project on Chicago's South Side. Celebrated community organization initiatives followed elsewhere, including Mobilization for Youth in New York City and many others (see Tim Hope's essay, in this volume).

Over the past thirty years, considerable energy and money has been expended on prevention efforts to alter the physical and social organization of communities. Conventionally dating from the publication of Jane Jacobs's *The Life and Death of Great American Cities* (1961) and Oscar Newman's *Defensible Space* (1972), community crime prevention has included efforts to control crime by altering building and neighborhood design to increase natural surveillance and guardianship, by improving the physical appearance of areas, by organizing community residents to take preventive actions and to solicit additional political and material resources, and by organizing self-conscious community crime prevention strategies such as recreational programs for children. At their most modest, such efforts include Operation Identification and Neighborhood Watch programs. At their most strategically ambitious, they include some of the problem estate programs of the English Home Office and Department of the Environment, parts of the massive English Safer Cities initiative, and the multimillion dollar American federal Community Protection through Environmental Design programs of the 1970s.

Unfortunately, as Tim Hope's essay makes clear, evidence of the effectiveness of community prevention is less convincing than for situational or developmental prevention. This is at least partly because of the poor quality of evaluations of community prevention strategies, which makes it difficult to draw lessons for the future from perceived failures.

C. Developmental Prevention

Most recently, over the last decade attention has been given to developmental prevention. Developmentalists, typically researchers in psychology, education, psychiatry, medicine, and public health settings,

have not traditionally been much interested in crime but have nonetheless documented that risk factors that are predictive of delinquency and crime are also predictive of many other forms of antisocial behavior. Consequently, reducing these risk factors or increasing protective factors could have wide-ranging and cost-effective benefits. Researchers such as David Hawkins, Marc LeBlanc, Rolf Loeber, Joan McCord, Terrie Moffitt, Lee Robins, and Richard Tremblay have combined developmental and criminological interests and have clarified the links between developmental processes and later delinquency.

The central insight is Shakespeare's, that the child is father to the man. Interventions that improve parenting skills, children's physical and mental health, and children's school performance and reduce risks of child abuse are also likely to reduce later offending. So far, at least in the United States, commitment to the notion of developmental prevention is mostly rhetorical. No doubt it is promising that Janet Reno, the U.S. attorney general, has given strong support to proponents of developmental prevention, but political support does not currently exist for sizable increases in governmental funding.

Developmental prevention is the new frontier of crime prevention efforts. Perhaps because children are more sympathetic recipients of government attention and funds than are teenage delinquents and adult criminals, the scale of social programs, spending, and research on child development greatly exceed those for situational or community prevention. Interventions aimed at improving the life chances of children at risk warrant support for reasons entirely independent of crime prevention, but even concerning crime prevention the emerging findings are promising. Evaluations of a variety of interventions directed at life stages from birth through childhood have demonstrated either delinquency-reducing effects or beneficial effects on other indicators (e.g., school performance, hyperactivity, and impulsivity) that are associated with reduced offending probabilities (Farrington 1994). Essays in this volume by Richard Tremblay and Wendy Craig, and by David Hawkins, Michael Arthur, and Richard Catalano review developmental prevention initiatives in detail.

III. Key Issues in Crime Prevention

As editors of this volume, we have, of course, had the prior benefit of reading all the essays. In addition to the essays on prevention approaches already mentioned, others concentrate on prevention of specific categories of crimes: in the retail sector (by Joanna Shapland), in

city centers (by Per-Olof Wikström), and of substance abuse (by David Hawkins and his colleagues). Three additional essays address cross-cutting issues: multiple victimization (by Graham Farrell), implementation (by Gloria Laycock and Nick Tilley), and evaluation (by Paul Ekblom and Ken Pease).

There is a great deal of convergence on a general programmatic method for preventing crime. For example, the "Crime Analysis" approach described by Ekblom (1988), writing within a situational perspective, involved obtaining detailed information about local patterns of crime, devising prevention strategies appropriate to local problems in the light of these analyses, implementing the strategies, and evaluating the effects of the prevention strategies on crime. The "Communities That Care" approach described by Hawkins, Catalano, and associates (1992), writing within a community/developmental perspective, involved mobilizing key community leaders and forming a community prevention board, identifying risk factors in the local community, choosing local prevention strategies targeting these risk factors, implementing the strategies, and evaluating the effects of the strategies. This general programmatic method also has some similarities with "problem-oriented" or "problem-solving" policing (Goldstein 1979; Moore 1992).

A. Key Theoretical Issues

Crime prevention strategies should be based on wide-ranging theories about the development of criminal potential in individuals and about the interaction between potential offenders and potential victims in situations that provide opportunities for crime. Few existing criminological theories are sufficiently detailed or wide-ranging to provide a useful basis for prevention strategies (for an exception, see Clarke's essay, in this volume). Theorists focusing on individual development need to include postulates about how individuals and environments interact to produce crimes, while theorists focusing on the opportunistic commission of crimes need to include postulates about the development of criminal potential in individuals. Both types of theorists also need to take account of the group context of offending and of the community context of individual development and criminal opportunities.

Theorists will probably have to pay more attention to individual differences between offenders. For example, LeBlanc and Frechette (1989) distinguished between "situational" and "chronic" offenders, while Moffitt (1993) differentiated "adolescence-limited" and "life-

course-persistent" offenders. It has often been suggested that situational crime prevention should be more effective with opportunistic as opposed to more committed offenders. It is important to investigate to what extent different prevention strategies are differentially effective with different kinds of offenders, offenses, and victims, in different places and times.

Another important theoretical question concerns the extent to which offenders make rational decisions, as opposed to being impulsive (lacking planning and foresight) or compulsive. Some offenders may have internal inhibitions against offending (e.g., a strong conscience or a strong "bond to society") and hence may have low criminal potential and may not make rational decisions based solely on the likely consequences of offending. More research is needed on decision making in criminal opportunities.

Criminal career research may be useful in providing information about the development of offenders, about types of offenders, and about topics that have implications for prevention, such as a person's specialization or versatility in offending. Studies of the careers of both offenders and victims are needed, to specify in what circumstances they overlap and whether there is any effect of victimization on offending (or vice versa). Developmental research is needed to identify protective factors and to determine at what stage it is best to intervene to try to reduce or eliminate a risk factor. For example, it may be better to intervene early, before risk factors or antisocial behavior are too ingrained or stabilized, but not so early that risk factors are poor predictors of antisocial outcomes (in which case the identification of high-risk individuals would be too unreliable).

B. Key Measurement Issues

As Joanna Shapland's essay makes clear, a major problem in studying prevention in the retail sector is to obtain a valid measurement of crime. For example, most shops have no valid measure of shoplifting that can be used before or after prevention strategies are implemented. Retailers may be reluctant to cooperate in surveys covering all the shops in an area, because of their competitive ethos. Innovative measures may be needed; for example, research on the systematic observation of offending as it happens may have disproportionate benefits in advancing knowledge about crime.

While the need for valid measurement is particularly pressing in the retail sector, it applies in all crime prevention research. Attempts

should always be made to assess the validity of official record and victimization survey data, for example. Collaboration with public health practitioners may be useful in expanding the range of measures of crime. For example, data on victims of violence can be collected from emergency departments of hospitals, with careful measurement of injury severity, and can be compared with police data on violence (Shepherd et al. 1993).

A key issue for situational prevention, especially, concerns the amount of credence that can be given to offenders' accounts of their crimes. Some situational prevention strategies have been based on these accounts. However, offenders are particularly poor at manipulating abstract concepts (Moffitt 1990), and hence they might be particularly lacking in introspective insight about the motives underlying their behavior. In addition, their memories may be faulty or biased. Just as offenders are more influenced by immediate gratification than by long-delayed future consequences, they may be more aware of immediate influences such as their need for money or excitement than long-buried past influences such as poor parenting or school failure (Agnew 1990). Research is urgently needed on how to maximize the validity of verbal accounts by offenders. In designing prevention strategies, more use might be made of self-reported delinquency surveys.

C. Implementation Issues

Situational prevention, if successful, typically has immediate benefits, whereas the benefits of developmental prevention may be long delayed. Because of this difference in time scale, it is easier to persuade governmental agencies to implement situational measures than developmental ones. Political appointees tend to have short time horizons. The challenge to developmental researchers is to persuade policy makers to plan now to reduce crime in ten to twenty years time.

Another important implementation issue concerns the transition from carefully controlled, high-quality, demonstrably effective, innovative, small-scale prevention programs to routinely administered, large-scale programs. Sometimes, the effectiveness of a program disappears in this transition. For example, providing financial aid to unemployed ex-prisoners reduced recidivism in the small-scale, well-controlled "LIFE" experiment but not in the subsequent large-scale, more routinized "TARP" experiment (Rossi, Berk, and Lenihan 1980). Unfortunately, in deciding whether to persist with large-scale prevention programs, governmental agencies sometimes ignore the results of

small-scale, well-controlled experiments. For example, Tim Hope (in this volume) reports that several small-scale well-designed studies have shown that "neighborhood watch" or "block watch" is ineffective in preventing crime, but this has not in any way dampened the enthusiasm of governmental agencies for this particular program.

A key issue in implementation is whether to target the highest-risk individuals or areas or more "normal" individuals or areas. As Per-Olof Wikström points out in his essay, there are "hot times" as well as "hot spots" of crime. The potential payoff, in terms of crime prevention, is greatest with the highest-risk units. Their need is arguably greatest, but they also tend to be the most resistant and uncooperative, and there is also the problem of undesirable labeling or stigmatization of high-risk units. Tim Hope points out in his essay, for example, that most community prevention programs have not been implemented in the most disorganized areas. There are no easy solutions to this dilemma. In practice, it is easier to implement crime prevention research projects and programs targeted at high-risk areas rather than high-risk individuals.

One possible solution to the problem of acceptability would be to make a crime prevention program attractive and desirable. For example, if all parents living on a particular housing estate were offered free high-quality day-care for their preschool children, the attractiveness of this offer might overcome concerns about its ultimate goals or why this particular housing estate had been chosen. Prevention programs can also be "sold" by presenting them in a favorable light. For example, developmental and public health approaches are essentially concerned with promoting healthy development by maximizing protective factors and minimizing risk factors (individual, family, peer, school, and community). As Mark Moore points out in his essay, the goal of promoting health may be more acceptable than the more negative and potentially stigmatizing goal of preventing crime, even though these goals may be essentially two sides of the same coin.

D. Key Evaluation Issues

High-quality evaluation research designs are needed to convince leading scholars, as well as intelligent policy makers and practitioners, about the effectiveness of crime prevention techniques. The most convincing design is the randomized experiment, which can ensure that units in one condition are identical in all possible respects to units in another condition before a crime prevention strategy is implemented

and hence permit the unambiguous attribution of any change in crime rates to the effects of the strategy (Farrington 1983). As the essay (in this volume) by Richard Tremblay and Wendy Craig shows, randomized experiments have often been used in evaluating developmental prevention.

Randomized experiments have rarely been used to evaluate community or situational prevention strategies, partly because the units of interest are typically areas rather than individuals. It is not usually possible to assign a large enough number of areas at random to different experimental conditions to achieve the benefits of randomization of ensuring equivalence of units in one condition to units in another. In general, community and situational researchers should seek to carry out more randomized experiments. As an example of what is possible, in one drug prevention project in California and Oregon, thirty schools were randomly assigned to three experimental conditions (Ellickson, Bell, and McGuigan 1993). If thirty schools can be randomly assigned, then in principle thirty areas could also be randomly assigned in a community or situational prevention experiment.

It is more feasible to carry out a nonrandomized experiment with matched areas, but very few of these have been conducted to evaluate community or situational prevention strategies. Again as an example of what is possible, nine shops in matched groups were assigned to experimental conditions in a project designed to evaluate the relative effectiveness of three methods of preventing shoplifting (Farrington et al. 1993). If it is possible to carry out experiments with matched groups of shops, it should also be possible to carry out an experiment with matched areas.

Most evaluations of community and situational prevention programs are quasi-experimental, with researchers measuring crime rates in areas before and after an uncontrolled or poorly controlled prevention strategy is implemented. In such projects, it is essential to test threats to internal validity such as regression to the mean (Cook and Campbell 1979). Prospectively designed evaluations are generally more satisfactory than retrospective ones. It is also desirable to plot dose-response curves (as in evaluating the effect of a medical treatment) and to measure strength of effect in addition to statistical significance. It may be that a realistic target for a crime prevention measure is a 10 percent reduction in crime rather than a 50 percent reduction. It is important that prevention studies should be designed with sufficient statistical power to detect the likely effects.

More complex prevention programs involving several different elements (e.g., preschool education, interpersonal skills training for children, parent management training) are more difficult to evaluate but perhaps have a greater chance of being effective in reducing offending than programs based on only one type of prevention technique. In their essay, Paul Ekblom and Ken Pease describe how the enormously complex Safer Cities program of the English government is being evaluated. Peterson, Hawkins, and Catalano (1992) outlined a strategy for evaluating the Communities That Care program, based on placing communities into matched pairs and choosing one member of each pair at random for the prevention program. A major problem with a complex prevention program is in identifying the "active ingredients" of the package.

In evaluating situational prevention programs, it is essential to plan to measure possible displacement and diffusion of benefits. In addition, it would be desirable to measure possible indirect prevention, for example, where a reduction in drug abuse leads also to a reduction in burglary and robbery (because of the decreased need for money to finance the drug habit). In evaluating developmental prevention programs, it is desirable to plan long-term follow-ups. For example, evaluating the benefits of intensive home visiting during pregnancy in preventing later delinquency and crime necessarily requires a fifteen- to twenty-year follow-up. As Richard Tremblay and Wendy Craig point out in their essay, few pregnancy or infancy programs have had such long-term follow-ups. In all cases, it would be prudent to allow for the possibility that the prevention strategy might have unwanted crime-increasing side effects.

In evaluating the success of prevention strategies, it is important to investigate the boundary conditions under which they work. For example, a strategy may be effective in one place or at one time but not in other circumstances, perhaps because of societal or contextual variations (e.g., in the prevalence of single-parent families or drug abuse). It is important to assess the generalizability of prevention effects. A troubling problem in many evaluations is that a crime prevention technique may have a short-term beneficial effect that gradually wears off. It is important to design evaluations to discover why strategies are immediately effective and why effectiveness may then decrease. For example, it may be that offenders gradually work out how to "beat the system." "Booster sessions" may be required to reinforce or reactivate the prevention effect, or prevention strategies might be

rotated unpredictably to keep offenders guessing (as Sherman [1990] suggested for police crackdowns).

It would be desirable to compare the wide-ranging costs and benefits of each prevention strategy. For example, in evaluating the Perry pre-school program, Schweinhart, Barnes, and Weikart (1993) concluded that every \$1 invested in the program resulted in a saving of over \$7 in costs such as to crime victims, in welfare benefits, and of the criminal justice system. This kind of analysis can be quite convincing to policy makers.

This volume presents a wide-ranging and comprehensive summary of the results of research on developmental, community, and situational crime prevention. We hope that it will contribute to the cumulative advancement of knowledge about crime prevention and to the increased use of effective strategies for preventing crime. That would be in everyone's interests.

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