



National Institute of Justice

Crime Prevention Research Working Group Meeting: Research Issues, Questions and Gaps

October 7-8, 2010

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Introduction

On October 7-8, 2010, the National Institute of Justice (NIJ) hosted a meeting with a working group of invited participants to discuss and identify research issues, questions and gaps to be addressed in the field of crime prevention research. Meeting guests representing both researcher and practitioner communities participated in the two-day discussion.

Each participant should be considered an expert in the area of crime prevention, from either an academic or a practitioner perspective. The juxtaposition of researchers and practitioners offered an opportunity to address issues from two different but related perspectives. The academic scholars included Anthony Braga, Ronald Clarke, Elaine Doherty, David Farrington, Catherine Gallagher, Denise Gottfredson, Steven Lab, Robert Langworthy, Mark Lipsey, Karen Parker, Brandon Welsh. Practitioner experts included Jeffrey Allison, Chief Theron Bowman, Chief Thomas Casady, Chief Edward Flynn, Thomas Gore, Tio Hardiman, Barry Holman, and Robert Listenbee.

The discussion can be characterized best as an educational session at which NIJ learned from some of the best scholars and practitioners about where the current literature and practice on crime prevention currently stands. Using a format that began with a [background paper \(pdf, 60 pages\)](#), this topical working group identified the following crime prevention research issues, questions, and gaps in current research. The results are categorized as follows: dissemination issues, situational crime prevention research issues and gaps, and developmental crime prevention research and gaps.

The following lists of research issues, questions and gaps were generated by the Crime Prevention Research Working Group in group discussions using a nominal group process. The working group first discussed dissemination issues in the context of situational crime prevention although many of the identified issues and gaps related to crime prevention research in general. The group then took up the identification of situational crime prevention research issues, questions and gaps followed by developmental crime prevention on the second day.

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Dissemination Issues

- Disseminating Practitioner-gearred publications tying research results to field applications.
- Providing better vehicles/modes of disseminating of results (e.g., Research in Brief-style publications).
- Developing better mechanisms to get information to decision makers.
- Producing multiple types of dissemination products: briefs (5 pages or less) for practitioners, longer summaries, extended reports.
- Distilling information and conclusions about policy and practice (where the evidence leads "Decision-making in Brief").
- Increasing access to up-to-date information on situational crime prevention (SCP).
- Facilitating access to SCP information from all relevant agencies and other sources.
- Providing technical assistance to practitioners (e.g., how to collect information, what programs already exist, or menu of strategies for tackling issues).
- Promoting and encouraging use of SCP research in other areas of criminal justice systems, education and other disciplines.
- Developing networks of individuals who translate research for practitioners.
- Assessing what to do with research answers (roles of feasibility/utility).
- Providing a centralized, live system of information regarding SCP.
- Targeting SCP information to specific disciplines and practice populations.
- Assessing how are other audiences (public and private) receiving information (if at all).

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Situational Crime Prevention: Research Issues and Gaps

- Needing more general research, development and evaluation of SCP strategies.
- Identifying causal factors.
- Making more time-series data available for evaluations.
- Researching the intersection of situations across domains (such as schools, poverty and child behavior).
- Specifying the mechanisms by which SCP interventions work.
- Updating assessments of "what works" strategies.
- Requiring detailed information on "what we know" as a preface to doing research. Require systematic assessment and evaluation of research to raise the quality of research being done.
- Discovering situations that have yet to be studied (e.g., stolen goods market).
- Conducting more research using longitudinal research designs.
- Developing mechanisms to effectively inform decision makers about program effectiveness.
- Developing effective SCP strategies specifically for high risk offenders and victims.
- Developing policy implications for SCP in communities with high-risk offenders?
- Determining factors related to which interventions are context specific versus generalizable to other situations/environments.
- Investigating "healthy situations" in addition to the unhealthy ones.
- Making better use of existing data (secondary analysis).
- Conducting cost-benefit analysis and dissemination of recommendations based on that information.
- Collecting better data at the law enforcement level; routine collection of data to create useful information for research.
- Applying SCP to organized crime issues (and other kinds of crime not yet studied in depth).
- Investigating white-collar crime situations, corporate designs for prevention?

- Developing interventions to influence private-sector vulnerabilities and behaviors.
- Determining if each type of crime needs a specialized strategy.
- Determining how decision-makers make decisions, including information used in decision-making.
- Determining SCP effectiveness with people of different ages; combining developmental and situational aspects of crime prevention in research.
- Studying seasonal and time factors in SCP (e.g., time of day, day of the week, season, etc.).
- Assessing standardization of research strategies in SCP; what degree of standardization across research is desirable?
- Conducting research on decision-making in private industry.
- Conducting SCP research specifically targeting individuals with mental health issues.

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Developmental Crime Prevention: Research Issues and Gaps

- Conducting research on scaling up effective programs and techniques to maintain fidelity including organizational research and implementation research.
- Encouraging further evaluation/independent replication to assess/establish effectiveness of promising programs.
- Conducting research to further assess independent/separable risk-factor constructs in DCP; reconsidering current conceptualization, measurement of risk factors, and continuity of risk factors across domains and time/stability of risk factors.
- Experimentally evaluating the use of police in schools (SRO programs); assessing effects of different SRO program models.
- Adding measures of serious crime and gang membership to evaluation studies. Increasing specification of crime (type and severity) in intervention studies with crime/criminal behavior outcomes.
- Determining mediating/moderating mechanisms and pathways in DCP interventions.
- Identifying and defining discrete program components in assessing intervention effects.
- Assessing validity and reliability of measurements for assessment, screening, selection, and outcomes and different crime measures.
- Expanding assessment of outcomes to include more than criminal behavior/crime reduction.
- Measuring aspects related to implementation (frequency, duration and dose) of programs delivered at the individual level.
- Conducting research to experimentally test school climate interventions — especially those aimed communal organization and school-discipline management.
- Assessing costs-benefits of early versus later intervention in DCP (age and context, parenting, home visitation, school, juvenile court).
- Expanding school-based interventions data collection to include multiple sources relevant to the situation and context (such as school climate).
- Assessing the validity and reliability of existing DCP measurement instruments.
- Developing measurement and data collection (including administrative data) systems before implementation of intervention programs.
- Requiring the reporting of intervention cost data as process information to better assess costs/benefits.
- Using secondary analyses of data from intervention studies; reanalyzing longitudinal data; establishing a bank of evaluation data.
- Examining the diffusion of costs-benefits (system effects) in school-based crime prevention.

- Relating different types of interventions to different types of settings (home, schools or other community institutions).
- Using accelerated longitudinal research designs in assessing intervention effects.
- Carrying out costs-benefits analysis on already completed evaluation research.
- Including measurement/assessment of mental health issues, and the use of prescribed and illegal drugs.
- Conducting research to better understand promotive/protective factors and resiliency in DCP.
- Assessing costs/benefit between and across individuals and situations, and antisocial/criminal behavior outcomes.
- Designing evaluations to account for experimenter and participant “halo” effects.
- Increasing use of administrative records data for measurement in DCP research.
- Conducting a comprehensive update of the President’s 1968 Crime Commission reports.
- Assessing law enforcement vs. school administration perspectives on police in schools
- Developing standardized data collection and reporting protocols for programs including implementation and cost data.
- Assessing effects of different mentoring intervention models.
- Assessing health-related factors related to quality of life, particularly with regard to schools.
- Increasing consideration of ethical implications of interventions.
- Conducting DCP Simulation and Modeling research.
- Deriving research questions from functions of state vs. federal agencies.

Dr. John Laub, Director of NIJ, provided opening remarks, welcoming participants to the meeting and suggesting that NIJ is improving the process of planning and of translating research into practice with these topical working group meetings. He said that he has become increasingly interested in seeing whether or not something like a “translational criminology” is possible, and that these topical working group meetings represent one aspect of this approach.

Patrick Clark, of NIJ, reviewed the agenda and said that the meeting would be largely based upon the Welsh and Farrington background paper distributed earlier to participants. See [The Future of Crime Prevention: Developmental and Situational Strategies \(pdf, 60 pages\)](#). The topic of crime prevention is broad. This meeting focused primarily on two aspects or categories of crime prevention: situational crime prevention and developmental crime prevention. Situational crime prevention was the topic of discussion on the first day, and developmental crime prevention was discussed on the second day.

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Situational Crime Prevention

View the Presentation

[The Future of Crime Prevention: Developmental and Situational Strategies](#)

In response to a request by NIJ, **Drs. Brandon Welsh and David Farrington** presented the paper [The Future of Crime Prevention: Developmental and Situational Strategies \(pdf, 60 pages\)](#) that served as the starting point for the day’s discussion. Dr. Welsh suggested that the field of research on the topic of crime prevention is very broad and requires some level of classification by type or approach to focus the discussion during the limited time available for the meeting.

Several types of crime prevention can be identified. Community crime prevention is designed to change social conditions and institutions (e.g., social norms) that impact offending in whole communities. Community crime prevention often overlaps with developmental and situational crime prevention. Much less is known about effective community programs that target social processes that influence offending. David Farrington would talk some more about this during the second day, but most discussion over the course of the meeting will concentrate on situational and developmental crime prevention research issues, questions and gaps. Dr. Welsh also said that he would present developmental crime prevention (DCP) and situational crime prevention (SCP) as they focus on preventing crime outside of the criminal justice system. DCP focuses on individuals, risk factors, and causes (isolating factors that are scientifically established). SCP focuses on designing interventions to prevent crime by decreasing opportunities and increasing risks and difficulty of offending, and on settings or places where criminal acts take place.

Dr. Welsh offered that discussions during the meeting should address three key questions:

- What do we know? Focusing on the effectiveness of policies, programs and technologies.
- What do we need to know? Focusing on gaps in knowledge on effectiveness and related issues.
- How can we find out? Focusing on research strategies to address gaps in knowledge and priorities for research.

For development of the background paper, Welsh and Farrington selected only the highest quality evaluation research studies (experimental and quasi-experimental research designs) and the most rigorous reviews of evidence (meta-analysis and other systematic approaches to reviewing the literature).

He then reviewed findings from recent research on some of the interventions that have been shown to be effective in situational crime prevention including nuisance abatement, improved street lighting, Closed Circuit Television (CCTV), preventing repeat residential burglary victimization, and Neighborhood Watch.

A number of other situational crime prevention strategies appear promising, such as security guards in parking lots, restaurant server training, multiple store clerks and store redesigns, but more and better research is needed. Evaluation research needs to move beyond just assessing outcomes to include measurement of moderating mechanisms and processes so that we can answer questions regarding why something works.

Dr. David Farrington from Cambridge University then presented information from the background paper regarding causes, moderators, research designs, costs/benefits research, and other ideas. He suggested that more situational crime prevention research needs to incorporate theory including the causes of criminal behavior. SCP could gain much by incorporating aspects of targeting risk factors, or promotive/protective factors that may be involved with specific situations. Much could also be learned by measuring areas or places in terms of the risks and protective aspects represented by a location. Situational crime prevention research also needs to learn more about mediating processes and mechanisms by including observational data and interviews or surveys of offenders and victims. SCP research needs to assess the active ingredients of multiple component programs and to incorporate research designs to test causal hypotheses rather than just outcomes. Also, it is important to assess the places and settings in which a program or strategy works in comparison to other settings. External validity and generalizability remain as issues in SCP research, and very little is known about implementation processes, quality/fidelity control and regression to the mean.

Dr. Farrington then presented a number of suggestions to improve SCP research including the increased use of longitudinal designs and randomization of conditions. The inclusion of control or comparison conditions is essential and repeated measures including follow-up are important to increase the quality of research in this area. Also, assessment of costs/benefits is largely missing from SCP research.

SCP research should measure more than just prevalence of a problem or crime, but other aspects such as frequency, seriousness, duration, etc. Better and more sensitive measures of displacement and diffusion of benefits also are needed. Wide-ranging measurements are needed including social costs and other intangible benefits. For instance, it would be useful to know if improved lighting on a street also results in greater utilization of streets and facilities in the area. Comparisons between immediate and long-term benefits (not just the short-term effects) are needed as well. Finally, we ultimately need to compare the costs/benefits of DCP and SCP with regard to other aspects in criminal justice like prisons, courts, and police.

Dr. Ron Clarke from Rutgers University responded to the background paper with critical comments based on his work and the literature. Having been involved with SCP research over the years, Dr. Clarke suggested that much of what goes on in SCP isn't formal place-based research, but strategies and actions taken by corporations and companies to do things like redesign products. Automobile companies may make changes to cars to reduce vehicle theft or banks may make changes to credit cards to reduce fraud. Much SCP evaluation research is product-based and target specific problems like cell phone fraud (cloning) that can't be generalized to other things, situations or settings. For instance, there are things like tamperproof packaging that have not been systematically evaluated, but appear to be more or less effective because further incidents are prevented. In this regard, he said that much of SCP isn't accomplished by public agencies, but by private businesses such as retailers using radio tags to reduce shoplifting. These interventions have little to do with academic research and are rarely evaluated for publication or by public agencies. And so, they are not available to be included in a review like that provided by Welsh and Farrington.

Criticisms regarding scaling-up and generalization may not be relevant because SCP is aimed at specific crimes in specific places (like CCTV in car parks to prevent motor vehicle theft). Therefore, differences in effectiveness are expected in different situations or circumstances. The approach of developing standardized programs isn't very useful in SCP. Instead, it may be more important to further efforts in providing the capacity for SCP to practitioners. Dr. Clarke referred to the [Center for Problem-Oriented Policing](#) as an example. SCP aspects or strategies appear to work better when combined, and this makes the effects of individual components or distinct parts difficult to measure. This also makes systematic reviews and meta-analysis difficult to accomplish.

There appears to be less research on SCP in the United States compared to Europe and it seems that researchers here are more interested in why people become criminals, than in the situations in which crimes occur. We know that crime is the outcome of motivated offenders and favorable circumstances and a problem for Criminology may be that it has focused more on one side of the equation (developmental) than on the other (situational).

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A Police Chief's Perspective on Crime Prevention

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[A Chief's Perspective on Crime Prevention — Chief Tom Casady](#)

Chief Tom Casady from the Lincoln (NE) Police Department presented his perspective on crime prevention for the luncheon discussion. At one end of a continuum, many police chiefs are very committed to crime prevention as an important strategy in securing community safety and well-being. Many chiefs are familiar with theories of crime and the policing strategies that flow from those theories. They are comfortable thinking and talking about collective efficacy, social disorganization, and routine activities theory. They are likely to be active supporters of primary prevention strategies such as early childhood education and mentoring. These chiefs are very interested in the practice of situational crime prevention. Their departments are likely to be engaged in problem-oriented policing as an important component of their work.

At the other end of the spectrum are chiefs who view crime prevention quite differently. They may remember their college class on the topic and the Crime Prevention Unit in the Police Department of their youth, but consider prevention to be a fuzzy concept of "community relations" rather than a strategy to reduce crime and enhance safety and security. When thinking of crime prevention, these chiefs might think of police officers attending neighborhood watch meetings, bike rodeos, or staffing a booth at the county fair. They see it as basically serving a public relations role that is only tangentially related to crime.

The majority of U.S. police chiefs are somewhere between these two extremes, and they desire information about "what works." Police chiefs need to be provided with information that translates research and concepts of crime prevention into police operations and strategies that actually ameliorate crime and disorder. He affirmed that "many police are ready to learn and listen, and many are open to different and more effective ways of policing."

Chief Casady considers this to be an excellent time to promote a different way of doing business in policing. Some of the pillars of policing as practiced in the U.S. are currently threatened by emerging economic realities, creating conditions that prompt adoption of new approaches. For instance, traditional "crook-catching" (he defines as the intense devotion to criminal investigation and arrest as the ultimate expression of policing) is up for reconsideration. More and more, chiefs are realizing that the endless cycle of arrest, incarceration, and release simply does not work in many cases; or at best, lacks efficiency. The increased use of incarceration over the past 20 years is simply unsustainable, both economically and ethically. Budgetary stress is causing state and local governments to close or downsize correctional institutions, and more offenders than ever are being released. In this regard, law enforcement may be ready for change, and ready to try something different.

One of the favored crime and order strategies, police patrol, may be unsustainable, at least in its present form, which relies on a tremendous amount of gasoline. Despite a generation of research questioning the efficacy of police patrols, it is still one of the dominant activities of policing in the United States. Rising fuel costs make it imperative that police chiefs find ways to deliver public safety strategies that are less reliant on gasoline. Most chiefs understand this and are now prepared to consider place-based approaches, problem-oriented policing, and situational crime prevention strategies that are as effective, or more so, than basic patrols.

The present situation of decreasing resources presents both an opportunity and an imperative. To change course, chiefs need to learn about available alternatives to crook-catching and police patrols. The case needs to be made effectively that other approaches, such as situational crime prevention, actually work and are readily available. Programs like the Center for Problem-Oriented Policing provide good examples of DOJ-funded projects that are accomplishing this purpose. Situational crime prevention should be a foundational topic in criminal justice college programs, police academies, and police management training curricula.

One police practitioner suggested that prevention should be viewed as being on the proactive end of a proactive-reactive continuum. In this regard, if an intervention requires the existence of crime, it is not actually preventing crime, but intervening or reacting to it. Research needs to develop and provide prevention programs, strategies and methodologies that do not involve intervening in crime, but actually serve to prevent it from occurring in the first place. Most criminal justice research seems to focus on the problem of crime after it occurs, similar to police departments. He said that the question for police should be: What can be done to prevent crime in the first place, and years from now?.

Police generally find it difficult to take a longitudinal perspective because urgency is always an issue. Police often cannot wait for the development of a program or intervention, so that makes the SCP approach more useful to police. Unintended consequences related to SCP interventions remain a problem, and more research is needed about their impacts. For example, police chiefs need to know the best way of closing down a drug market without having unintended consequences such as increasing robberies and homicides by underemployed drug dealers. The biggest part of violence in communities is interpersonal fights, but there is not much that police can do to prevent it. Police could use information regarding effective strategies to deal with these few members of the community — the few families that are the most violent and present the greatest challenge.

In policing, there is always pressure to do something now, with little time to design a response. Police need readily available information about models, strategies, and programs that have been validated — information that will help police go against conventional wisdom and the status quo when necessary. Too often, criminal justice is prone to shallow problem-solving and readily available resources of good information are needed. In addition, the dissemination problem should be considered in a much broader context. The challenge is to determine the audiences that need information and education regarding prevention, and to provide targeted information regarding effective approaches, programs, policies and technologies.

According to a court practitioner, part of the problem involves terminology and the audience. People working in the juvenile court, for instance, will look for information about delinquency prevention rather than crime prevention, and that leads them to more proactive approaches. Information needs to be generated on crime prevention to reach those making system decisions in allocating scarce dollars for prevention.

The first day of the working group meeting ended by focusing on issues, questions and gaps in research on situational crime prevention. These were identified using a nominal group process and ranked according to importance.

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The Maternal, Infant and Early Childhood Home Visitation Program

To set the stage for discussion about effective developmental crime prevention policies and programs, **Dr. Audrey Yowell**, Health Resources and Services Administration discussed implementation of the Home Visitation Program provisions of the recently enacted Patient Protection and Affordable Care Act of 2010 (Public Law 111 – 148). Dr. Yowell is the national program director of the Maternal, Infant, and Early Childhood Home Visitation Program. She reported that the implementation process is underway with a total of \$1.5 billion being expended over the course of 5 years. Five percent of grant funding to states must be used for technical assistance and training. A total of 3 percent has been set aside for Native American tribes, and 3 percent has been dedicated to federal evaluation research.

All states (and six additional jurisdictions) have received formula funding for development of plans for state implementation, including a needs assessment. By now, all states have submitted needs assessments, and block grants are currently being distributed. Some states have yet to fulfill other requirements or answer questions and update already submitted plans. Each state must effectively identify an at-risk target population for program provision, and must submit a specific plan to provide home visitation services to that population. They also must select a model for implementation from a prescribed list of programs shown to be effective.

An advisory group and an interagency working group are being convened to assist with the federal evaluation of the program, and states may also engage in evaluation research. The plan is to allow for continued experimentation and development of the approach so that the home visitation model may be improved over time, and so that effective approaches can be validated in different locations and with different populations.

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Developmental Crime Prevention

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[Developmental Crime Prevention — Drs. Brandon Welsh & David Farrington](#)

The second day opened with some discussion regarding the scope of the meeting and the need to examine research that includes all aspects of crime prevention.

Dr. Brandon Welsh introduced the topic of developmental crime prevention (DCP), using the background paper as the basis of discussion. The review was based upon the current literature on causes of crime, specifically risk factors/predictive factors for delinquency and later offending, and the growing body of knowledge on what works in DCP. Historically, a number of individual and family interventions have been demonstrated to be effective in DCP. In particular, parent education (home visitation), parent management training, child skills training, and preschool intellectual enrichment programs have been demonstrated to be effective in preventing the onset of criminal behavior among children. Generally effective programs — general parent education or parent management training — target risk factors such as poor parental child-rearing, supervision, or discipline. Programs for children focus on high impulsivity, low empathy, self-centeredness (skills training), and low aptitude and attainment (preschool) also have been demonstrated to be successful in reducing delinquent behavior.

As an example, the home visitation model presented by Dr. Yowell was based upon the Nurse-Family Partnership model developed by David Olds. The model was designed originally to affect health-related outcomes among pregnant mothers. In addition to positive health outcomes, it was found to result in significant decreases in physical child abuse and neglect, alcohol/substance abuse and criminal justice involvement on the part of both the mothers and the children. Home visitation has also been estimated to be cost-effective (especially for highest risk mothers and offspring). Although some evaluation research results are still mixed, and research regarding the program continues, the home visitation model has been widely disseminated and adopted internationally.

Other examples include effective peer, school and community DCP programs. Although there are promising indications for peer programs, to date there are not any good studies to rigorously evaluate outcomes. However, there are a number of studies demonstrating effectiveness in positive outcomes of school-based programs — approaches such as mentoring and multi-systemic therapy — in preventing criminal behavior.

David Farrington talked about advancing knowledge on DCP and highlighted developments in the United Kingdom and other places as examples. He also discussed the idea of a national prevention agency. Community-level approaches to prevention have largely targeted risk factors, more research is needed to document and validate what would be promotive or protective factors. Promotive or protective factors may bring with them more positive connotations than risk factors and may provide a more positive message to communities. More research is also needed on mediating/moderating mechanisms and processes, and improved research designs are needed to document effective components or ingredients of these programs. Furthermore, careful research is needed to adequately assess the causal theories underlying these prevention approaches.

The need for more evaluation research — including longitudinal/life course research designs and development of costs-benefits analysis — has gained wider acceptance of development crime prevention approaches. As an example of the process of developing a costs-benefits analysis, the Washington State Institute for Public Policy has accomplished much in making costs-benefits analysis available to decision-makers in a broad array of criminal justice and corrections programs. The state of Washington mandated that costs/benefits analysis be provided every time legislation is proposed that impacts upon state budgets.

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Five Ideas for Future Crime Prevention Research

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[Five ideas for Future Crime Prevention Research — Dr. Denise Gottfredson](#)

Dr. Denise Gottfredson from the University of Maryland presented five ideas for future crime prevention based upon her work in school-based research. First, add measures of serious crime and gang membership to evaluation studies on school programs including measures of serious and violent crimes. Her recent research found that only 18 (10%) of 178 program studies actually included measurement of serious violent crime outcomes among participants. And, only 39 studies (22%) measured serious property crime outcomes.

Secondly, research is needed on the validity of different crime measures. A variety of studies find different levels of incidence and prevalence in criminal behavior. For instance, recent results from the Youth Risk Behavior Surveillance System (YRBSS) (2005) indicate that eight percent of students in grades 9-12 that they reported were threatened or injured with a weapon on school property during the previous 12 months. From the same year, the National Crime Victimization Survey (NCVS) (2005) estimated the rate of serious violent victimization at school as 4 per 1,000 (or 0.4 percent) for 15-18 year olds. The YRBSS rate is 20 times higher than the NCVS rate.

As a further example of the need for better measurement, in a recent year (2005-2006), the School Survey on Crime and Safety found that middle and high school principals reported 928 thousand violent crimes and 206 thousand thefts on school property during the school year. However, a recent NCVS (2005) estimated a total of 628 thousand violent victimizations and 868 thousand theft victimizations during the year (for 12 to 18 year olds). More research is needed to provide valid and reliable measurement of serious, violent and property crime among children in schools.

The third idea is to conduct research that experimentally tests school climate interventions, especially those aimed at communal organization and school discipline management. Assessments of school climate should include administration and management of school buildings as well as the communal and social organization of schools.

Fourth, research is needed to evaluate experimentally the use of police in schools. There has been a large increase of police in schools over the last 30 years, yet there has been no systematic evaluation of impacts and outcomes of this change. Possible effects of police in school buildings may include increased surveillance and enforcement, increased safety, increased fairness/clarity of rules, increased student trust, increased crime reporting, erosion of informal social control mechanisms, increased fear/distrust, weakened sense of community, and other civil liberties issues. Information also is needed regarding the effect of police in schools on other mediators, school crime and safety. Data are needed to assess effectively and systematically the effects of increased police presence to answer questions related to whether it results in increased school safety, and whether it may be at the expense of having more students suspended and expelled from school, and whether this may create more crime in the community.

Lastly, research is needed to examine the diffusion of costs and benefits in school-based crime prevention, and to assess system effects more adequately. For instance, research on the Multi-Site Violence Prevention Project found that a single violence prevention program produced significant long-term reductions in violence among an entire sixth grade cohort. The long-term costs/benefits of these types of interventions need to be measured and better estimated.

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Prevention Initiatives and Community Crime Prevention

The discussion then shifted to recent prevention initiatives and the notion of community crime prevention. An example of the comprehensive approach was the process implemented under the Communities That Care program. The process of implementing such an approach at the community level included the development of infrastructure, a menu of strategies, assessment of risks, and evaluation research including assessment of implementation processes.

Recent prevention initiatives in the United Kingdom include an action plan for social exclusion, which includes early intervention with at-risk children and the provision of programs such as home visiting, teenage pregnancy prevention, family-based intervention, and assistance to mentally ill adults.

Primary prevention largely is absent from existing approaches in the United States. Dr. Farrington suggested that a potential solution to this omission might be a national prevention agency. For example, the National Crime Prevention Council in Sweden, where over 80% of local jurisdictions have been enlisted to form local crime prevention councils. Such an agency could provide a consistent focus on prevention and continuous funding for prevention at the local level. It could serve a number of purposes such as to maintain a national prevention agenda including monitoring quality, technical assistance, standards for evaluation, training and technical assistance, a national registry of evaluation research, coordination and advise to the government on effective programs.

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The Future of Crime Prevention:
Developmental and Situational Strategies

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I. INTRODUCTION

Crime prevention means many different things to many different people. Programs and policies designed to prevent crime can include the police making an arrest as part of an operation to deal with gang problems, a court disposal to a secure correctional facility, or, in the extreme case, a death penalty sentence. These measures are more correctly referred to as crime control. More often crime prevention refers to efforts to prevent crime or criminal offending in the first instance – before the act has been committed. Both forms of crime prevention share a common goal of trying to prevent the occurrence of a future criminal act, but what distinguishes crime prevention from crime control is that prevention typically operates outside of the confines of the formal justice system. There are, of course, exceptions, as in the case of problem-oriented policing initiatives that incorporate prevention measures (Braga, 2008; Braga and Weisburd, 2010; Weisburd et al., 2010). In this respect, prevention is considered the fourth pillar of crime reduction, alongside the institutions of police, courts, and corrections (Waller, 2006). This categorization draws attention to crime prevention as an alternative approach to the more traditional responses to crime.

There are many possible ways of classifying crime prevention programs. One of the first efforts drew upon the public health approach to preventing diseases and injuries (Brantingham and Faust, 1976; see also Moore, 1995). This divides crime prevention activities into three categories: primary, secondary, and tertiary. Primary prevention involves measures focused on improving the general well-being of individuals, secondary prevention focuses on intervening with children and youth who are at risk for becoming offenders or victims, and tertiary prevention involves measures directed toward those who have already been involved with crime or victimization.

Van Dijk and de Waard (1991) expanded on this classification system to include a second dimension: the target group or focus of crime prevention programs. Influenced by routine activity theory (Cohen and Felson, 1979), this second dimension distinguished among offender-, situation-, and victim-oriented activities. This “two-dimensional” typology allows programs to be organized by the different stages of the development of criminal activity (primary, secondary, or tertiary) and the target group. In many respects, the key contribution of this new typology was to reaffirm the need that efforts to prevent crime must also consider the crime victim (or potential victim) alongside the more traditional targets of offender (or potential offender) and place.

Ekblom (1994) attempted to reconcile these earlier versions with the mechanism- and context-based evaluation approach advocated by Pawson and Tilley (1994; 1997). Three characteristics of prevention programs were relevant: (1) its ultimate objective; (2) “final intermediate objectives” if multiple interventions were employed; and (3) the actual methods used, from development to intervention. Ekblom’s approach was not meant as a “rigid ‘take it or leave it’ classification” but rather a “conceptual toolkit which can be realized in a number of ways in relation to both form and content according to a wide range of needs” (p. 227).

Another classification scheme distinguishes four major prevention strategies (Tonry and Farrington, 1995*b*). Developmental prevention refers to interventions designed to prevent the development of criminal potential in individuals, especially those targeting risk and protective factors discovered in studies of human development (Tremblay and Craig, 1995; Farrington and Welsh, 2007*b*). Situational prevention refers to interventions designed to prevent the occurrence of crimes by reducing opportunities and increasing the risk and difficulty of offending (Clarke, 1995*b*; Cornish and Clarke, 2003). Community prevention refers to interventions designed to change the social conditions and institutions (e.g., families, peers, social norms, clubs,

organizations) that influence offending in residential communities (Hope, 1995). Criminal justice prevention refers to traditional deterrent, incapacitative, and rehabilitative strategies operated by law enforcement and criminal justice system agencies (Blumstein et al., 1978; MacKenzie, 2006).

In *Building a Safer Society: Strategic Approaches to Crime Prevention*, Tonry and Farrington (1995a) purposely did not address criminal justice prevention in any substantial fashion. This was because this strategy had been adequately addressed in many other scholarly books. Also, there was a growing consensus on the limited effects of this approach (at least in terms of the more punitive elements) as well as the need for governments to strike a greater balance between these emerging and promising alternative forms of crime prevention and the more traditional responses to crime.

For some of the same reasons, we do not address criminal justice prevention in this paper. Additionally, we focus exclusively on developmental and situational crime prevention; community crime prevention is not covered in any extensive fashion. There are two reasons for this. First, community prevention often overlaps with developmental and situational prevention (Bennett, 1998). Developmental and situational prevention can be delivered in a community setting, but, because they do not address community processes, they are not considered community approaches. Second, much less is known about effective community prevention programs that target the social processes that influence offending (Sherman, 1997; Welsh and Hoshi, 2006).

In this paper we set out to address three main questions as they relate to developmental and situational crime prevention today and in the years to come:

1. What do we know? This pertains largely to the effectiveness of the two strategies.

2. What do we need to know? This concerns gaps in knowledge on effectiveness and related key issues.

3. How can we find out? This final question has to do with research strategies to address the gaps in knowledge and priorities for research.

II. WHAT DO WE KNOW?

There are a great many developmental and situational crime prevention programs and projects that have been evaluated over the years and reported a desirable impact on crime. A smaller number of these effective programs have been evaluated with more rigorous experimental and quasi-experimental designs. This holds true for both situational prevention (Eck, 2006; Guerette, 2009) and developmental prevention (Farrington and Welsh, 2007; Piquero et al., 2009). The respective strategies have also benefited from a good number of literature reviews that have assessed the effectiveness of the accumulated scientific evidence on specific program types or modalities or even domains or contexts in which prevention is delivered. Reviews have also focused on key issues related to effectiveness, including displacement and diffusion effects (Guerette and Bowers, 2009), anticipatory benefits (Smith et al., 2002), and monetary costs and benefits (Drake et al., 2009). Many of these reviews have taken the narrative form, providing rich details on program features but are less authoritative on whether or not the program type is effective, under what conditions or in what contexts it may be effective, and why. Some use rigorous methods for locating, appraising, and synthesizing evidence from prior evaluation studies. These are called systematic reviews and they often incorporate the quantitative technique of meta-analysis.

In this part, we set out to assess what is known about the effectiveness of developmental and situational crime prevention strategies. We do not carry out a systematic review of these extensive literatures. This would far exceed the scope and resources of this project. Importantly, we focus on the highest quality research studies (i.e., experiments and quasi-experiments) and, whenever possible, the most rigorous reviews (i.e., systematic and meta-analytic) that include only high quality projects. This ensures that conclusions are based on the best available evidence.

A. Developmental Crime Prevention

In recent years, most developmental prevention efforts have targeted early risk factors for offending. Risk factors are prior factors that increase the risk of occurrence of the onset, frequency, persistence or duration of offending (Kazdin et al., 1997). Longitudinal data are required to establish the ordering of risk factors and criminal career features. Many risk factors for offending are well established and highly replicable. For example, a systematic comparison of two longitudinal surveys in London and Pittsburgh (Farrington and Loeber, 1999) showed numerous replicable predictors of delinquency over time and place, including impulsivity, attention problems, low school attainment, poor parental supervision, parental conflict, an antisocial parent, a young mother, large family size, low family income, and coming from a broken family. Less well established are the causal mechanisms linking risk factors and offending. For example, does large family size predict offending because of the consequent poor supervision of each child, overcrowded households, poverty, or merely because more antisocial people tend to have more children than others?

One methodological problem is that most knowledge about risk factors is mainly based on variation between individuals, whereas prevention requires variation (change) within individuals. Kraemer et al. (1997) argued that only risk factors that can change within individuals can have causal effects. It is not always clear that findings within individuals would be the same as findings between individuals. To take a specific example, unemployment is a risk factor for offending between individuals, since unemployed people are more likely than employed people to be offenders (West and Farrington, 1977). However, unemployment is also a risk factor for offending within individuals, since people are more likely to offend during their periods of unemployment than during their periods of employment (Farrington et al., 1986). The within-individual finding has a much clearer implication for prevention, namely that a reduction in unemployment should lead to a reduction in offending. This is because it is much easier to demonstrate that a risk factor is a cause in within-individual research. Since the same individuals are followed up over time, many extraneous influences on offending are controlled (Farrington, 1988).

In the Pittsburgh Youth Study, in which 1,500 Pittsburgh males were followed up from age 7 to age 25, risk factors for delinquency were compared both between individuals and within individuals (Farrington et al., 2002). Peer delinquency was the strongest correlate of delinquency in between-individual correlations but did not predict delinquency within individuals. In contrast, poor parental supervision, low parental reinforcement, and low involvement of the boy in family activities predicted delinquency both between and within individuals. It was concluded that these three family variables were the most likely to be causes, whereas having delinquent peers was most likely to be an indicator of the boy's offending.

The basic idea of risk-focused prevention is very simple: Identify the key risk factors for offending and implement prevention methods designed to counteract them. There is often a related

attempt to identify key protective factors against offending and to implement prevention methods designed to enhance them. Typically, longitudinal surveys provide knowledge about risk and protective factors, and experimental and quasi-experimental studies are used to evaluate the impact of prevention and intervention programs. Thus, risk-focused prevention links explanation and prevention, links fundamental and applied research, and links scholars, policy makers, and practitioners (Farrington, 2000). The book *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions* (Loeber and Farrington, 1998) contains a detailed exposition of this approach as applied to serious and violent juvenile offenders.

Risk-focused prevention was imported into criminology from medicine and public health by pioneers such as Hawkins and Catalano (1992). This approach has been used successfully for many years to tackle illnesses such as cancer and heart disease. For example, the identified risk factors for heart disease include smoking, a fatty diet, and lack of exercise. These can be tackled by encouraging people to stop smoking, to have a more healthy low-fat diet, and to take more exercise. Interventions can be targeted on the whole community or on persons at high risk. Typically, the effectiveness of risk-focused prevention in the medical field is evaluated using the “gold standard” of randomized controlled trials, and there has been increasing emphasis in medicine on cost-benefit analyses of interventions. Not surprisingly, therefore, there has been a similar emphasis in criminology on high quality evaluations and on cost-benefit analyses (Welsh et al., 2001; Sherman et al., 2006).

Risk factors tend to be similar for many different outcomes, including violent and non-violent offending, mental health problems, alcohol and drug problems, school failure and unemployment. Therefore, a prevention program that succeeds in reducing a risk factor for offending will in all probability have wide-ranging benefits in reducing other types of social

problems as well. Because of the interest in linking risk factors with prevention programs, risk factors that cannot be changed feasibly in such programs (e.g. gender and race) are of little interest in this paper, except to the extent that they act as moderators (e.g. if the effect of a risk factor is different for males and females).

A major problem of risk-focused prevention is to establish which risk factors are causes and which are merely markers or correlated with causes (Farrington, 2000). It is also desirable to establish mediators (intervening causal processes) between risk factors and outcomes (Baron and Kenny, 1986). Ideally, interventions should be targeted on risk factors that are causes; interventions targeted on risk factors that are markers will not necessarily lead to any decrease in offending. The difficulty of establishing causes, and the co-occurrence of risk factors, encourages the blunderbuss approach: interventions that target multiple risk factors. However, there is also evidence that integrated or multi-modal intervention packages are more effective than interventions that target only a single risk factor (Wasserman and Miller, 1998).

In principle, a great deal can be learned about causes from the results of intervention experiments, to the extent that the experiments establish the impact of targeting each risk factor separately (Robins, 1992). For example, Najaka et al. (2001) attempted to draw conclusions about causality by analyzing relationships between risk factors and antisocial behavior in school-based experiments. Ideally, intervention experiments need to be designed to test causal hypotheses, as well as to test a particular intervention technology. However, there is a clear tension between maximizing the effectiveness of an intervention (which encourages a multiple component approach) and assessing the effectiveness of each component and hence drawing conclusions about causes (which requires disentangling of the different components).

Here, we describe some of the most important programs that have been evaluated using the “gold standard” of randomized experiments. We make special reference to programs that have carried out a cost-benefit analysis, because of our belief in the importance of such analyses. We will also report the results of systematic reviews where they are relevant.

1. Individual and Family Programs

Four types of programs are particularly successful: parent education (in the context of home visiting), parent management training, child skills training, and preschool intellectual enrichment programs (Farrington and Welsh, 2007). Generally, the programs are targeted on the risk factors of poor parental child-rearing, supervision or discipline (general parent education or parent management training), high impulsivity, low empathy and self-centeredness (child skills training), and low intelligence and attainment (preschool programs). The systematic review by Piquero et al. (2009) shows that many of these programs are effective.

General parent education. The best known home visiting program (and the only one with a direct measure of delinquency) is the Nurse-Family Partnership carried out in the semi-rural community of Elmira, New York, by David Olds and his colleagues (1998). This program was designed with three broad objectives: (1) to improve the outcomes of pregnancy; (2) to improve the quality of care that parents provide to their children; and (3) to improve the women’s own personal life course development (completing their education, finding work, and planning future pregnancies) (Olds et al., 1993, p. 158).

The program enrolled 400 women prior to their 30th week of pregnancy. Women were recruited if they had no previous live births and had at least one of the following high-risk

characteristics prone to health and developmental problems in infancy: under 19 years of age, unmarried, or poor. The women were randomly assigned to receive home visits from nurses during pregnancy, or to receive visits both during pregnancy and during the first two years of life, or to a control group who received no visits. Each visit lasted about one and one-quarter hours and the mothers were visited on average every two weeks. The home visitors gave advice about prenatal and postnatal care of the child, about infant development, and about the importance of proper nutrition and avoiding smoking and drinking during pregnancy.

The results of this experiment showed that the postnatal home visits caused a significant decrease in recorded child physical abuse and neglect during the first two years of life, especially by poor, unmarried, teenage mothers; 4% of visited versus 19% of non-visited mothers of this type were guilty of child abuse or neglect (Olds et al., 1986). This last result is important, partly because children who are physically abused or neglected have an enhanced likelihood of becoming violent offenders later in life (Widom, 1989). In a 15-year follow-up (13 years after program completion), which included 330 mothers and 315 children, significantly fewer experimental compared to control group mothers were identified as perpetrators of child abuse and neglect (29% versus 54%), and, for the higher risk sample only, significantly fewer treatment mothers in contrast to the controls had alcohol or substance abuse problems or were arrested (Olds et al., 1997). At the age of 15, children of the higher risk mothers who received prenatal or postnatal home visits or both had incurred significantly fewer arrests than their control counterparts (20 as opposed to 45 per 100 children; Olds et al., 1998).

Several benefit-cost analyses show that the benefits of this program outweighed its costs for the higher risk mothers. The most important are by Greenwood et al. (2001; see also Karoly et al., 1998) and Aos et al. (2004). Greenwood et al. measured benefits to the government or

taxpayer (welfare, education, employment, and criminal justice) not benefits to crime victims consequent upon reduced crimes. Aos et al. measured a somewhat different range of benefits to the government (education, public assistance, substance abuse, teen pregnancy, child abuse and neglect, and criminal justice), as well as tangible benefits to crime victims. Both reported that, for every dollar spent on the program, the benefits were about three to four times greater; \$4.06 according to Greenwood et al. and \$2.88 according to Aos et al.

In order to test the generalizability of the results of the Elmira study, two urban replications are currently under way: one in Memphis, Tennessee (Olds et al., 2004a), and the other in Denver, Colorado (Olds et al., 2004b). Early follow-up results of both replications (four and two years after program completion, respectively) show continued improvements on a wide range of outcomes for both nurse-visited mothers and their children compared to their control counterparts.

Preschool programs. The most famous preschool intellectual enrichment program is the Perry project carried out in Ypsilanti (Michigan) by Schweinhart and Weikart (1980). This was essentially a Head Start program targeted on disadvantaged African American children, but did not include the medical or health aspects of Head Start. A sample of 123 children were allocated (approximately at random) to experimental and control groups. The experimental children attended a daily preschool program, backed up by weekly home visits, usually lasting two years (covering ages 3-4). Parents were also actively engaged in educational activities involving Perry Preschool. The aim of the “plan-do-review” program was to provide intellectual stimulation, to increase thinking and reasoning abilities, and to increase later school achievement.

This program had long-term benefits. Berrueta-Clement et al. (1984) showed that, at age

19, the experimental group was more likely to be employed, more likely to have graduated from high school, more likely to have received college or vocational training, and less likely to have been arrested. By age 27, the experimental group had accumulated only half as many arrests on average as the controls (Schweinhart et al., 1993). Also, they had significantly higher earnings and were more likely to be home-owners. More of the experimental women were married, and fewer of their children were born out of wedlock.

The most recent follow-up of this project, at age 40, which included 91% of the original sample, found that the program continued to make an important difference in the lives of the participants (Schweinhart et al., 2005). Compared to the control group, experimental participants had significantly fewer lifetime arrests for violent crimes (32% vs. 48%), property crimes (36% vs. 58%), and drug crimes (14% vs. 34%), and were significantly less likely to be arrested five or more times (36% vs. 55%). Improvements were also recorded in many other important life course outcomes. For example, significantly higher levels of schooling (77% vs. 60% graduating from high school), better records of employment (76% vs. 62%), and higher annual incomes were reported by the program group compared to the controls. A benefit-cost analysis at age 40 found that the Perry project produced just over \$17 benefit per dollar of cost, with 76% of this being returned to the general public – in the form of savings in crime, education, and welfare, and increased tax revenue – and 24% benefiting each experimental participant. Desirable results were also obtained in other preschool evaluations (Campbell et al., 2002; Reynolds et al., 2001).

Day care programs. One of the very few prevention experiments beginning in pregnancy and collecting outcome data on delinquency was the Syracuse (New York) Family Development Research Program of Lally et al. (1988). The researchers began with a sample of pregnant women

(mostly poor African American single mothers) and gave them weekly help with child-rearing, health, nutrition and other problems. In addition, their children received free full-time day care, designed to develop their intellectual abilities, up to age 5. This was not a randomized experiment, but a matched control group was chosen when the children were aged 3.

Ten years later, about 120 treated and control children were followed up to about age 15. Significantly fewer of the treated children (2% as opposed to 17%) had been referred to the juvenile court for delinquency offences, and the treated girls showed better school attendance and school performance. However, the benefit-to-cost ratio of this program was only 0.3 according to Aos et al. (1999). This was largely because of the cost of the program (\$45,000 per child in 1998 dollars, compared with \$14,000 for Perry and \$7,000 for Elmira); providing free full-time day care up to age 5 was very expensive. Against this, it is important to note that the early findings of Aos et al. (1999) tend to underestimate the benefit-to-cost ratio.

Parent management training. Perhaps the best known method of parent training was developed by Patterson (1982). Parents were trained to notice what a child is doing, monitor behavior over long periods, clearly state house rules, make rewards and punishments contingent on the child's behavior, and negotiate disagreements so that conflicts and crises did not escalate. His treatment was shown to be effective in reducing child stealing and antisocial behavior over short periods in small-scale studies (Patterson et al., 1982, 1992).

Webster-Stratton and Hammond (1997) evaluated the effectiveness of parent training and child skills training with about 100 Seattle children (average age 5) referred to a clinic because of conduct problems. The children and their parents were randomly allocated to receive either (a) parent training, (b) child skills training, (c) both parent and child training, or (d) to a control group.

The skills training aimed to foster prosocial behavior and interpersonal skills using video modelling, while the parent training involved weekly meetings between parents and therapists for 22 - 24 weeks. Parent reports and home observations showed that children in all three experimental conditions had fewer behavior problems than control children, both in an immediate and in a one-year follow-up. There was little difference between the three experimental conditions, although the combined parent and child training condition produced the most significant improvements in child behavior at the one-year follow-up.

Scott et al. (2001) evaluated the Webster-Stratton parent training program in London, England. About 140 children aged 3-8 who were referred for antisocial behavior were allocated to receive parent training or to be in a control group. The program was successful. According to parent reports, the antisocial behavior of the experimental children decreased, while that of the control children did not change. Since this program is relatively cheap (£571 per child for a 12-week program), it is likely to be cost-effective. Encouraging results were also obtained by Gardner et al. (2006), who evaluated the success of the Webster-Stratton program in Oxfordshire. Also, the systematic review by Piquero et al. (2009) concluded that parent training is effective in reducing children's antisocial behavior.

Skills training. One of the most successful early skills training programs that measured the effects on crime is the Montreal Longitudinal-Experimental Study of Tremblay et al. (1995, 1996). This program combined child skills training and parent training. Tremblay et al. (1996) identified disruptive (aggressive/hyperactive) boys at age 6 (from low socioeconomic neighborhoods in Montreal) and randomly allocated over 300 of these to experimental or control conditions.

Between ages 7 and 9, the experimental group received training designed to foster social skills and self-control. Coaching, peer modeling, role playing, and reinforcement contingencies were used in small group sessions on such topics as “how to help,” “what to do when you are angry,” and “how to react to teasing.” Also, their parents were trained using the parent management training techniques developed by Patterson (1982). Parents were taught how to provide positive reinforcement for desirable behavior, to use nonpunitive and consistent discipline practices, and to develop family crisis management techniques.

By age 12 (three years after treatment), the experimental boys committed significantly less burglary and theft, were significantly less likely to get drunk, and were significantly less likely to be involved in fights than the controls. Also, the experimental boys had significantly higher school achievement (McCord et al., 1994; Tremblay et al., 1992). At every age from 10 to 15, the experimental boys had significantly lower self-reported delinquency scores than the control boys. Interestingly, the differences in delinquency between experimental and control boys increased as the follow-up progressed. Boisjoli et al. (2007) showed that fewer experimental boys had a criminal record by age 24. The systematic review by Lösel and Beelman (2006) also concluded that skills training is effective in reducing delinquency, and Landenberger and Lipsey (2005) found that cognitive-behavioral skills training reduced reoffending in delinquent samples.

2. Peer, School, and Community Programs

Two types of programs are particularly successful: school-based parent and teacher training, school-based anti-bullying programs, and multi-systemic therapy (MST). Generally, the programs are targeted on the risk factors of poor parenting and poor school performance (school-based parent

and teacher training), bullying (school-based anti-bullying), and intra-personal (e.g., cognitive) and systemic (family, peer, school) factors associated with antisocial behavior (MST).

Peer programs. There are no outstanding examples of effective intervention programs for delinquency or later offending based on peer risk factors. The most hopeful programs involve using high-status conventional peers to teach children ways of resisting peer pressure; this has been effective in reducing drug use (Tobler et al., 1999). However, putting antisocial peers together can have harmful effects (Dodge et al., 2006).

The most important intervention program whose success seems to be based mainly on reducing peer risk factors is the Children at Risk program (Harrell et al., 1999), which targeted high risk youths (average age 12) in poor neighborhoods of five cities across the U.S. Eligible youths were identified in schools, and over 670 were randomly assigned to experimental or control groups. The program was a multiple-component community-based prevention strategy targeting risk factors for delinquency, including case management and family counseling, family skills training, tutoring, mentoring, after-school activities and community policing. The program was different in each neighborhood.

The initial results of the program were disappointing (Harrell et al., 1997), but a one-year follow-up showed that (according to self-reports) experimental youths were less likely to have committed violent crimes and used or sold drugs (Harrell et al., 1999). The process evaluation showed that the greatest change was in peer risk factors. Experimental youths associated less often with delinquent peers, felt less peer pressure to engage in delinquency, and had more positive peer support. In contrast, there were few changes in individual, family or community risk factors, possibly linked to the low participation of parents in parent training and of youths in mentoring and

tutoring (Harrell et al., 1997, p. 87). In other words, there were problems of implementation of the program, linked to the serious and multiple needs and problems of the families. No benefit-cost analysis of this program has yet been carried out, but its relatively low cost (\$9,000 per youth) and its targeting of high-risk youths suggest that its benefits may possibly outweigh its costs.

School programs. The meta-analyses by Wilson et al. (2001) and Gottfredson et al. (2006) identified four school interventions that were effective in preventing delinquency among youths in middle school and high school: school and discipline management, classroom or instructional management, reorganization of grades or classes, and increasing self-control or social competency with cognitive behavioral or behavioral instructional methods. One of the most important school-based prevention experiments was carried out in Seattle by Hawkins et al. (1991). They implemented a multiple component program combining parent training, teacher training and child skills training. About 500 first grade children (aged 6) in 21 classes in 8 schools were randomly assigned to be in experimental or control classes. The children in the experimental classes received special treatment at home and school which was designed to increase their attachment to their parents and their bonding to the school. Also, they were trained in interpersonal cognitive problem-solving. Their parents were trained to notice and reinforce socially desirable behavior in a program called “Catch them being good”. Their teachers were trained in classroom management, for example to provide clear instructions and expectations to children, to reward children for participation in desired behavior, and to teach children prosocial (socially desirable) methods of solving problems.

This program had long-term benefits. O’Donnell et al. (1995) focused on children in low income families and reported that, in the sixth grade (age 12), experimental boys were less likely to

have initiated delinquency, while experimental girls were less likely to have initiated drug use. In a later follow-up, Hawkins et al. (1999) found that, at age 18, the full intervention group (receiving the intervention from grades 1-6) admitted less violence, less alcohol abuse and fewer sexual partners than the late intervention group (grades 5-6 only) or the controls. A benefit-cost analysis of the program by Aos et al. (2004) found that, for every dollar spent on the program, more than \$3 was saved to government and crime victims.

School bullying, of course, is a risk factor for offending (Farrington, 1993). Several school-based programs have been effective in reducing bullying. The most famous of these was implemented by Olweus (1994) in Norway. It aimed to increase awareness and knowledge of teachers, parents and children about bullying and to dispel myths about it. A 30-page booklet was distributed to all schools in Norway describing what was known about bullying and recommending what steps schools and teachers could take to reduce it. Also, a 25-minute video about bullying was made available to schools. Simultaneously, the schools distributed to all parents a four-page folder containing information and advice about bullying. In addition, anonymous self-report questionnaires about bullying were completed by all children.

The program was evaluated in Bergen. Each of the 42 participating schools received feedback information from the questionnaire, about the prevalence of bullies and victims, in a specially arranged school conference day. Also, teachers were encouraged to develop explicit rules about bullying (e.g. do not bully, tell someone when bullying happens, bullying will not be tolerated, try to help victims, try to include children who are being left out) and to discuss bullying in class, using the video and role-playing exercises. Also, teachers were encouraged to improve monitoring and supervision of children, especially in the playground. The program was successful in reducing the prevalence of bullying by half.

Ttofi and Farrington (2010) completed a systematic review of the effectiveness of anti-bullying programs in schools. They found 89 high-quality evaluations of 53 different programs. They concluded that, overall, anti-bullying programs were effective. The results showed that bullying and victimization were reduced by about 17-23% in experimental schools compared with control schools.

Community programs. There are a few types of community-based programs that are successful. Mentoring is one example. Big Brothers Big Sisters (BBBS) of America is a national youth mentoring organization that was founded in 1904 and is committed to improving the life chances of at-risk children and teens. One BBBS program brought together unrelated pairs of adult volunteers and youths, ages 10 to 16. Rather than trying to address particular problems facing a youth, the program focused on providing a youth with an adult friend. The premise behind this is that the “friendship forged with a youth by the Big Brother or Big Sister creates a framework through which the mentor can support and aid the youth” (Grossman and Tierney, 1998, p. 405). The program also stressed that this friendship needs to be long lasting. To this end, mentors met with youths on average three or four times a month (for 3 to 4 hours each time) for at least one year.

An evaluation of the BBBS program, by Grossman and Tierney (1998), took place at eight sites across the United States and involved randomly assigning more than 1,100 youths to the program or to a control group that did not receive mentoring. At program completion, it was found that those youths who received the intervention, compared to their control counterparts, were significantly (32%) less likely to have hit someone, initiated illegal drug use (46% less), initiated alcohol use (27% less), or truanted from school (30% less). The experimental group

members were also more likely (but not significantly) than the controls to do better in school and have better relationships with their parents and peers. A benefit-cost analysis of this program by Aos *et al.* (2004) found that for every dollar spent on the program more than \$3 was saved to the government and crime victims.

A systematic review and meta-analysis of 18 mentoring programs by Jolliffe and Farrington (2008) concluded that this was an effective approach in preventing delinquency. The weighted mean effect size was $d = .21$, corresponding to a significant 10% reduction in delinquency. Mentoring was more effective in reducing offending when the average duration of each contact between mentor and mentee was greater, in smaller scale studies, and when mentoring was combined with other interventions.

One of the most important community-based treatment programs is MST, which is a multiple component program (Henggeler et al., 1998). The particular type of treatment is chosen according to the particular needs of the youth; therefore, the nature of the treatment is different for each person. The treatment may include individual, family, peer, school and community interventions, including parent training and child skills training. The treatment is delivered in the youth's home, school, and community settings.

Typically, MST has been used with juvenile offenders. For example, in Missouri, Borduin et al. (1995) randomly assigned 176 juvenile offenders (mean age 14) either to MST or to individual therapy, focusing on personal, family and academic issues. Four years later, only 29% of the MST offenders had been rearrested, compared with 74% of the individual therapy group. According to Aos et al. (2001), the benefit-to-cost ratio for MST is very high, largely because of the potential cost savings from targeting chronic juvenile offenders. For every dollar spent on this program, \$13 were saved in victim and criminal justice costs. However, two recent

meta-analyses of the effectiveness of MST reached contradictory conclusions. Curtis et al. (2004) found that it was effective, but Littell (2005) reported that it was not.

B. Situational Crime Prevention

Situational prevention stands apart from developmental prevention by its singular focus on the setting or place in which criminal acts take place as well as its crime-specific focus.¹ Related to this is the widely held finding that crime is not randomly distributed across a city or community, but is instead highly concentrated at certain places known as crime “hot spots” (Sherman et al., 1989). For example, it is estimated that across the U.S. 10% of the places are sites for around 60% of the crimes (Eck, 2006, p. 242). In the same way that individuals can have criminal careers, there are also criminal careers of places (Sherman, 1995).

Situational crime prevention has been defined as “a preventive approach that relies, not upon improving society or its institutions, but simply upon reducing opportunities for crime” (Clarke, 1992, p. 3). Reducing opportunities for crime is achieved essentially through some modification or manipulation of the physical environment in order to directly affect offenders’ perceptions of increased risks and effort and decreased rewards, provocations, and excuses (Cornish and Clarke, 2003). These different approaches serve as the basis of the highly detailed classification system of situational crime prevention, which can further be divided into 25 separate techniques, each with any number of examples of programs (Cornish and Clarke, 2003).

The theoretical origins of situational crime prevention are wide-ranging (see Newman et al., 1997; Garland, 2000), but it is largely informed by opportunity theory. This theory holds that

¹ It is important to note that situational crime prevention is equally concerned with products (e.g., installation of immobilizers on new cars in some parts of Europe, action taken to eliminate cell phone cloning in the U.S.) and to some extent large-scale systems (e.g., improvements in the banking system to reduce money laundering) (Clarke, 2009). In this paper, we have purposely limited our coverage of situational crime prevention to its focus on places or facilities (for an excellent review, see Ekblom, 2008).

the offender is “heavily influenced by environmental inducements and opportunities and as being highly adaptable to changes in the situation” (Clarke, 1995a, p. 57). Opportunity theory includes several more specific theories. One of these is the rational choice perspective. This perspective appears to have had the greatest influence on the pragmatic orientation of situational crime prevention, as articulated by its chief architect, Ron Clarke (1995a, b, 1997).

The situational approach is also supported by theories that emphasize natural, informal surveillance as a key to crime prevention. For example, Jacobs (1961) drew attention to the role of good visibility combined with natural surveillance as deterrents to crime. She emphasized the association between levels of crime and public street use, suggesting that less crime would be committed in areas with an abundance of potential witnesses.

Lighting improvements, for instance, may encourage increased street usage, which intensifies natural surveillance. The change in routine activity patterns works to reduce crime because it increases the flow of potentially capable guardians who can intervene to prevent crime (Cohen and Felson, 1979). From the potential offender’s perspective, the proximity of other pedestrians acts as a deterrent since the risks of being recognized or interrupted when attacking personal or property targets are increased. From the potential victim’s perspective, the perceived risks and fears of crime are reduced.

Eck’s (2006) review of situational crime prevention programs is the most comprehensive that has been carried out thus far. It focused on the full range of situational measures implemented in both public and private settings. It included both published and unpublished studies. In keeping with its evidence-based approach (see Welsh and Farrington, 2011), it included only the highest quality evaluations in arriving at conclusions about what works and what does not. This had the effect of excluding many situational measures with demonstrated

preventive effects – including steering column locks, redesigned credit cards, and exact-change policies (see Clarke, 1997). Some of these first generation situational prevention measures employed weak evaluations that could not support the assertion that the program produced the reported effect. Eck found that two types of programs were effective and another seven were promising² in preventing crime. Nuisance abatement and improved street lighting were the effective ones. Since Eck’s review a number of others have been carried out to assess the effectiveness of specific situational interventions, and findings from these will be integrated here.

1. Nuisance Abatement

Nuisance abatement involves the use of civil law to curtail drug dealing and related crime problems in private residential premises. It is considered a situational crime prevention measure because of its place-specific focus, as well as its use of the threat of civil action to curtail the problem. It would fall under the strategy of decreasing excuses for committing a crime in Cornish and Clarke’s (2003) taxonomy of situational prevention. Four high quality evaluations, including two randomized experiments, were identified, and each of the four showed evidence of reduced drug-related crime. In one of the randomized experiments, in Oakland, California, Mazerolle et al. (1998) compared the impact in controlling social disorder of civil remedies (police working with city agency representatives to inspect drug nuisance properties, coerce landlords to clean up blighted properties, post “no trespassing” signs, enforce civil law codes and municipal regulatory rules, and initiate court proceedings against property owners who failed to comply with civil law citations) versus traditional police tactics (surveillance, arrests, and field interrogations). Observations of street blocks showed that conditions improved in the

² Promising programs are those in which the level of certainty from the available scientific evidence is too low to support generalizable conclusions, but there is some empirical basis for predicting that further research could support such conclusions (Farrington et al., 2006, p. 18).

experimental places compared with the control places. In the most direct measure of offending, observed drug selling, there was a significant reduction in prevalence in experimental blocks compared to control blocks.

2. Improved Street Lighting

Two more recent reviews confirm Eck's finding that improved street lighting is effective. Clarke (2008) found that better lighting can produce reductions in crime, disorder, and fear of crime. Welsh and Farrington's (2009a; see also Farrington and Welsh, 2007a) systematic review and meta-analysis (based on 13 high-quality evaluations from the U.S. and the U.K.) found that improved street lighting is effective in city and town centers, residential areas, and public housing communities, and is more effective in reducing property crimes than in reducing violent crimes. In pooling the effects of all 13 studies, it was found that improved street lighting lead to a 21% reduction in crime.

Interestingly, both nighttime and daytime crimes were measured in 9 of the 13 studies. These 9 night/day studies also showed a significant desirable effect of improved lighting on crime, almost a one-third (30%) decrease in crimes in experimental areas compared with control areas. However, the studies that only measured nighttime crime showed no effect. These findings suggest that a theory of street lighting focusing on its role in increasing community pride and informal social control may be more plausible than a theory focusing on increased surveillance and increased deterrence.

One of the most effective lighting schemes took place in Stoke-on-Trent, U.K. (Painter and Farrington, 1999). The study included both adjacent and non-adjacent control areas, which allows for the most accurate measurement of any displacement or diffusion effects. Victim

surveys were used, with an 84% response rate before and an 89% response rate after (of those interviewed before). The incidence of crime decreased by 43% in the experimental area, by 45% in the adjacent area, and by only 2% in the control area. When differences in the pre-test victimization rates (prevalence and incidence) in all three areas were controlled, it was found that the changes in experimental and adjacent areas were significantly greater than in the control area. Police records also showed a decrease in crime of only 2% in the larger police area containing all the project areas. It was concluded that improved street lighting had caused a decrease in crime in the experimental area and that there had been a diffusion of benefits to the adjacent area, which was not clearly delimited from it.

In two studies (Dudley and Stoke-on-Trent), cost-benefit analyses showed that the financial savings from reduced crimes greatly exceeded the financial costs of the improved street lighting (Painter and Farrington, 2001). In the case of Dudley, total monetary benefits were 6.2 times as great as the total costs of the project, including the full capital expenditure. In other words, for each dollar (or British pound in this case) that was spent on the improved lighting scheme, \$6.19 was saved to the local council and victims of crime in one year. In the same one year time frame, the Stoke lighting scheme produced a slightly lower return on investment: for each dollar spent on the project, \$5.43 was saved to the local council and crime victims. These returns on investment are even more impressive because in each case the capital costs of installing the lighting improvements were taken into account in full, instead of the standard practice of including only the annual debt payment on the capital expenditure calculated over a reasonable life expectancy of the scheme.

3. Closed-Circuit Television (CCTV)

CCTV cameras have also been shown to be an effective form of situational prevention, but under much more limited conditions. In a systematic review of 44 high-quality evaluations from the U.S., U.K., and several other Western countries, it was found that CCTV is most effective in reducing crime in car parks, is most effective in reducing vehicle crimes, and is more effective in reducing crime in the U.K. than in other countries (Welsh and Farrington, 2009a; see also Welsh and Farrington, 2009b). Other reviews by Ratcliffe (2006) and Wilson and Sutton (2003) also conclude that CCTV is effective under similar conditions.

The exact optimal circumstances for effective use of CCTV schemes are not entirely clear at present, and this needs to be established by future evaluation research. It is interesting to note that the success of the CCTV schemes in car parks was mostly limited to a reduction in vehicle crimes (the only crime type measured in 5 of the 6 schemes) and camera coverage was high for those evaluations that reported on it. In the national British evaluation of the effectiveness of CCTV, Farrington et al. (2007) found that effectiveness was significantly correlated with the degree of coverage of the CCTV cameras, which was greatest in car parks. Furthermore, all 6 car park schemes included other interventions, such as improved lighting and security officers. It is plausible to suggest that CCTV schemes with high coverage and other interventions, targeted on vehicle crimes, are effective.

Three of the 6 car park schemes were evaluated by Tilley (1993) in the British cities of Hartlepool, Bradford, and Coventry. Each scheme was part of the British Government's Safer Cities Programme, a large-scale crime prevention initiative that operated from the late 1980s to mid-1990s. In Hartlepool, CCTV cameras were installed in a number of covered car parks and the control area included a number of non-CCTV covered car parks. Security personnel, notices of CCTV, and payment schemes were also part of the package of measures employed to reduce

vehicle crimes. Twenty-four months after the program began thefts of and from vehicles had been substantially reduced in the experimental compared with the control car parks. A 59% reduction in thefts of vehicles was observed in the experimental car parks compared with a 16% reduction in the control car parks. Tilley (1993, p. 9) concluded that, “The marked relative advantage of CCTV covered parks in relation to theft of cars clearly declines over time and there are signs that the underlying local trends [an increase in car thefts] begin to be resumed.” The author suggested that the displacement of vehicle thefts from covered to non-covered car parks might have been partly responsible for this.

The systematic review by Welsh and Farrington (2009b) also found that CCTV is associated with a nonsignificant and rather small 7% reduction in crimes in city and town centers. This may raise particular interest among policymakers. This is because this is the most popular public setting for the implementation of CCTV systems in the U.S. and elsewhere (Savage, 2007). There was no clear indication about what may work best in this setting, but lessons can be drawn from the effectiveness of CCTV in car parks. For example, CCTV in city and town centers may be more effective if they are targeted on property crimes, targeted at specific places such as high-crime areas (as part of an effort to increase camera coverage), and combined with other surveillance measures. Regular crime analysis by the police, such as that used in CompStat, could be used to identify those places that are at greatest risk for property crimes, which, in turn, could be used to guide the implementation of video surveillance. The advent of mobile and redeployable CCTV cameras may make this a more feasible and perhaps less costly option (Waples and Gill, 2006). This more targeted approach could also go some way toward reducing the pervasiveness of the threat to the general public’s privacy and other civil liberties (Hier, 2010).

Eight of the 44 studies in the systematic review conducted a cost-benefit analysis. In the Doncaster program, Skinns (1998) found that the criminal justice costs saved from fewer prosecutions and sentences (the benefits) were greater than the costs of running the CCTV program by more than 3 times, for a benefit-to-cost ratio of 3.5 to 1. The other 7 programs are part of the recent British national evaluation of CCTV conducted by Gill and Spriggs (2005). Cost-benefit analyses of these 7 programs found mixed results: 3 were worthwhile (the benefits from crimes prevented outweighed the costs of running the program), 3 were inefficient (the costs outweighed the benefits), and the multi-site Hawkeye scheme was worthwhile in the highest risk car parks, with a benefit-to-cost ratio of 1.3 to 1, but not in the car parks judged to be low or medium risk. Gill and Spriggs found the cost-benefit results to be “unsurprising,” largely owing to the schemes having “little overall impact on the incidence of crime, but also because the systems’ complexity made them expensive to set up and run” (2005, p. 114).

Unfortunately, these 7 cost-benefit analyses were only carried out on those schemes where crime was reduced, however marginally, in the experimental area relative to the control area. This is less than adequate. Desirable results should not be the basis for deciding whether to conduct a cost-benefit or any other economic analysis; such analyses should be planned prospectively, not retrospectively.

4. Preventing Repeat Residential Burglary Victimization

Situational measures figure prominently in efforts to prevent repeat victimization, which is generally defined as the “repeated criminal victimization of a person, household, business, other place or target however defined” (Farrell and Pease, 2006, p. 161). These are based on the voluminous body of literature that crime victims are at increased risk of further victimization

(Farrell, 1995). Following on the success of a number of comprehensive crime prevention programs, most notably the British Kirkholt Burglary Prevention Project (Pease, 1991), efforts to prevent repeat victimization have become an important component of crime prevention and policing policy, especially in the U.K.

A systematic review of the prevention of repeat residential burglary victimization, by Farrell and Pease (2006), found that the most effective schemes involve strong preventive mechanisms that are tailored to the local burglary problem in high burglary-rate areas, often combining multiple tactics usually including security upgrades. Furthermore, strong implementation is required, which is not easy to achieve, and reductions in repeat burglaries do not necessarily coincide with an overall reduction in burglary. In contrast, the authors found that the least effective schemes have weak preventive mechanisms (e.g., advice to victims that does not ensure that preventive measures are taken) and poor implementation (e.g., failing to contact victims, lack of security equipment).

5. Neighborhood Watch

This highly popular form of citizen surveillance has long been an important component of community crime prevention in the U.S., U.K., and some other Western countries. Used mostly to prevent crimes at private residences, it is also known as block watch, home watch, and community watch. Many neighborhood watch schemes are carried out in partnership with police, with the police providing advice on needed security measures in the home, marking property, and educating the public about home break-ins and their prevention. A number of mechanisms have been proposed for how neighborhood watch schemes can reduce crime, including residents watching out for suspicious activities and reporting these to the police,

reducing opportunities for crime by way of making the home looked lived-in when residents are away, and improving informal social control and community cohesion (Bennett et al., 2006).

A systematic review and meta-analysis of neighborhood watch, which included 18 high quality studies, found that it was associated with a 16% reduction in crime in communities where it was implemented compared to similar communities that did not receive it (Bennett et al., 2006). Further analyses showed that there was no difference in effectiveness between programs based on neighborhood watch alone and those that also included property marking and security surveys carried out by the police. Interestingly, no difference was found in the effectiveness of neighborhood watch programs over time; that is, the first generation of programs evaluated in the 1970s and 1980s were just as effective as their more modern counterparts that were evaluated in the 1990s.

One of the more effective neighborhood watch schemes was implemented in several British communities as part of Safer Cities Programme (Tilley and Webb, 1994). The manner in which neighborhood watch was implemented had some similarities and differences across sites. Target hardening was incorporated at each site in an effort to improve physical security of homes up to a minimum acceptable standard, and two of the sites also incorporated property marking. At each site a project worker was tasked with developing and implementing neighborhood watch schemes. Home watch coordinators were responsible for visiting new tenants and property marking at one site. A significant reduction in residential burglary rates was observed at all three sites compared to the control sites.

6. Other Programs

Among the programs that Eck (2006) found to be promising included the use of multiple clerks and store redesign at commercial stores; training for serving staff at bars and taverns; target hardening of public facilities; and street closures or barricades. The latter was recently the focus of a systematic review on the effects of defensible space – Oscar Newman’s (1972) principle of changes to the built environment to maximize the natural surveillance of open spaces afforded by people going about their day-to-day activities – and was determined to be effective in reducing both property and violent crimes in inner-city neighborhoods (Welsh and Farrington, 2009a; see also Welsh et al., 2010a).

In an evaluation of a traffic barrier scheme in Los Angeles, Lasley (1998) found that violent crimes went down, but there was no change in property crimes. Known as Operation Cul de Sac (because the barriers changed thru-roads into cul-de-sacs), the Los Angeles Police Department installed traffic barriers in a 10-block area of inner-city neighborhoods that were experiencing heightened levels of gang-perpetrated violence, including drive-by shootings, homicides, and assaults. The remaining patrol division areas that surrounded the targeted site served as the control area. In the 2 years that the traffic barriers were in place, the experimental area, compared to the control area, experienced significant reductions in homicide and assault, but no changes were observed in property crimes (i.e., burglary, vehicles crimes, larceny, and bicycle theft). During this period of time, the author found no evidence of displacement of crimes to surrounding neighborhoods. The situation changed once the traffic barriers were removed. In the following year, homicides and assaults increased in the experimental area, and in the control area homicides increased and assaults remained constant. At least for homicides, this provided further support that the program had a desirable effect (Lasley, 1998, p. 3).

It may also be possible to add security guards to the list of promising situational crime prevention methods. A recent systematic review found that security guards are promising when implemented in car parks and targeted at vehicle crimes (Welsh and Farrington, 2009a; see also Welsh et al., 2010a). This conclusion is based on two evaluations, both of which produced sizable reductions in vehicle crimes in car parks, as well as the larger body of research on this topic. One potential drawback to this promising designation is that both of the effective programs used other (secondary) interventions: a media campaign in the study by Barclay et al. (1996) and fencing and defensible space measures in the study by Laycock and Austin (1992). Nevertheless, it seems to suggest security guards as a promising strategy, if only because we are not recommending wider use but instead calling for further experimentation.

III. WHAT DO WE NEED TO KNOW?

As the bodies of knowledge on developmental and situational crime prevention continue to grow, there is the need for further research and development on a wide range of critical issues that concern effectiveness. Some of these issues go back many years (e.g., crime displacement, protective factors against offending) with new insights and advancements reported from time to time. Others have emerged as researchers have sought to expand theoretical and conceptual parameters of ways to prevent crime (e.g., guardianship in the context of routine activity theory, behavioral parent training with older children). Still others have come about in what Ekblom (2008) calls the “arms race” between preventers and offenders.

Gaps in knowledge on effectiveness and related key topics and our need to know more about them is the subject of this section. Their coverage here is by no means exhaustive. Rather, we set out to identify and discuss some of the most important issues for further research.

A. Developmental Crime Prevention

Risk-focused prevention has been extremely successful in many ways. However, as mentioned, some of the risk factors that have been targeted may not be causes of offending. It would be more efficient to target causes rather than risk factors. It would also be highly desirable to determine what are the “active ingredients” of multiple-component programs, so that nonessential components might be considered for elimination. This might save money without reducing effectiveness. It would also be desirable to know what are the mechanisms that mediate between the intervention and the outcome. These are often unclear and not measured or assessed in the context of this research.

Another key issue is the need to match types of interventions to types of individuals. Information is needed about moderators of effects. For example, programs may be differentially effective with different sexes, ages, and races of children, and different program elements may be needed for the different categories. Ideally, programs should be preceded by an assessment phase that assesses both risks and needs. This could help in selecting individuals for interventions and in determining what types of interventions are useful or needed for each type of person.

Some public health interventions could be given to all children. However, it is probably more efficient to target the most “deserving” cases. It is unclear, however, whether it is best to target interventions as the “worst” cases or on the “next worst” cases. For example, because the most problematic 5% of children account for a disproportionate fraction of all social problems, including offending, it might seem most cost-effective to target them in interventions. However, the most problematic 5% of children are also likely to be the most resistant to change, because

they are affected by multiple social and family stressors. Therefore, it might be more cost-effective to target the “next worst” 10% of children, but little is known about this.

We have concentrated on evaluations that include a cost-benefit analysis in this paper, because such analyses are extremely important and influential with government policy-makers who are concerned to spend dollars most efficiently. However, relatively few evaluations have included a cost-benefit analysis, and most existing analyses do not include all possible costs and benefits. For example, the excellent cost-benefit analyses by Aos et al. (2004) include tangible benefits to crime victims but not intangible benefits such as a decrease in pain and suffering, which were assessed by Cohen and Piquero (2009).

Most existing evaluations measure a limited range of outcomes and do not include follow-up interviews with participants. Often, the most important follow-up assessments are based on criminal records, rather than on a wide range of indicators of life success such as in school, employment, relationships, substance use, etc. Even measures based on criminal records do not assess many criminal career features such as the frequency and seriousness of offending or the duration of criminal careers. Follow-up periods in evaluation studies are often rather short. It is desirable to investigate long-term outcomes, which might be different from short-term outcomes. For example, there may be immediate benefits of a program which soon disappear.

Little is known about external validity, or the extent to which programs work in different circumstances or contexts. More replications of evaluations are needed. In particular, many programs work well in a small-scale demonstration project but less well in large scale routine implementation. It is not clear why scaling-up causes an attenuation of program effects. For example, the treatment personnel and quality control may be much better in the small scale

demonstration project, or the program fidelity may be less and the population heterogeneity may be greater in the large scale implementation. Welsh et al. (2010b) have discussed these issues and have suggested how knowledge about this topic might be advanced.

Finally, it is usually true that little is known about how programs were implemented, and the extent to which different individuals received different elements of a multiple component package. It is vital to collect this information, in order to explain why programs worked with some individuals rather than with others.

B. Situational Crime Prevention

The first priority for situational prevention should be to learn more about those programs classified as promising. Whether one uses the rules set out in the University of Maryland report on what works (Sherman et al., 1997; see also Farrington et al., 2006) or some other methodological approach for assessing research evidence (e.g., systematic review, meta-analytic review), the reasoning is the same: At a minimum, without a measure of external validity, it is not feasible to claim that a program type or model is effective.

There are of course many more programs that are promising than effective. It is not enough to call for more research here. What is needed is a program of replication experiments to investigate if the results can be reproduced. In the case of security guards, for example, it would be beneficial to first know if they can be effective in reducing vehicle crimes in car parks. (In the previous section, we discussed research that shows that this approach is promising.) It would then be beneficial to investigate if the results are generalizable to different contexts (e.g., city or town centers, public transportation, commercial premises) and crime types. We return to this point in the next section.

Fairly or unfairly, situational crime prevention often raises concerns over the displacement of crime. This is the notion that offenders simply move around the corner or resort to different methods to commit crimes once a crime prevention project has been introduced.³ Thirty years ago, Reppetto (1976) identified five different forms of displacement: temporal (change in time), tactical (change in method), target (change in victim), territorial (change in place), and functional (change in type of crime). Usually, displacement follows from target hardening (e.g., the installation of locks or physical barriers) and other measures that attempt to increase the perceived effort required to commit a crime.

What Clarke (2009) and many others (Gabor, 1990; Hesselning, 1994) have found and rightly note is that displacement is never 100%. Moreover, a growing body of research has shown that situational measures may instead result in a diffusion of crime prevention benefits or the “complete reverse” of displacement (Clarke and Weisburd, 1994; Guerette and Bowers, 2009). Similar results have been found for hot-spots policing interventions (Braga, 2006; Weisburd et al., 2006). Instead of a crime prevention project displacing crime, the project’s prevention benefits are diffused to the surrounding area, for example. Clarke and Weisburd (1994) contend that this occurs in one of two ways: by affecting offenders’ assessment of risk (deterrence) or by affecting offenders’ assessment of effort and reward (discouragement).

In the most comprehensive review to date on displacement and diffusion effects of situational prevention programs, Guerette and Bowers (2009, p. 1357) found that the occurrence of displacement is more the “exception rather than the rule,” and diffusion is somewhat more likely to take place than displacement (27% vs. 26%). Their systematic review included 102 evaluations (with more than 570 observations), covering a wide range of situational crime prevention techniques. Among a much smaller group of evaluations that allowed for more

³ For a discussion of “benign” or desirable effects of displacement, see Barr and Pease (1990).

detailed analyses, the authors found that when displacement did occur, its effects were more often mitigated by the overall desirable treatment effect.

Smith et al. (2002) argue that researchers should also investigate the closely related phenomenon of “anticipatory benefits,” whereby crime reduction occurs earlier than anticipated; that is, before implementation of an intervention. In their extensive review on the subject, Smith et al. found evidence of an anticipatory effect in approximately 40% of studies that were deemed capable of reporting on it (22 out of 52 studies). Many more studies provided insufficient details to allow for its investigation. The authors note that there are many possible reasons for why anticipatory benefits may occur, including publicity by the project organizers or media. Guerette (2009) draws attention to the important implications this issue holds for evaluations of situational prevention programs; namely, the need to use time-series data to detect any crime reduction that precedes implementation.

Another matter deserving of more attention concerns the public/private divide in situational prevention. More so than developmental prevention, situational prevention is used in private settings. Convenience stores, banks, and shopping malls are just a few of the private places or facilities where various situational measures are used and evaluations have been carried out. While programs in both public and private places present unique challenges, there is a paucity of evaluations of some forms of situational prevention in the private sector. One of the reasons for this is the private sector’s resistance to independent evaluation of their practices and, equally important, making any evaluations (independent or otherwise) publicly available. There are some excellent evaluations of the application of situational measures in the private sector (for reviews, see Hunter and Jeffrey, 1997; Eck, 2006), but until such time that the private sector embraces evaluation research more fully it will be difficult to assess in any comprehensive way

the effectiveness of certain situational practices in preventing crime in private places. Another reason for the poor state of evaluation research in the private sector may stem from biases of criminologists about what is interesting and useful research, and because governments have not fully understood that assisting private security benefits the public sector as much as the private.

One other matter that we need to know more about concerns other potential benefits associated with situational crime prevention programs. Unlike developmental prevention, evaluations of situational programs are usually limited to the outcome measure of crime and sometimes fear of crime. While crime is by far the predominant focus of situational prevention, there are many other outcomes that can be measured and have direct bearing on effectiveness. In the case of street lighting, for example, it may provide benefits (during the nighttime hours) in the form of increased pedestrian and traffic safety and increased usage of public parks and other recreational areas. Los Angeles' Summer Night Lights program that operates in parks across the city is an example of this (Cathcart, 2009). It may also foster private enterprise. The increased pedestrian traffic that can flow from street lighting might also translate into increased patronage for businesses in the area.

There seem to be many more potential benefits associated with CCTV. For the police, the potential benefit of CCTV in reducing crime by deterring offenders from committing an illegal activity may be much lower on its list of priorities than the apprehension of suspects who were caught on camera committing a crime (see Norris and McCahill, 2006). The use of a camera image to aid in the identification and apprehension of a suspect, as well as to help secure a conviction in criminal court, is a common justification that is used by police and prosecutors alike in many U.S. cities that are currently experimenting with increased use of video surveillance in public places (Ballou, 2007; McCarthy, 2007).

Police officer safety is another potential benefit associated with CCTV. This has come about through the installation of CCTV cameras in patrol cars to record the events of roadside stops, for example. The use of CCTV in city and town centers and other public places may also potentially contribute to improved police officer safety. CCTV may also result in increased pedestrian and traffic safety. This could follow from the use of speed cameras and red light cameras (i.e., to record vehicles going through red lights at intersections), which are already used extensively in some cities in the U.S. and elsewhere.

IV. HOW CAN WE FIND OUT?

A. Directions for Research

In order to advance knowledge about the effectiveness of developmental prevention, a new generation of longitudinal-experimental studies is needed. Longitudinal and experimental methods can be combined by including intervention experiments in longitudinal studies (Farrington et al., 2010). While prospective longitudinal surveys are best for establishing risk and protective factors for offending, randomized experiments can help to establish which risk and protective factors have causal effects. The longitudinal-experimental design is economical, since it uses the same people to study risk factors and developmental pathways as well as the effects of interventions. The longitudinal data before the intervention helps to understand pre-existing trends and interactions between types of persons and types of interventions, while the longitudinal data after the intervention helps to establish its long-term impact. Sometimes, the effects of an intervention increase over time and only become fully apparent years later (e.g. Schweinhart et al., 1993; Tremblay et al., 1995). In a more complex design, multiple cohorts of individuals could be followed up; knowledge about risk and protective factors in older cohorts

could then inform later intervention experiments in younger cohorts, and the results of intervention experiments in older cohorts could inform the later measurement of risk and protective factors in younger cohorts.

In order to advance knowledge about causes, more evaluations could be designed to test hypotheses rather than to test a multiple-component intervention technology. In new experimental studies, multiple-component interventions should be designed to make it possible to evaluate the impact of each component, or should be followed by a program of single component interventions designed to disentangle which are the active ingredients. A new research agenda of randomized experiments should be developed, designed to advance knowledge about the causes of offending as well as test the effectiveness of intervention technologies in different neighborhoods and countries.

Efforts should also be made to investigate the mechanisms that mediate between the intervention and the outcome. This will require repeated interviews with participants. Research is also needed on moderators of program effects, and especially on whether programs are differentially effective with different sexes, ages, and races of children. Interventions should be preceded by an assessment phase, and later analyses should investigate what elements of the assessment predict the success of the intervention. Also, the extent to which program elements were implemented should be investigated. A particular effort should be made to determine whether it is better to target the “worst” cases or the “next worst” cases.

New evaluation studies should include long-term follow-ups and repeated interviews with participants, in order to discover long-term effects of the intervention. Also, new evaluation studies should measure a wide range of outcomes, including offending and criminal career features, and also measures of life success in school, employment, relationships, substance use,

etc. In addition, new evaluation studies should be designed to assess external validity as well as internal validity, by implementing a program initially on a small scale in one location and later on a larger scale in several other locations.

In our opinion, it would be highly desirable to mount new longitudinal-experimental studies that have at least three years of personal contacts with the subjects before and after an intervention, and that also have repeated, frequent data collection from a variety of sources. Large samples (e.g., 500 persons) would be needed to have sufficient statistical power to investigate risk and protective factors, criminal career features, and the effects of interventions on offending. These kinds of studies would not be cheap, although one way of minimizing the cost might be to add an experimental intervention to an existing longitudinal study. However, they could lead to significant advances in knowledge about the development, explanation, prevention, and treatment of offending and antisocial behavior.

Most evaluations of situational crime prevention programs are area-based. Advancing knowledge about the effectiveness of situational prevention should begin with attention to the methodological rigor of the evaluation designs. The best and most feasible design usually involves before and after measures of crime in experimental and comparable control conditions, together with statistical control of extraneous variables (Cook and Campbell, 1979; Shadish et al., 2002). It is desirable in future evaluations to compare several experimental areas with several comparable control areas. If the areas were relatively small, it might be possible to randomly allocate areas to experimental and control conditions or to have alternate periods with or without the intervention. In addition, future evaluations should include interviews with potential offenders and potential victims to find out what they know about the intervention and

their views on associated social costs, to test hypotheses about mediators between the intervention and crime, and to have measures of crime other than those from official sources.

It would also be desirable to have a long time series of crime rates in experimental and comparable control areas before and after the intervention to investigate the persistence of any effects on crime. This would also allow for the identification of anticipatory benefits. In the situational crime prevention literature, brief follow-up periods are the norm, but “it is now recognized that more information is needed about the longer-term effects of situational prevention” (Clarke, 2001, p. 29).

Future research should also investigate more fully the displacement of crime and diffusion of crime prevention benefits. This requires the use of both comparable adjacent and non-adjacent control areas. Wherever possible, Bowers and Johnson’s (2003) weighted displacement quotient technique should be used to investigate any spatial displacement or diffusion effects. This technique requires the use of at least two comparison areas: one adjacent to the treatment area that serves as a buffer to determine displacement/diffusion effects, and one non-adjacent area that is immune from treatment contamination. It also requires calculations of measurements that can assess the size of displacement or diffusion in relation to any gains achieved in the treatment area.

Future research also needs to pay more attention to the implementation of crime prevention programs and its influence on program outcomes (Durlak and DuPre, 2008). Successful implementation calls for taking account of local context and conditions. For example, detailed observational and other information on the crime problem that is the focus of the attention, as well as the setting (e.g., urban density, unemployment rates), can be matched with the proven prevention program and modifications can then be made as needed.

Lastly, cost-benefit analyses should be carried out in all evaluations to assess the financial costs and benefits of all programs. These cost-benefit analyses need to be more wide-ranging than previous analyses, in including criminal justice and social costs as well as tangible and intangible victim costs. Also, long-term follow-ups are desirable to assess benefits and costs that may only become apparent years after the intervention. Ideally, the costs and benefits of developmental and situational crime prevention should be compared with those of police, courts, and prison.

The next section builds on this research agenda by exploring some policy implications for an integrated developmental/situational crime prevention strategy. It discusses Communities That Care (CTC) as a model for delivering this integrated approach at the local level, overviews key crime prevention developments in the U.K., and describes some benefits of establishing a national crime prevention agency.

B. Policy Implications

1. *Communities That Care*

In the interests of maximizing effectiveness, what is needed is a multiple-component community-based program including several of the successful interventions (both developmental and situational) listed above. Many of the programs reviewed in this paper are of this type. However, CTC has many attractions (Farrington, 1996). Perhaps more than any other program, it is evidence-based and systematic: the choice of interventions depends on empirical evidence about what are the important risk and protective factors in a particular community and on empirical evidence about “what works” (Sherman et al., 2006). CTC is supported at the local level across the U.S., at the last count in several hundred communities (Harachi et al., 2003). It has also

been implemented in over 20 sites in England, Scotland, and Wales, and in Australia, Canada, and the Netherlands (Flynn, 2008; France and Crow, 2001; Utting, 1999). While the effectiveness of its individual components is clear, there are promising signs – based on a large-scale randomized controlled trial in the U.S. – that the overall CTC strategy is also effective (Hawkins et al., 2008).

CTC was developed as a risk-focused prevention strategy by Hawkins and Catalano (1992), and it is a core component of OJJDP's Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders (Wilson and Howell, 1993). CTC is based on a theory (the social development model) that organizes risk and protective factors. The intervention techniques are tailored to the needs of each particular community. The "community" could be a city, a county, a small town, or even a neighborhood or a housing estate. This program aims to reduce delinquency, drug use, and crime by implementing particular prevention strategies that have demonstrated effectiveness in reducing risk factors or enhancing protective factors. It is modeled on large-scale community-wide public health programs designed to reduce illnesses such as coronary heart disease by tackling key risk factors (e.g., Farquhar, 1985; Perry et al., 1989). There is great emphasis in CTC on enhancing protective factors and building on strengths, partly because this is more attractive to communities than tackling risk factors. However, it is generally true that health promotion is more effective than disease prevention (Kaplan, 2000).

CTC programs begin with community mobilization. Key community leaders (e.g., elected representatives, education officials, police chiefs, business leaders) are brought together, with the aim of getting them to agree on the goals of the prevention program and to implement CTC. The key leaders then set up a Community Board that is accountable to them, consisting of neighborhood residents and representatives from various agencies (e.g., school, police, social services, probation,

health, parents, youth groups, business, church, and media). The Community Board takes charge of prevention on behalf of the community.

The Community Board then carries out a risk and protective factor assessment, identifying key risk factors in that particular community that need to be tackled, and key protective factors that need enhancing. This risk assessment might involve the use of police, school, social or census records or local neighborhood or school surveys. After identifying key risk and protective factors, the Community Board assesses existing resources and develops a plan of intervention strategies. With specialist technical assistance and guidance, they choose programs from a menu of strategies that have been shown to be effective in well-designed evaluation research.

The menu of strategies draws upon the most effective developmental and situational crime prevention modalities, as well as community-based and problem-oriented policing strategies. While the choice of prevention strategies is based on empirical evidence about effective methods of tackling crime risk factors, it also depends on what are identified as the most pressing problems in the community. This approach is not without its challenges and complexities (e.g., cost, implementation, establishing partnerships among diverse agencies), but there is wide agreement that an evidence-based approach that brings together the most effective prevention programs across multiple domains offers the greatest promise for reducing crime and building safer communities.

2. Crime Prevention in the U.K.

There have been many commendable U.K. crime prevention initiatives in recent years. Many of these have had a developmental focus. In September 2006, the U.K. government announced an action plan for “social exclusion,” which is a general concept including antisocial behavior, teenage pregnancy, educational failure, and mental health problems (Cabinet Office,

2006). This action plan emphasized early intervention, better coordination of agencies, and evidence-based practice (systematically identifying what works and rating evaluations according to methodological quality; see Farrington, 2003). It proposed home visiting programs targeting at-risk children from birth to age 2, implemented by midwives and health visitors, inspired by the work of David Olds (Olds et al., 1998). It proposed that teenage pregnancy “hot spots” would be targeted with enhanced social and relationship education and better access to contraceptives. It proposed multi-agency and family-based approaches to tackle behavioral and mental health problems in childhood, including treatment foster care (Chamberlain and Reid, 1998) and MST (Henggeler et al., 1998). It also proposed interventions for adults with chaotic lives, mental health problems, and multiple needs, to try to get more of them into employment.

Since the mid-1990s, there has been increasing emphasis on early intervention and evidence-based practice in the UK (Sutton et al., 2004, 2006). In 1995, Child and Adolescent Mental Health (CAMHS) teams were established in every part of the country to provide support for children and young people who were experiencing a range of emotional and behavioral difficulties. The services fall within the remit of the Department of Health and practitioners typically employ a wide range of theoretical approaches.

The major government initiative for preschool children is called Sure Start (www.surestart.gov.uk). The first Sure Start centers were established in 1999 in disadvantaged areas, and there are now over 800 Sure Start programs in the U.K. These centers provide early education and parenting programs, integrated with extended childcare, health, and family support services. The services are supposed to be evidence-based. Widely used parenting programs include the Incredible Years (Webster-Stratton, 2000), Triple-P (Sanders et al., 2000), and Strengthening Families, Strengthening Communities (Steele et al., 1999). A National

Academy for Parenting Practitioners has been established.

Sure Start programs are currently being developed into Children's Centers, to cover every part of the UK. Typically, these will be service hubs for children under age 5, offering and coordinating information to support children and their parents. One of their implicit objectives is to reduce conduct disorder and aggressiveness among young children through the provision of parenting programs. The Centers also contribute to the strategic objectives of *Every Child Matters*, the major government policy document (Chief Secretary to the Treasury, 2003; www.everychildmatters.gov.uk). This applies to all children from birth to age 19 and aims to improve educational achievement and reduce the levels of ill health, teenage pregnancy, abuse and neglect, crime, and antisocial behavior.

For better or worse, CCTV has seemingly dominated U.K. policy on situational crime prevention in recent years. Over the past decade, CCTV accounted for more than three-quarters of total spending on crime prevention by the British Home Office (Koch, 1998; Reuters, 2007). But there have been other situational initiatives that have received government support and have been widely embraced by practitioners. Two of these initiatives include a focus on repeat victimization and residential burglary prevention schemes. At the center of much of the leading research on situational prevention in the U.K. is the Jill Dando Institute of Crime Science at University College London (for an overview, see Tilley and Laycock, 2007).

3. The Need for a National Crime Prevention Agency

Nationally and locally in the U.S. or U.K., there is no agency whose primary mandate is the prevention of crime. This national agency could provide technical assistance, skills, and knowledge to local agencies in implementing prevention programs, could provide funding for such programs,

and could ensure continuity, coordination, and monitoring of local programs. It could provide training in prevention science for people in local agencies, and could maintain high standards for evaluation research. It could also act as a center for the discussion of how policy initiatives of different government agencies influence crime and associated social problems. It could set a national and local agenda for research and practice in the prevention of crime, drug and alcohol abuse, mental health problems, and associated social problems. National crime prevention agencies that emphasize both developmental and situational crime prevention strategies have been established in other countries, such as Canada and Sweden.

The national agency could also maintain a computerized register of evaluation research and, like the National Institute of Clinical Excellence, advise the government about effective and cost-effective crime prevention programs. Medical advice in the U.K. is often based on systematic reviews of the effectiveness of health care interventions organized by the Cochrane Collaboration and funded by the U.K. National Health Service. Systematic reviews of the evaluation literature on the effectiveness of developmental and situational interventions should be commissioned and funded by government agencies. The U.S. National Institute of Justice has already funded a number of these reviews. In the U.K., the National Policing Improvement Agency, in partnership with the Campbell Collaboration's Crime and Justice Group and the Center for Evidence-Based Crime Policy at George Mason University, has also funded a number of systematic reviews, many with a specific focus on situational prevention and policing.

In the U.S. the Center for Problem-Oriented Policing plays a major role in furnishing the law enforcement community and crime prevention practitioners in general with information and guidance on developing and implementing effective situational crime prevention practices. Innovative policing strategies like problem-oriented policing often incorporate situational measures

(Braga, 2008). The Center is also instrumental in advocating for more rigorous evaluations of problem-oriented policing and situational prevention programs.

4. Conclusions

Crime prevention has entered a new, more robust phase of research activity and holds greater relevance to policy and practice today than ever before. It stands as an important component of an overall strategy to reduce crime. These achievements are not just the cumulative effect of years of a slow, sometimes less than steady progress of a social movement; other developments figure more prominently. Perhaps most important is the recent movement toward rational and evidence-based crime policy. This has brought greater attention to the need for higher quality program evaluations as well as the need for more rigorous, systematic methods to synthesize the research evidence and examine policy implications. Related to this development is the growing evidence base of scientific knowledge on the effectiveness of a wide range of developmental and situational crime prevention modalities. Also of importance to crime prevention's standing is the widely held view of the need to strike a greater balance between prevention and punishment. This has become more urgent in recent years as many states across the country are faced with budget crises, compounded by years of punitive crime policies. Developmental and situational crime prevention seem well poised to help change this state of affairs and make a major contribution to crime reduction in this country.

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The Future of Crime Prevention: Developmental and Situational Strategies

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Prepared for National Institute of Justice
October 7, 2010

Introduction

- Crime prevention can mean many different things
- More often it refers to efforts to prevent crime or criminal offending in the first instance - before the act has been committed
- What distinguishes crime prevention from crime control is that prevention typically operates outside the confines of the formal justice system
- Prevention is considered the 4th pillar of crime reduction, alongside police, courts, and corrections (Waller 2006)

Classifying Crime Prevention

- Many possible ways of classifying crime prevention programs
- One scheme distinguishes 4 major prevention strategies
 - Developmental
 - Situational
 - Community
 - Criminal Justice

Developmental crime prevention

- Interventions designed to prevent the development of criminal potential in individuals, especially those targeting risk and protective factors discovered in studies of human development
- Focus on most important, scientifically established risk factors; these are known as causes

Situational crime prevention

- Interventions designed to prevent the occurrence of crimes by reducing opportunities and increasing risk and difficulty of offending
- Focus on the setting or place in which criminal acts take place as well as crime-specific focus

Community crime prevention

- Interventions designed to change the social conditions and institutions (e.g., families, peers, social norms) that influence offending in communities

Criminal justice crime prevention

- Traditional deterrent, incapacitative, and rehabilitative strategies operated by criminal justice system agencies

Scope

- Focus exclusively on developmental and situational prevention
- Interest in crime prevention that takes place outside of the CJS
- Community prevention not covered in any extensive fashion
 - Community prevention often overlaps with developmental and situational prevention
 - Much less is known about effective community programs that target the social processes that influence offending

Key Questions

- What do we know?
 - Effectiveness of the 2 strategies
- What do we need to know?
 - Gaps in knowledge on effectiveness and related key issues
- How can we find out?
 - Research strategies to address the gaps in knowledge and priorities for research

What do we know?

- Focus on highest quality research studies (experiments and quasi-experiments) and most rigorous reviews of evidence
- Ensures that conclusions are based on the best available evidence

Developmental Crime Prevention

- Individual and Family
 - 4 types of programs are particularly effective
 - Parent education (in the context of home visiting)
 - Parent management training
 - Child skills training
 - Preschool intellectual enrichment programs

Developmental Crime Prevention (cont.)

- Generally the programs are targeted on the risk factors of
 - Poor parental child-rearing, supervision, or discipline (general parent education or PMT)
 - High impulsivity, low empathy, self-centeredness (skills training)
 - Low intelligence and attainment (preschool)

Home Visiting Program

- Nurse-Family Partnership (Elmira, NY) by David Olds
- Enrolled 400 first-time mothers
- Randomly assigned to receive home visits up to age 2 or no visits
- Each visit lasted about 1.25 hours and the mothers were visited on average every 2 weeks
- Home visitors gave advice about prenatal and postnatal care of the child, about infant development, and about the importance of proper nutrition and avoiding smoking and drinking during pregnancy

Home Visiting Program - Results

- Home visits caused a significant decrease in:
 - Recorded child physical abuse and neglect by mothers (2 years later)
 - Alcohol or substance abuse problems and arrests by mothers (15 years later)
 - Arrests by children (15 years later)
- BCAs: home visits produced value for money
- Replications in Memphis and Denver

Peer, School, and Community Programs

- Number of effective programs
- Peer programs
 - No outstanding examples of effective programs based on peer risk factors

School Programs

- Meta-analyses by Wilson *et al.* (2001) and Gottfredson *et al.* (2006) identified 4 effective school interventions
 - School and discipline management
 - Classroom or instructional management
 - Reorganization of grades or classes
 - Increasing self-control or social competency with cognitive behavioral or behavioral instructional methods
- Systematic review by Ttofi and Farrington (2010) found anti-bullying programs in schools to be effective
 - Review included 89 high-quality evaluations of 53 different programs
 - Bullying and victimization were reduced by about 17-23%

Community Programs

- A couple types of community-based programs are effective
 - Mentoring
 - MST

MST

- Multi-component program
- Type of treatment is chosen according to the particular needs of the youth
- Treatment may include individual, family, peer, school, community interventions (including parent training and skills training)
- Treatment delivered in the youth's home, school, or community settings
- Typically used with juvenile offenders
- A number of sites (but not all) report significant reductions in re-arrests, reconvictions

Situational Crime Prevention

- Most comprehensive review done by Eck (2006)
 - Focused on full range of situational measures implemented in public and private settings
 - Included both published and unpublished studies
 - Included only highest quality evaluations

Effectiveness

- A number of situational measures are effective
 - Nuisance abatement
 - Improved street lighting
 - CCTV
 - Preventing repeat residential burglary victimization
 - Neighborhood watch

Effectiveness (cont.)

- Many more are promising, including:
 - Multiple clerks and store redesign at commercial stores
 - Server training
 - Security guards in car parks

Nuisance Abatement

- Involves use of civil law to curtail drug dealing and related crime problems in private residential premises
- Considered a situational measure because of its place-specific focus, as well as its use of the threat of civil action to curtail the problem
- Falls under the strategy of decreasing excuses for committing a crime in Cornish and Clarke's (2003) taxonomy
- 4 high quality evaluations, including 2 randomized experiments, were identified
- Each showed evidence of reduced drug-related crime

CCTV

- Systematic review of 44 high-quality evaluations from the US, UK, and other Western countries found that CCTV is:
 - Most effective in reducing crime in car parks
 - Most effective in reducing vehicle crimes
 - More effective in reducing crime in the UK than in other countries
- Success of CCTV schemes in car parks:
 - Mostly limited to a reduction in vehicle crimes
 - Camera coverage was high
 - All 6 car park schemes included other interventions (e.g., improved lighting, security officers)



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Milwaukee Police Chief Ed Flynn joined with Milwaukee County Sheriff David Clarke to call for increased funding for Wisconsin Head Start.
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Milwaukee Police Chief Ed Flynn joined with Milwaukee County Sheriff David Clarke to call for increased funding for Wisconsin Head Start.



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Greater Dallas Law Enforcement: "Pre-K Cuts Crime"
Mar 10th 2009

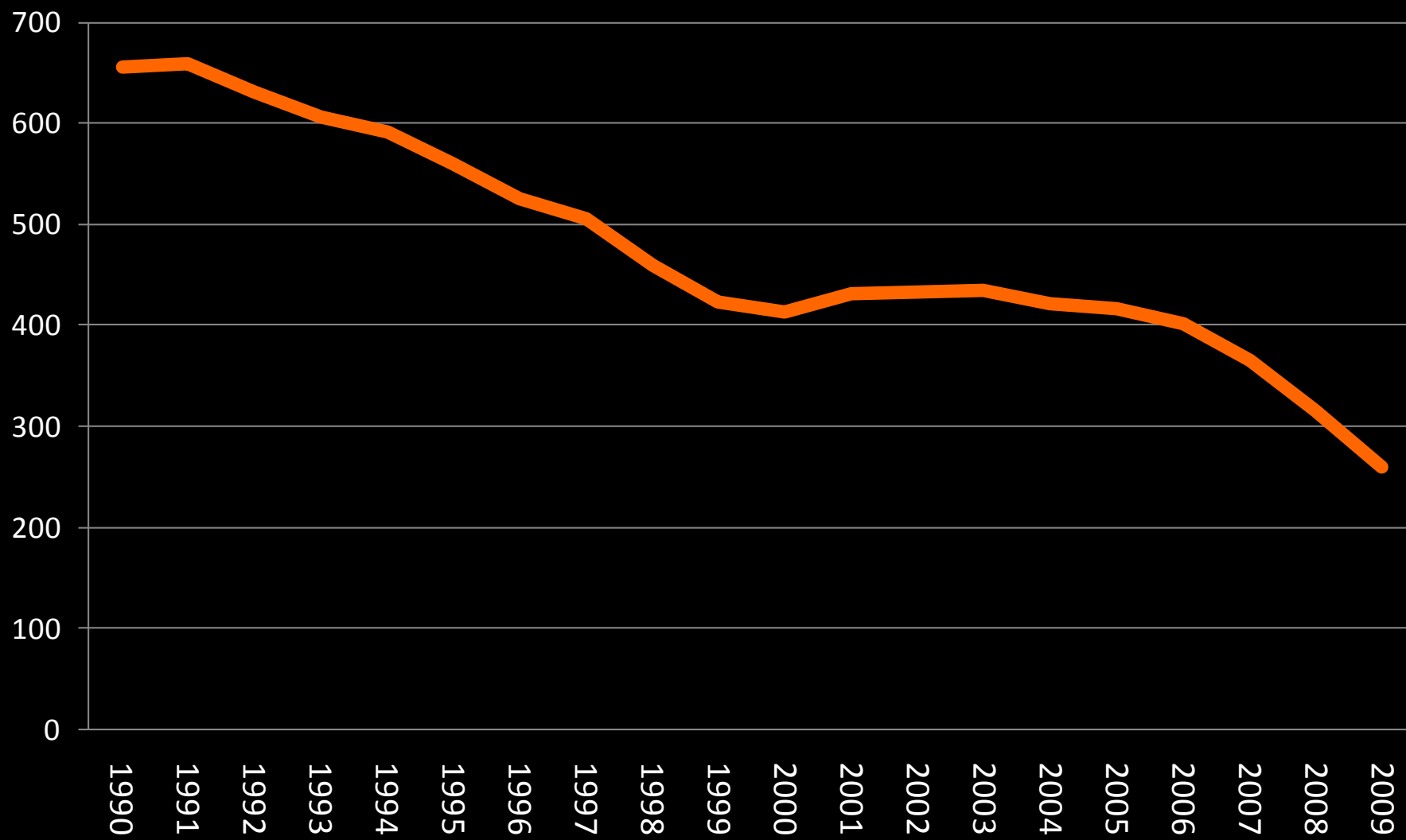
ARLINGTON, TEXAS -- Local police chiefs sounded a call for Texas lawmakers to make substantial improvements to the state's pre-kindergarten program, citing research showing that the earlier kids get access to quality educational opportunities, the safer their communities will be.

[To read a copy of the report, click here.](#)

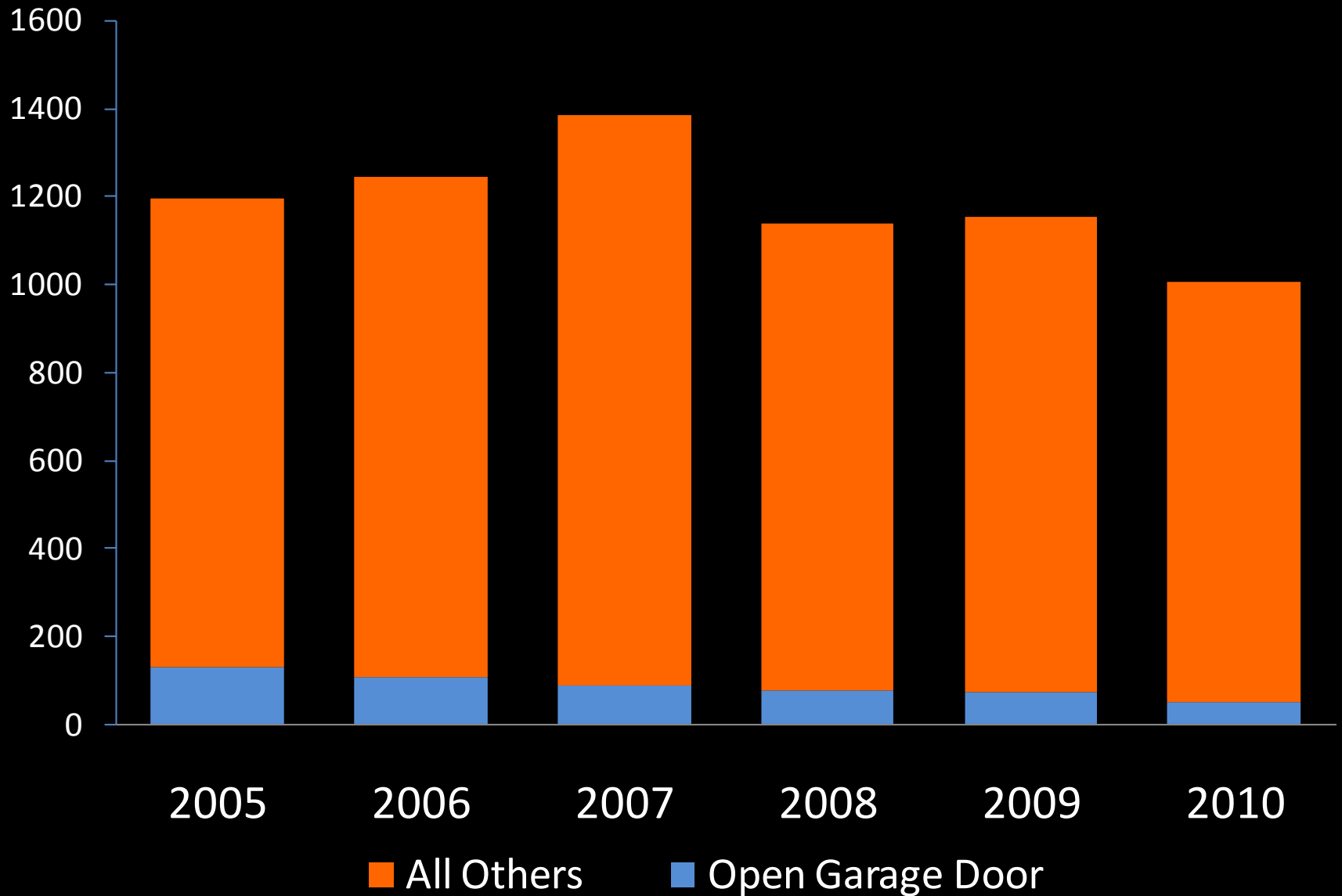
At a news conference at Burgin Elementary School today, Arlington Police Chief Theron Bowman, Carrollton Police Chief David James, Chief Deputy Joseph Costa of the Dallas County Sheriff's Department and Dallas Assistant Police Chief Charlie Cato released a report showing that high-quality early childhood education increases school success, prevents crime and violence and saves taxpayer dollars.

"The best defense against crime is a smart offense, and we can accomplish that by providing quality early childhood education," Bowman said. "An early start to learning not only gets kids ready for school, it also dramatically reduces the odds that they will end up behind bars. Simply put: pre-k cuts crime."

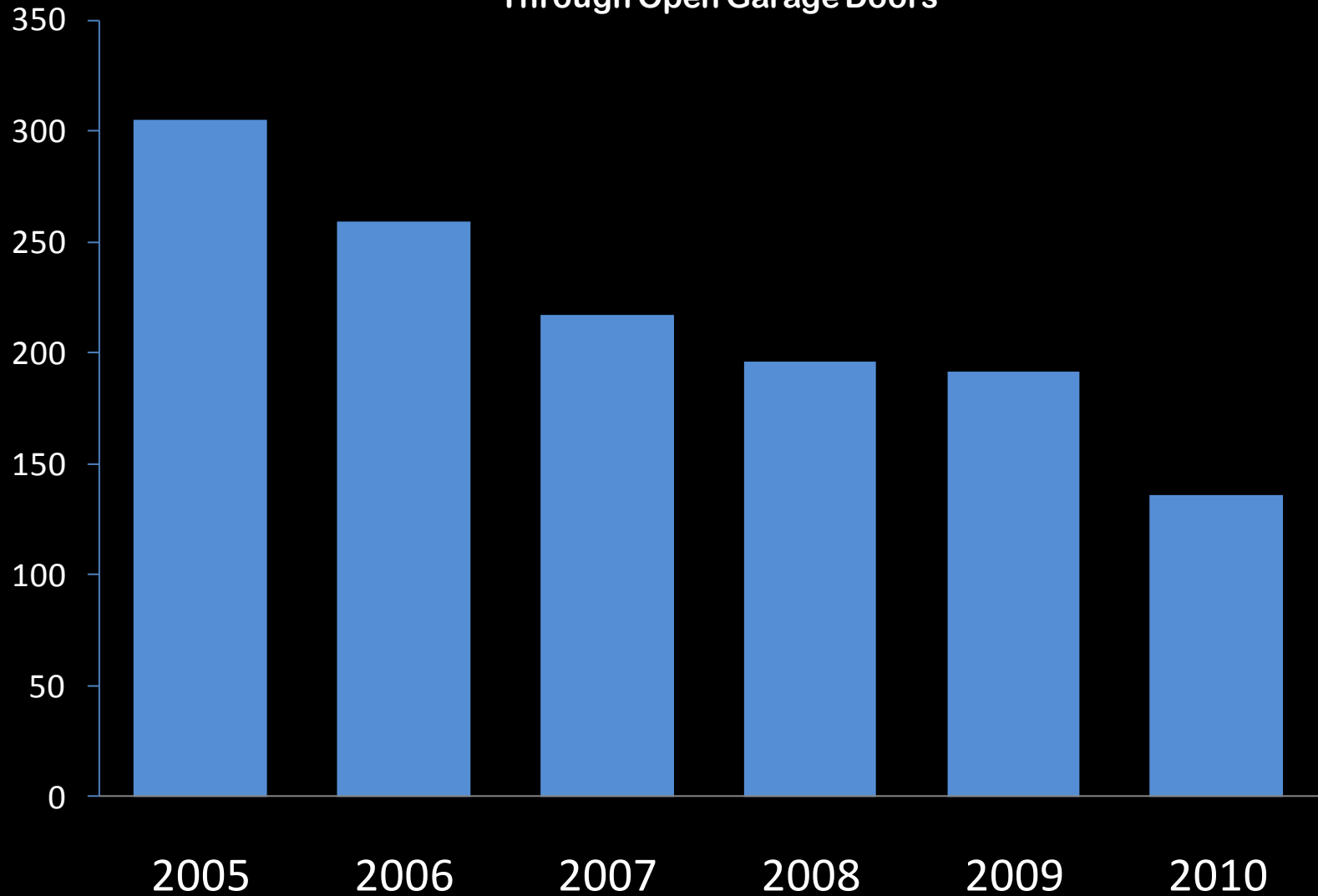
Auto Theft Rate



Residential Burglaries

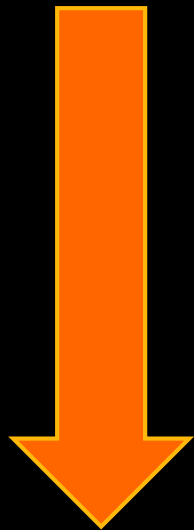


Residential Burglaries Through Open Garage Doors





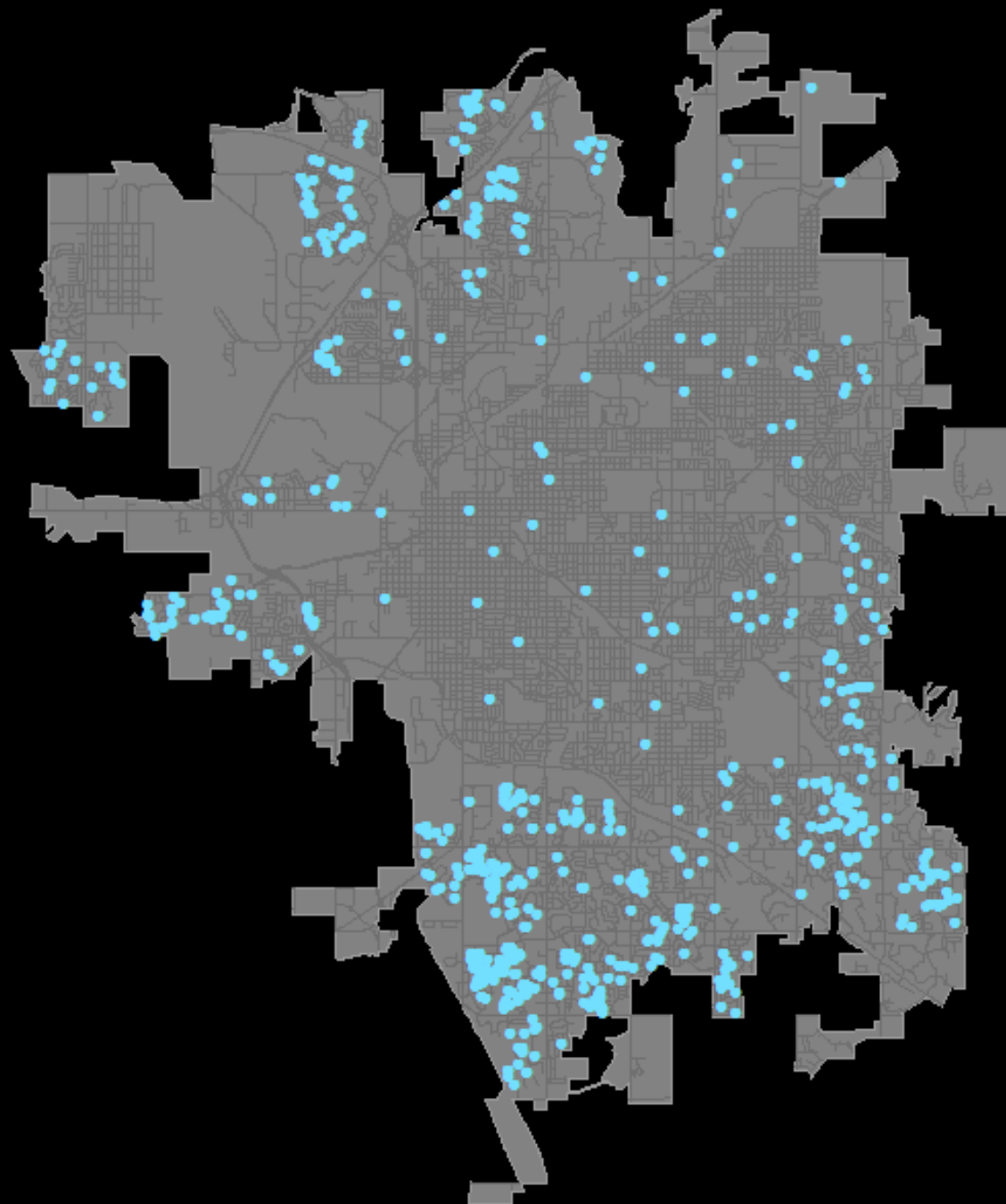
-11%



-27%



-59%



Advancing knowledge about developmental crime prevention

Brandon C. Welsh

David P. Farrington

October 8, 2010

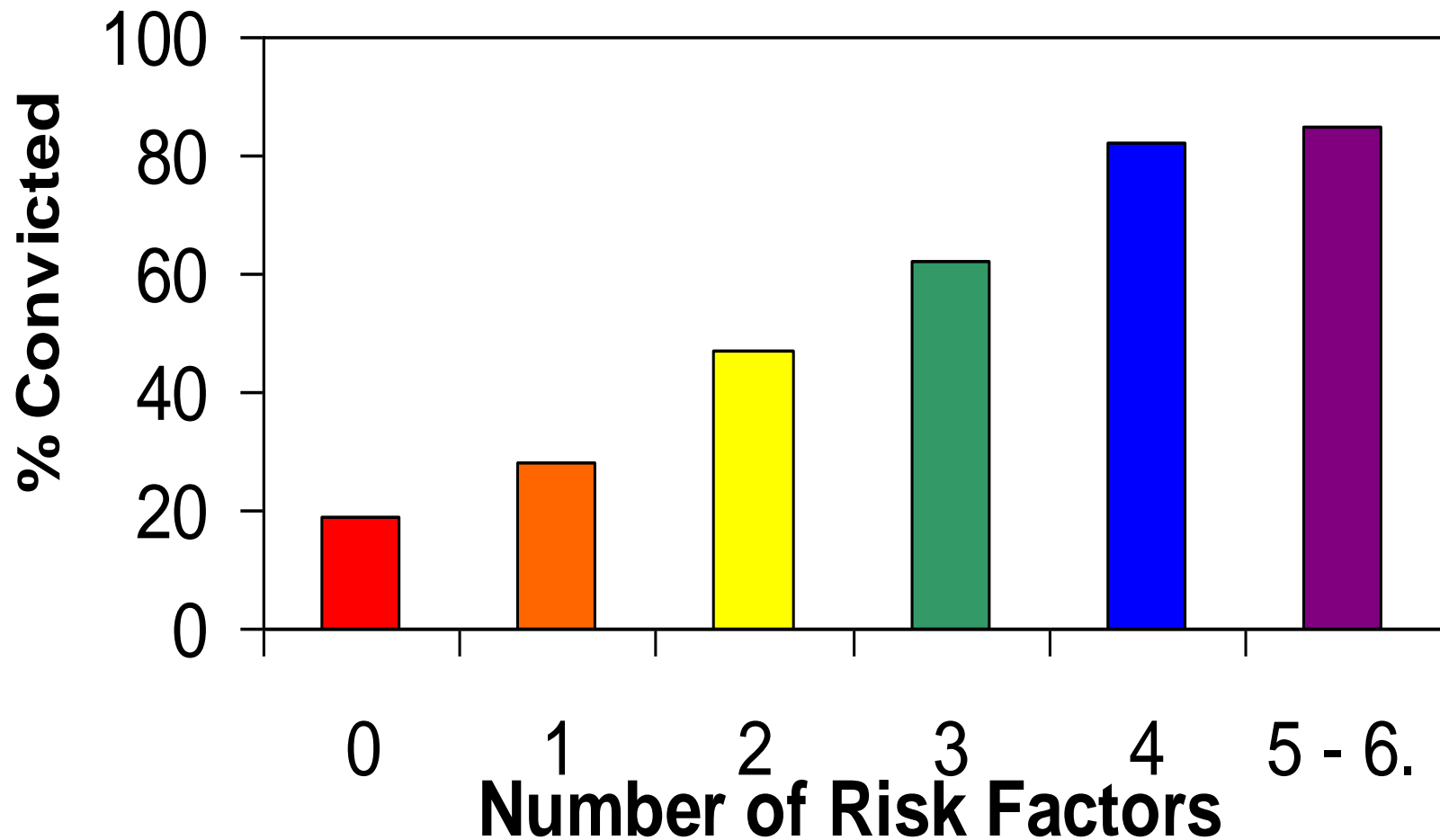
What are the causes?

- DCP focuses on targeting risk factors
- Need more research on promotive/protective factors
- Need to know mediating mechanisms/processes
- Need to establish what are the active ingredients of multiple component programs
- Need evaluations designed to test causal hypotheses versus evaluating a technology

Risk Factors for Offending

- A risk factor is a variable that predicts a high probability of offending
- Usually, risk factors are dichotomized
- This makes it easy to understand findings and communicate results to policy makers and practitioners as well as researchers
- Dichotomization makes it easy to study and understand interaction effects and multiple risk factor individuals
- Risk factors are not necessarily causes

Percent Convicted versus Number of Risk Factors



What are Protective and Promotive Factors?

- There has been confusion about the definition of protective factors in the past
- A promotive factor is a variable that predicts a low probability of offending
- A protective factor is a variable that interacts with a risk factor to nullify its effect (e.g. if poor parental supervision predicts offending in low income families but not in high income families, high income may protect against the effects of poor parental supervision)

Figure 7.1: Linear relation between a predictor and delinquency.

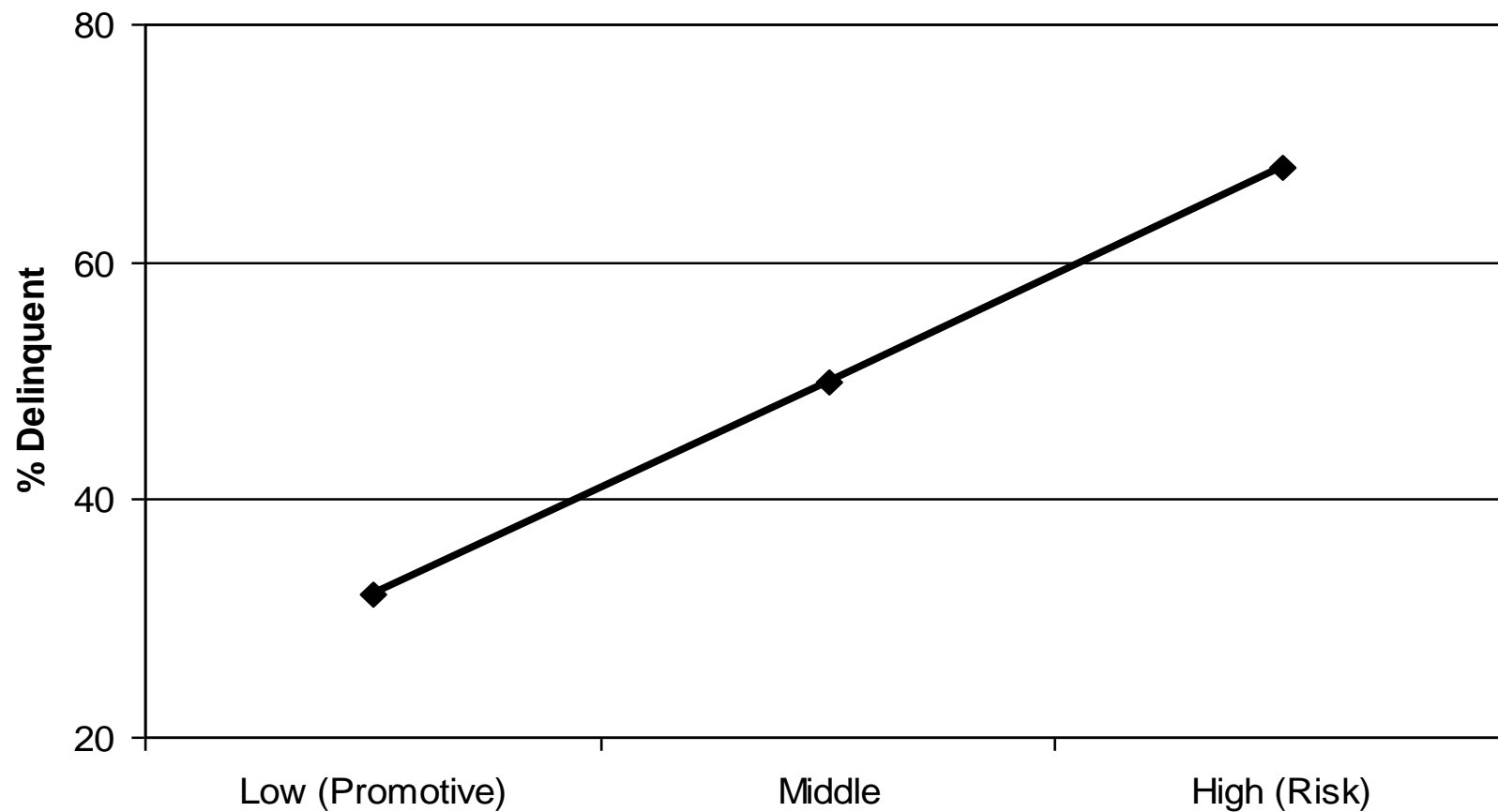


Figure 7.2: Nonlinear relation between a predictor and delinquency (Risk effect).

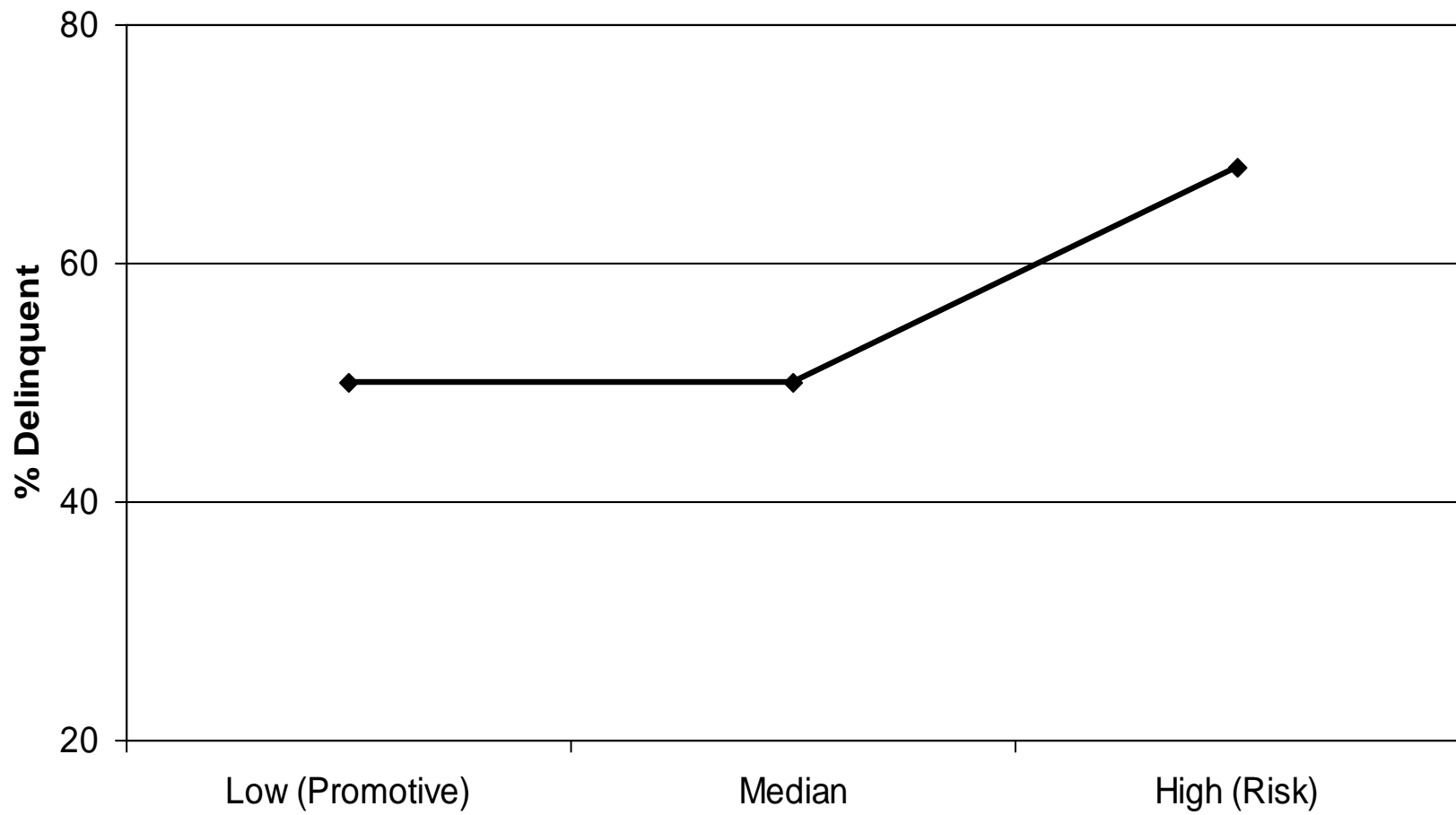
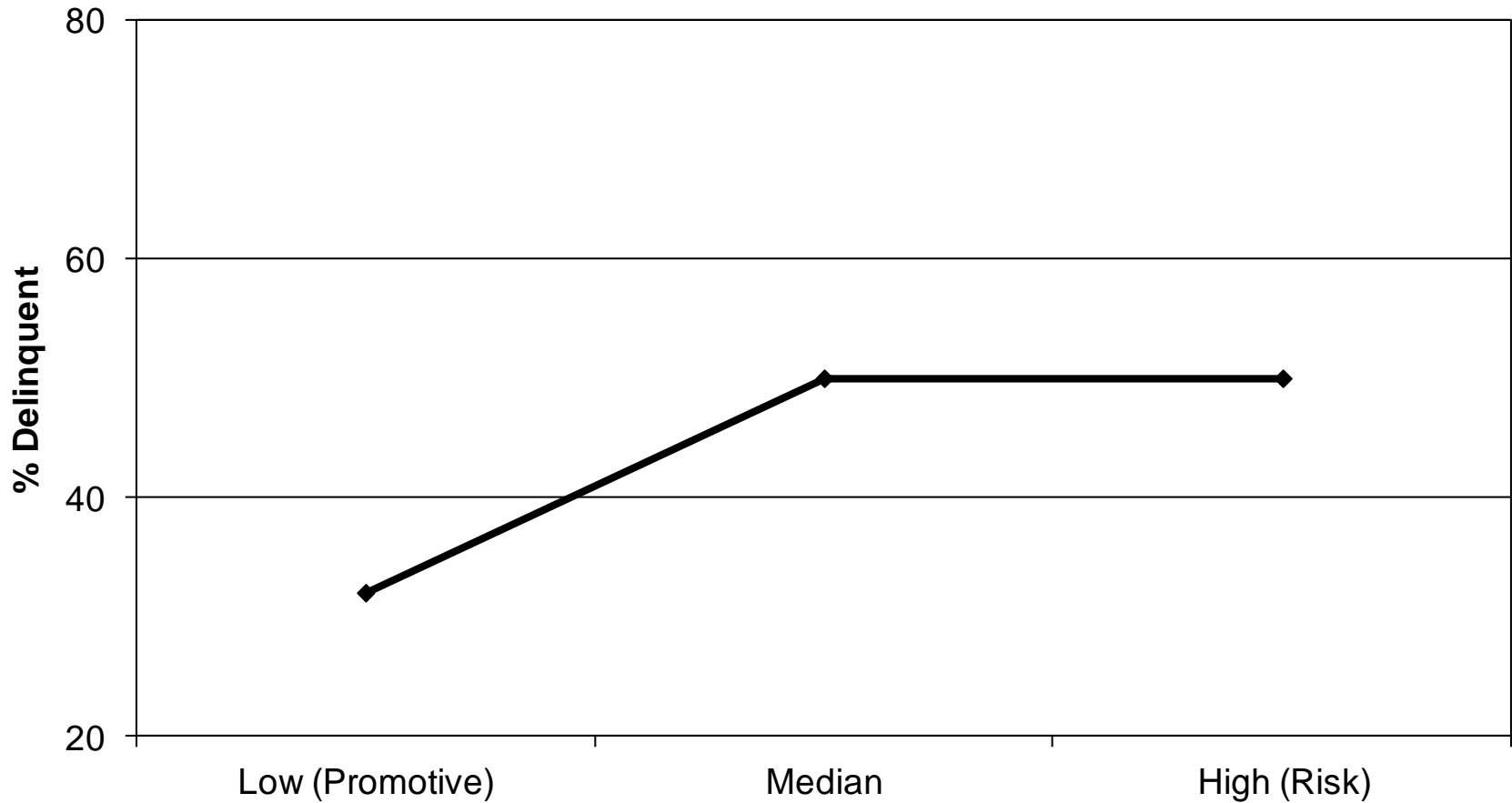


Figure 7.3: Nonlinear relation between a predictor and delinquency (Promotive effect).



Implications for Intervention

- In risk-focussed/developmental prevention, the aim is to reduce risk factors and enhance promotive /protective factors to reduce offending
- However, relatively little is known about promotive or protective factors
- Risk/needs assessment instruments should include promotive/protective factors
- More research is needed on promotive/protective factors; reanalyses of existing longitudinal studies would be desirable

A Positive Message

- Risk factors and prevention have negative connotations (focusing on defects)
- Promotive/protective factors encourage optimism about promoting a better society
- A more positive program (promoting health, strengthening competence) might be more acceptable to communities
- In Communities That Care, aim to strengthen protective factors as well as reduce risk factors

Communities that Care

- Key community leaders meet and agree to implement CTC
- Set up Community Board to take charge of CTC on behalf of the community
- Audit of problems and risk and protective factors using surveys (school, community) and records (police, school, social, census)
- Assess existing resources, choose programs from a menu of strategies that have been proved to be effective in high-quality evaluations
- Implement programs, evaluate effectiveness
- Technical assistance provided

The Menu of Strategies

- Prenatal/postnatal home visiting programs
- Preschool intellectual enrichment programs
- Parent training
- Child skills training
- Teacher training/curriculum development
- Anti-bullying programs
- Media campaigns
- Situational prevention
- Policing strategies (including Problem-Oriented Policing)

Risk Assessment

- Risk factors can be used not only to identify variables to be targeted but also to identify persons to be targeted
- The risk of offending increases with the number of risk factors a person possesses
- Risk assessment devices have to be simple so that they can be used routinely by practitioners, e.g. EARL-20B, EARL-21G
- They often include an assessment of needs, and programs may target risks and needs

What are the moderators?

- Relate types of interventions to types of individuals: what works best with whom?
- First assess needs and risks of individuals
- Target the worst 5% or the next 10%? Or everyone?
- Assess regression to the mean
- External validity in different circumstances
- From small scale to large scale application
- Measure implementation, quality control: Who received what?

What evaluation designs are needed?

- Need longitudinal-experimental studies: follow up individuals before and after intervention
- Randomly assign interventions to individuals if possible
- Control/comparison conditions are essential
- Need repeated follow-up interviews on offending
- Need to minimize attrition, especially differential
- Can do this within Communities That Care, but problem of evaluating multiple component programs

Cost-benefit analyses

- More wide-ranging measures of benefits are needed: social costs and intangible benefits
- Measure criminal career features
- Measures of life success are needed
=> e.g. education, accommodation, employment, relationships, substance use
- Compare immediate and long-term benefits
- Compare costs and benefits of DCP and SCP with police, courts, prisons

Cost-Benefit Analysis

- Very convincing argument to policy-makers: for every \$1 spent on the program, \$5 are saved
- Home Office Crime Reduction Program required cost-benefit analysis of every study
- Monetary costs of crime are enormous: Brand and Price (HORS 217, 2000) £60 billion in UK per year
- Monetary cost of a high-risk youth (Cohen 2009 JQC): \$2.6-\$4.4 million
- If program costs \$1000 per child, will have benefits > costs if save 1 in 1000 high-risk children

Doing a Cost-Benefit Analysis

- Define scope: costs and benefits to be compared
- Estimate program effects: no. of crimes prevented and health, employment, education, welfare, relationship outcomes
- Estimate monetary value: average or marginal costs and benefits, pain and suffering
- Calculate present value and profitability: benefit:cost ratio, discount for inflation
- Who gained and who lost? Taxpayer, victim and participant perspectives

Washington State (Steve Aos)

- Advantage: all costs and benefits calculated comparably for Washington State
- Disadvantage: only measure criminal justice costs (police, courts, prisons)
- Olds: benefit \$13,500, cost \$733 (per person)
- Preschool: benefit \$12,800, cost \$600
- FFT: benefit \$34,100, cost \$2,300
- TFC: benefit \$84,700, cost \$6,900
- MST: benefit \$21,500, cost \$4,300
- Conclude: invest in these to reduce the prison population and save money

Recent UK Prevention Initiatives

- The Crime and Disorder Act 1998 required local authorities, police, health, probation to form partnerships to produce a crime audit and develop prevention strategies in each area
- Audits based on records; use media, police or situational interventions
- Sure Start for age 0-3 at risk in deprived areas: childcare, health, family support, education, parenting programs: now Children's Centers (up to age 5)
- On Track for age 4-12 at risk in deprived areas
- Youth Inclusion Programs for 50 children aged 13-16 who are most at risk in deprived areas

Action Plan for Social Exclusion

- Announced September 2006 by Prime Minister Tony Blair:
- Focus on early intervention with children at risk, better coordination of agencies, evidence-based practice
- Home visiting programs targeting at-risk children from birth to age 2 (based on David Olds)
- Tackling teenage pregnancy with relationship education and better access to contraceptives
- Family-based approaches including parent training, treatment foster care, and multi-systemic therapy: National Academy of Parenting Practitioners
- Interventions for adults with mental health problems and chaotic lives

National Prevention Agency

- Most initiatives are targeted on children at risk or already identified as antisocial
- YJB and YOT initiatives overwhelmingly focused on detected offenders
- Primary prevention is largely missing
- There is no agency whose main mandate is to prevent crime. One should be established
- The model could be Sweden, where there is a National Crime Prevention Council and local crime prevention councils in over 80% of areas

Functions of a National Agency

- Continuous funding of prevention programs
- Technical assistance to local agencies
- Monitor quality of programs
- Standards for evaluation research
- Training in prevention science
- Set national prevention agenda, coordinate policies of different government departments
- Register of evaluations
- Advise government on effective programs

Five Ideas for Future Prevention Research

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October 8, 2010

Main Source of Ideas

Cook, P. J., Gottfredson, D. C, and Na, C. (2010). School Crime Control and Prevention. In Tonry, M. (ed). *Crime and Justice: A Review of Research*. Chicago: The University of Chicago Press.

Available at:

<http://www.ccjs.umd.edu/faculty/faculty.asp?p=25>

Idea # 1

Add measures of serious crime and gang membership to evaluation studies

What Outcomes are Measured in Evaluations?

- 18 studies of 178 (10%) measured serious violent crime outcomes.
- 39 studies (22%) measured serious property crime.

Source: Gottfredson, D. C., Wilson, D. B., & Najaka, S. S. (2002). School-based crime prevention. In Sherman, L. W., Farrington, D. P., Welsh, B. C., & MacKenzie, D. L. (eds.). *Evidence-Based Crime Prevention*. London, UK: Routledge.

Idea # 2

Conduct research on the validity of different crime measures

Discrepancies in Crime Estimates – Example # 1

- Youth Risk Behavior Surveillance System (2005): 8 percent of students in grades 9-12 reported being threatened or injured with a weapon on school property during the previous 12 months.
- National Crime Victimization Survey (2005): Rate of serious violent victimization at school is 4 per 1,000 (0.4 percent) for 15-18 year olds
- *YRBSS rate is 20 times as high as NCVS rate*

Discrepancies in Crime Estimates – Example # 2

- School Survey on Crime and Safety (2005-6): principals (middle and high schools) reported a total of
 - 928 thousand violent crimes
 - 206 thousand theftson school property during the school year
- National Crime Victimization Survey (2005): 12-18 year olds report a total of
 - 628 thousand violent victimizations
 - 868 thousand theft victimizationsin school

Idea # 3

Conduct research to experimentally test school climate interventions – especially those aimed communal organization and school discipline management

School Climate and Delinquency -- Important Dimensions

- Administration and management of school discipline
- Communal social organization

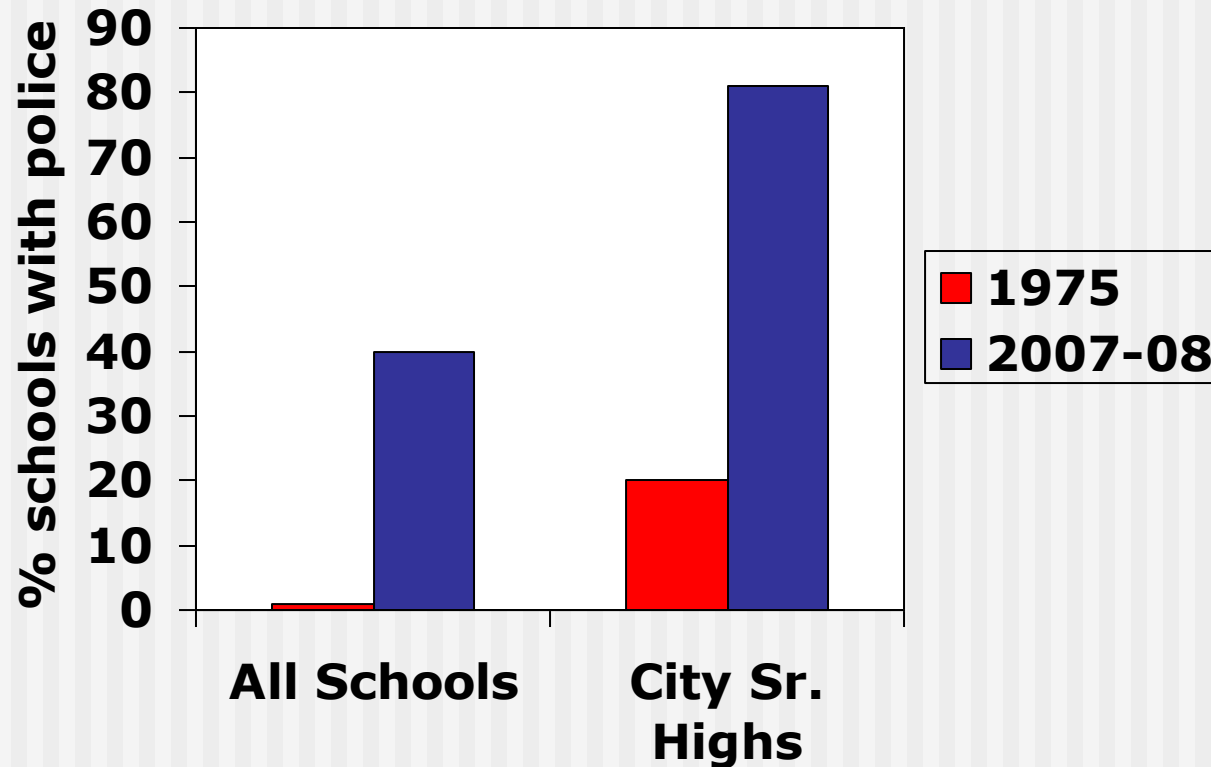
Communal Social Organization

Schools in which "...members know, care about, and support one another, have common goals and sense of shared purpose, and...actively contribute and feel personally committed"
(Solomon et al., 1997)

Idea # 4

Experimentally evaluate the use of police in schools

Change in Police Presence in Schools, 1975-2008



Possible Effects of Police in Schools

- Increased surveillance and enforcement
 - increased safety
 - increased fairness/clarity of rules
- Increased student trust → increased crime reporting
- Erosion of informal social control mechanisms
- Increased fear/distrust → weakened sense of community
- Civil liberties issues?

Research Needed

- What if the effect of SRO programs on
 - the mediators just mentioned
 - school crime and safety
- Is increased school safety achieved at the expense of having more student lost to suspension and expulsion?
- More crime in the community?

Idea # 5

Examine diffusion of costs and benefits in school-based crime prevention: System effects

Diffusion of Benefits

A selective violence prevention intervention produced significant long term reductions in aggression for the *entire* sixth grade cohort

Source: Multisite Violence Prevention Project; 2008, 2009

Recap: Recommendations for Research on Crime Prevention

- Add measures of serious crime and gang membership to evaluation studies
- Conduct research on the validity of different crime measures
- Conduct research to experimentally test school climate interventions – especially those aimed communal organization and school discipline management
 - Experimentally evaluate the use of police in schools
- Examine diffusion of costs and benefits in school-based crime prevention: System effects

Combining developmental and situational crime prevention

Brandon C. Welsh

David P. Farrington

October 7, 2010

Combining DCP and SCP

- Concepts and knowledge of one can be applied to the other: what can each learn from the other?
- DCP focuses on offending of individuals: this causes crime rates of areas (whether based on residence of offenders or location of crimes)
- SCP focuses on crime rates of areas* (and on victims): caused by offending of individuals
- Can combine both approaches in one program: CTC
- Need repeated measurement of both individual and area factors to study area influences on individuals and individuals' influences on areas
- *and other contexts e.g. schools, prisons

What are the causes?

- DCP focuses on targeting risk factors
- Need more research on promotive/protective factors
- Need to measure risk and protective factors of areas
- Need to know mediating mechanisms/processes; need interviews with offenders and victims in SCP
- Need to establish what are the active ingredients of multiple component programs
- Need evaluations designed to test causal hypotheses versus evaluating a technology

What are the moderators?

- Relate types of interventions to types of individuals or areas: what works best with whom?
- First assess needs and risks of individuals and areas
- Target the worst 5% or the next 10%? Or everyone?
- Assess regression to the mean
- External validity in different circumstances
- From small scale to large scale application
- Measure implementation, quality control: Who received what?

What evaluation designs are needed?

- Need longitudinal-experimental studies: follow up individuals and areas before and after intervention
- Randomly assign interventions to individuals and areas if possible
- If not, use quasi-experimental before-after/ intervention-control designs; long time series needed
- Control/comparison conditions are essential
- Need repeated follow-up interviews on offending and victimization
- Need to minimize attrition, especially differential

What are the benefits?

- Measure criminal career features of individuals and areas: frequency, seriousness, duration, cost of offending and crimes, not just prevalence
- Measure displacement of offending and crimes, e.g. different behavioral manifestations in DCP
- Measure diffusion of benefits, e.g. in DCP to close associates or family members
- Need adjacent and non-adjacent control areas in SCP; need to interview collateral persons and victims in DCP
- Study anticipatory crime prevention benefits

Cost-benefit analyses

- More wide-ranging measures of benefits are needed
- Include social costs and intangible benefits
- Measures of life success are needed
 - => e.g. education, accommodation, employment, relationships, substance use
- Measure non-crime benefits in SCP
 - => increasing use of streets, use of CCTV to secure admissions
- Compare immediate and long-term benefits
- Compare costs and benefits of DCP and SCP with police, courts, prisons