David Weisburd
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Charlotte Gill *Editors*

What Works in Crime Prevention and Rehabilitation

Lessons from Systematic Reviews



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Preface

This volume grew out of a symposium organized in Jerusalem and funded primarily by the Academic Study Group (ASG) of the UK. The ASG brings together UK scholars and Israeli scholars to advance scientific endeavors in a variety of fields. David Farrington was originally approached by the ASG, and he then contacted David Weisburd about the possibility of organizing a meeting focused around what we know about what works in preventing crime. After a series of discussions with John Levy of the ASG, the topic of "what we have learned from systematic reviews" was finalized. Because we wanted to bring together a broader range of scholars, we also solicited and received support from the Center for Evidence-Based Crime Policy at George Mason University, the Jerry Lee Centre of Experimental Criminology at Cambridge University, and the Faculty of Law at the Hebrew University. The Hebrew University also supported the symposium itself, which was held at its Faculty of Law in April 2012. We are very grateful to John Levy for his support of our meeting and his patience in our development of this volume.

The main aim of the symposium was to review what has been learned about the effectiveness of criminological interventions from systematic reviews. Such reviews, pioneered in medicine by the Cochrane Collaboration and in social sciences by the Campbell Collaboration, are relatively recent. Unlike the more traditional narrative reviews, they have explicit objectives, give full details about all sources searched and all searches conducted, try to obtain all potentially relevant evaluation reports (whether published or not), have explicit criteria for including or excluding studies, and focus on studies with the highest methodological quality. There has been no previous effort to summarize what has been learned from systematic reviews in criminology. We were pleased at the outset that Katherine Chabalko, the criminology editor at Springer, was as excited as we were about the possible products of our meeting and offered us early on a contract to publish this work with Springer. Katie was supportive throughout, and we very much appreciate her work on this volume as well as that of Hana Nagdimov, Springer's editorial assistant.

The symposium was extremely useful in allowing all participants to hear and comment on all papers. This was valuable in encouraging uniformity in the style of each paper and in avoiding repetition. It was decided that all chapters should include a systematic search and should include a forest graph of odds ratios from all

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included systematic reviews. It was also decided that chapters should conclude by addressing the following questions: What works? What is promising? What seems to have no effect? What is harmful? What is uncertain? What is missing?

The conference participants included seven from the UK, five from the USA, and twelve from Israel (supplemented by others from Hebrew University who sat in on sessions). We think that the symposium and subsequently this volume have led to an important contribution to advancing the knowledge base about what works in crime prevention and rehabilitation. Indeed, as readers will see, it provides a remarkable contrast to the negative assumptions regarding these interventions that were prevalent just three decades ago. We also think that this effort has helped to advance cooperation between UK and Israeli scientists, which is a major goal of the ASG, which was the primary funder of our efforts.

Finally, we are extremely grateful to Alese Wooditch, graduate research assistant in the Center for Evidence-Based Crime Policy at George Mason University, who provided substantial analytic and editorial assistance during the preparation of this volume.

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Chapter 1

Introduction: What Works in Crime

Prevention?

David Weisburd, David P. Farrington and Charlotte Gill

In 1974 Robert Martinson published an article in *The Public Interest* that was to shatter the assumptions of correctional rehabilitation scholars (Martinson 1974). Martinson, who had just completed a review of evidence of the effectiveness of correctional intervention programs with his colleagues Douglas Lipton and Judith Wilks, laid out in simple terms what he viewed as the overall conclusions of this work. The title of the article was composed of a question: "What works? Questions and answers about prison reform." But his answer was clear from the narrative he presented. Although he never actually stated that "nothing works," there could not be much doubt that this was the overarching conclusion of the review.

"Nothing works" was to become the predominant narrative in crime control in corrections, as well as in other areas of criminal justice, such as policing and community supervision (e.g., Bayley, 1994; Cullen & Gendreau, 2001; Sechrest, White, & Brown, 1979; Weisburd & Braga, 2006). Indeed, by the 1990s most criminologists had all but abandoned the idea that programmatic interventions could influence recidivism. The idea that crime prevention or crime control could be effective had literally become a radical idea. Instead most criminologists turned their attentions to broader social and structural impacts on crime (Cullen &

Portions of this chapter are based on Farrington, Weisburd, and Gill (2011).

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Gendreau, 2001). To argue that specific crime prevention programs could reduce recidivism or deter crime no longer fit within the lexicon of what was known about crime and its control.

Over the past three decades, much has changed. Many pioneering criminologists were unwilling to accept the then accepted wisdom that rehabilitation programs in prison did not affect recidivism, or as David Bayley argued simply in the early 1990s that "(t)he police do not prevent crime" (Bayley, 1994, p. 3). The 1990s was to be a decade of tremendous vitality and innovation in crime prevention and rehabilitation. And it was to produce a host of studies that showed that many strategies do work. Many scholars in this period argued that it was time for criminologists and crime prevention scholars to abandon the "nothing works" idea. After reporting on the positive crime prevention outcomes of the Minneapolis Hot Spots Experiment, Sherman and Weisburd (1995, p. 647) argued that "it is time for criminologists to stop saying that 'there is no evidence' that police patrol can affect crime." Frank Cullen (2005), reviewing research in rehabilitation in his 2004 Presidential Address to the American Society of Criminology, noted that "in the space of three decades ... scholars have contributed mightily to transforming the discourse on rehabilitation from the 'nothing works doctrine' to inquiries about 'what works' and 'best practices."

Although it is no longer an innovation to argue that many interventions and programs in the criminal justice system work, we know of no collection of essays that review broadly what has been learned about crime prevention and rehabilitation over the past few decades. That is our purpose in this volume, which grew out of a meeting in Jerusalem sponsored by the Academic Study Group, the Jerry Lee Centre of Experimental Criminology at Cambridge University, the Hebrew University, and the Center for Evidence-Based Crime Policy at George Mason University. The meeting was developed to bring together evidence about "what works" in developmental and social prevention, communities, situational crime prevention, policing, corrections, sentencing, and drug prevention. Importantly, it began with a specific approach to answering this question that draws from the methodology used in Martinson's original efforts. Martinson's original work was based on one of the first "systematic reviews" of research evidence in criminology. A systematic review differs from a traditional narrative review in that it has clear and established rules and procedures for identifying the studies that are summarized (e.g., Cooper, 1998; Cooper & Hedges, 2009; Petrosino, Boruch, Soydan, Duggan, & Sanchez-Meca, 2001). Since Martinson's work, methods of systematic review have become more rigorous and have been enhanced by statistical methods that summarize the effect sizes of studies (i.e., meta-analysis). We decided at the outset to capitalize on systematic reviews of research in each of the seven domains listed above, which in turn draw on the results of scores of research studies.

This approach allows us to provide a highly rigorous assessment of what is known about crime prevention and rehabilitation. This is the first comprehensive review of systematic reviews across areas in crime prevention and rehabilitation of which we are aware. As we argue in our conclusions, our findings reinforce strongly the idea that criminal justice programs and interventions can rehabilitate offenders

and prevent crime. Not everything works, but overall the portrait of crime prevention and rehabilitation that our work provides is extraordinarily optimistic.

In this introductory chapter, we begin by asking why Martinson's paper had such strong influence on crime prevention and the criminological community. We then turn to a discussion of systematic reviews and how they improve our ability to summarize what works in preventing crime and rehabilitating offenders. After describing systematic reviews, we introduce the work of the Campbell Crime and Justice Group, whose efforts have played a key role in advancing systematic review in the crime and justice arena. Campbell reviews, as we note, are the predominant source for systematic reviews of evidence in our volume. Finally, we briefly describe the focus of each of the chapters in our book.

Martinson and Nothing Works

One question that seems reasonable four decades after Martinson wrote his influential 1974 article is why did it have so much impact on criminologists? It seems unlikely that one article summarizing a specific area of rehabilitation should have such influence on the "tone" of crime prevention and rehabilitation scholarship more generally. One reason for the influence of Martinson's work was that it "debunked" what criminologists and crime prevention specialists seemed to assume at the time—that rehabilitation programs were effective. Debunking conventional knowledge is a very attractive position for scholars. And Martinson developed his paper using a method of presentation focused directly on challenging common assumptions.

Martinson crafted his paper using a rhetorical style that first stated what we had assumed about correctional rehabilitation programs. For example,

"Isn't it true that a correctional facility running a truly rehabilitative program—one that prepares inmates for a life on the outside through education and vocational training—will turn out more successful individuals than will a prison which merely leaves its inmates to rot?" "But when we speak of a rehabilitative prison, aren't we referring to more than education and skill development alone? Isn't what's needed some way of counseling inmates, or helping them with deeper problems that have caused their maladjustment?"

"All of this seems to suggest that there's not much we know how to do to rehabilitate an offender when he's in an institution. Doesn't this lead to the clear possibility that the way to rehabilitate offenders is to deal with them outside an institutional setting?"

His answer to each of these questions was that we have little evidence that supports such programs, which led him to ask rhetorically:

Do all of these studies lead us irrevocably to the conclusion that nothing works, that we haven't the faintest clue about how to rehabilitate offenders and reduce recidivism?

While Martinson never actually asserted that "nothing works," his paper led inevitably to that conclusion and set off a storm of controversy and criticism regarding rehabilitation and prevention programs.

A further reason for the paper's influence was the systematic nature of the report by Lipton, Martinson, and Wilks (1975) on which it is based. That report was one of the first truly systematic reviews of evidence in criminology, examining not only the study results but also the nature of the methods used and the specific components of the interventions examined. The report is persuasive, even reading it four decades later. But the influence of Martinson's work was not simply a function of the quality of the report on which it is based. It was also fueled by the reaction of the agency that sponsored it, the New York State Governor's Special Committee on Criminal Offenders. Upon receiving the final report in 1972, they refused to publish it, which led to the report gaining a powerful underground reputation. When it was finally published in 1974 after a court case on prison conditions led to its release, it quickly became one of the most cited publications on crime.

Moreover, Martinson's conclusions were to be reinforced by a National Academy of Sciences panel on correctional interventions in 1979 (Sechrest, White, & Brown, 1979). Importantly, similar conclusions were being developed in other fields, though sometimes the basis of the evidence was cumulative across studies rather than drawn from a single review (Weisburd & Braga, 2006). Evaluations of key police prevention approaches such as generalized preventive patrol and rapid response to citizen calls for service suggested that these programs did little to reduce crime (Kelling, Pate, Dieckman, & Brown, 1974; Spelman & Brown, 1984). Indeed, by the 1990s, David Bayley (1994, p. 3) could argue with confidence (as noted earlier) that:

The police do not prevent crime. This is one of the best-kept secrets of modern life. Experts know it, the police know it, but the public does not know it. Yet the police pretend that they are society's best defense against crime ... This is a myth.

Although the assumption that nothing works was to gain wide acceptance among criminologists, scholars began almost from the outset to question the broad scope of conclusions that Martinson and others had reached. Palmer (1975), for example, argued that Martinson had overlooked many positive findings in his review in order to come to a strong general statement about the ineffectiveness of crime correctional programs (see Lipton, Martinson, & Wilks, 1975). Sherman and Weisburd (1995) take a similar view of the "nothing works philosophy" in policing, noting that despite studies such as the Kansas City Preventive Patrol Experiment, the 1970s produced examples, albeit isolated, of successful policing initiatives.

It was clear that many crime prevention and rehabilitation efforts did not work. But the conclusion that *nothing* worked was in some ways as naive as the assumptions prevalent before the 1970s, a period in which an unjustified exuberance in crime prevention efforts was common (Visher & Weisburd, 1998). Lipsey (1992) suggests that the debate over the effectiveness of treatment programs was fueled in part by the nature of the distribution of research results. Using the example of juvenile interventions, he illustrates a wide diversity of program effects. Added together, they result in a finding of no difference. But taken study by study, they show that there are programs that have large and significant impacts and others that do not. Similarly, Farrington, Ohlin, and Wilson (1986), while acknowledging the many

negative research findings, conclude from a review of randomized experiments that they "do not show that 'nothing works" (p. 9).

Martinson (1976) himself seemed to have drawn a different conclusion regarding the ability of society to do something about crime in a response to a critique of his 1974 article. He did not conclude that criminologists and policymakers should throw up their hands and close shop. Rather, he argued that we had to pull up our shirtsleeves and get to work to develop smarter crime prevention policies. Martinson wrote:

The aim of future research will be to create the knowledge needed to reduce crime. It must combine the analytical skills of the economist, the jurisprudence of the lawyer, the sociology of the life span, and the analysis of systems. Traditional evaluation will play a modest but declining role. (1976, p. 181)

Martinson certainly was correct in his expectation that economists would begin to play a more important role in criminology and crime policy (e.g. Bushway, 1998, 2004; Cook, 1980, 1986; Levitt, 1996, 2004). It is also the case that criminologists have taken advantage of basic theory and systems research to understand crime across the life course (Piquero, Farrington, & Blumstein, 2003; Sampson & Laub, 1992). However, Martinson (1976) did not recognize that traditional evaluation, as he defined it, could become a key part of this new knowledge base that would inform crime policy. Martinson (1976) essentially dismissed the potential of focused evaluation research to provide important knowledge about crime control. Our book provides the most comprehensive review of what evaluation evidence tells us about the prevention of crime and rehabilitation of offenders. To do that, we focus on systematic reviews of research evidence.

Summarizing Research Evidence

In 1978, Carol Weiss, one of the early leaders in program evaluation, wrote that evidence should be synthesized to make it more useful to policymakers, rather than expecting them to rely on individual (and potentially conflicting) studies (Weiss 1978). But synthesizing evidence is not only important for policymakers, it is also key to scholars who must reach conclusions regarding what research tells us about prevention and rehabilitation. Deciding what works to reduce crime and delinquency requires us to examine the results of previous evaluation studies whenever they are available. This is better than drawing conclusions about what works from our personal experience, anecdotal evidence, widespread beliefs, or a single study that was well funded or heavily publicized.

Beginning in the 1970s, the traditional methods used in reviews of research evidence began to be seriously criticized (see Petrosino et al., 2001 for a review). One criticism focused on the general lack of explicitness of reviews: Most suffered from a lack of detail about how the reviewer conducted the research. Information was often missing about why certain studies were included while others were excluded

from the review. Sometimes this lack of detail was caused by space limitations imposed on reviewers by journal or book editors; however, reports of reviews often did not describe what literature searches were carried out in order to locate relevant evaluation studies. It was often difficult for the serious reader to determine how the reviewers came to their conclusions about what works. Too often, the reader was forced to accept and trust the reviewer's expertise and was not given sufficient information to permit replication of the reviewer's methods. A second criticism focused on the methods used. Most of the reviewers did not attempt to control for problems that could potentially bias their review toward one conclusion rather than another. At its worst, a reviewer advocating a particular conclusion could selectively include only studies favoring that viewpoint in the review. For example, a reviewer in favor of strict gun control laws could ignore evaluations that found little effect of such laws. Such intentional distortion was fortunately rare in academic reviews.

More common than intentional distortion was the failure to deal with potential biases that could compromise the results of a review. For example, some reviewers examining what works relied on easy-to-obtain journal articles as the only source of reports of evaluations. An advantage of journal articles over other documents is that they have usually passed a rigorous peer review process. Unfortunately, research in other fields suggests that relying on journal articles can bias the results toward concluding that interventions are more effective than they really are. This is because researchers in many fields are more likely to submit their papers to journals when they find a positive effect of an intervention and are more likely to bury the manuscript in their file drawer when they do not. Both authors and journal editors are biased against papers reporting no effect, sometimes falsely assuming that such papers do not contribute to knowledge. This is called publication bias (see Rothstein & Hopewell, 2009; Rothstein, Sutton, & Borenstein, 2005).

A third criticism is that inexplicit and unsystematic review methods cannot cope with the incredible increase in research worldwide. For example, the number of journals that now publish materials relevant to crime and justice is enormous compared to that just a few years ago. Relying on journals available in a library or on papers collected in office files will no longer ensure coverage of all available studies. The Internet now makes hundreds—if not thousands—of evaluation reports readily accessible to prospective reviewers. In the same way that it would be difficult to make sense of a large, growing, and scattered collection of police reports or prison files without orderly methods, it is also difficult to make sense of the burgeoning and scattered number of relevant evaluation studies without some systematic method for doing so.

Systematic Reviews

What are systematic reviews? These are reviews that use rigorous methods for locating, appraising, and synthesizing evidence from previous evaluation studies (see Farrington & Petrosino, 2000; Farrington, Weisburd, & Gill, 2011; Littell,

Corcoran, & Pillai, 2008). They contain methods and results sections, and are reported with the same level of detail that characterizes high-quality reports of original research. Other features of systematic reviews include:

- 1. Explicit objectives. The rationale for conducting the review is made clear.
- 2. Explicit eligibility criteria. The reviewers specify in detail why they included certain studies and rejected others. What was the minimum level of methodological quality for inclusion in the review? Did they consider only a particular type of evaluation design such as randomized experiments? Did the studies have to include a certain type of participant, such as children or adults? What types of interventions were included? What kinds of outcome data had to be reported in the studies? All criteria or rules used in selecting eligible studies are explicitly stated in the final report.
- 3. The search for studies is designed to reduce potential bias. There are many potential ways in which bias can compromise the results of a review. The reviewers must explicitly state how they conducted their search of potential studies to reduce such bias. How did they try to locate studies reported outside scientific journals? How did they try to locate studies in foreign languages? All bibliographic databases that were searched should be made explicit so that potential gaps in coverage can be identified (and reviews can be replicated).
- 4. Each study is screened according to the eligibility criteria, with exclusions justified. The searches always locate many citations and abstracts to potentially relevant studies. Each of the reports of these potentially relevant studies must be screened to determine whether it meets the eligibility criteria for the review. A full listing of all excluded studies and the justifications for exclusion should be made available to readers.
- 5. Assembly of the most complete data possible. The systematic reviewer will generally try to obtain all relevant evaluations meeting the eligibility criteria. In addition, all data relevant to the objectives of the review should be carefully extracted from each eligible report and coded and computerized. Sometimes, original study documents lack important information. When possible, the systematic reviewer will attempt to obtain this from the authors of the original report.
- 6. Quantitative techniques are used, when appropriate and possible, for analyzing results. Although there is still some confusion about the meaning of these terms, it is useful to distinguish between a systematic review and a meta-analysis. A meta-analysis involves the statistical or quantitative analysis of the results of previous research studies (see Borenstein, Hedges, Higgins, & Rothstein, 2009; Lipsey & Wilson, 2001). Because it involves the statistical summary of effect sizes and their correlates, it requires a reasonable number of intervention studies that are sufficiently similar to be grouped together. For example, there may be little point in reporting a weighted mean effect size based on a very small number of studies. Nevertheless, quantitative methods can be very important in helping the reviewer determine the average effect size of a particular intervention and under what circumstances it works best.

A systematic review may or may not include a meta-analysis. For example, a reviewer may only find a few studies meeting the eligibility criteria. Although a meta-analysis can in theory be conducted with just two studies, in practice

those studies may, for example, differ just enough in the operational definition of the intervention or in the way they were conducted to make formal meta-analysis inappropriate and potentially misleading. It is important not to combine apples and oranges for calculating a weighted mean effect size. Chapters 4 and 5 of this volume include examples of systematic reviews in which meta-analysis was not performed due to a small number of studies and heterogeneity across evaluations.

Qualitative reviews are relatively new in the arena of systematic review, but can provide important information on factors that are ordinarily not easily examined in quantitative systematic reviews. For example, the mechanisms underlying what works have become a key focus of many crime prevention researchers (Laycock & Tilley, 1995). Qualitative studies are particularly well placed to examine such concerns. In Chap. 9 of this volume, Mimi Ajzenstadt discusses the use of qualitative systematic reviews in criminology and also provides examples.

7. Structured and detailed report. The final report of a systematic review is structured and detailed so that the reader can understand each phase of the research, the decisions that were made, and the conclusions that were reached. In principle, it should be possible for an independent scholar to replicate both the review and the results.

Campbell Systematic Reviews in Crime and Justice

An important model for the development of systematic reviews has come from the Cochrane Collaboration, which seeks to prepare, maintain, and make accessible systematic reviews of research on the effects of health-care interventions (see http://www.cochrane.org). The Cochrane Library, with more than 1200 completed and maintained reviews on a variety of treatments, is now widely recognized as the single best source of evidence on the effectiveness of health-care and medical treatments, and it has played an important role in the advancement of evidence-based medicine.

In 1999, the founder of the Cochrane Collaboration, Sir Iain Chalmers, made an effort with University of Pennsylvania Professor Robert Boruch to create a similar infrastructure for reviews on what works in areas such as education, social welfare, and criminology (see Petrosino, Boruch, Farrington, Sherman, & Weisburd, 2003a). This resulted in the establishment of the Campbell Collaboration, named after the influential methodologist, psychologist, and evaluation theorist Donald T. Campbell (1917–1996). At a meeting in Philadelphia attended by over 80 persons from 12 different countries, the Campbell Collaboration was inaugurated in February 2000 to prepare, maintain, and make accessible systematic reviews of research on the effects of social, educational, and criminological interventions. At that February 2000 meeting, the Campbell Collaboration established a Crime and Justice Group (C2CJG) and Steering Committee to coordinate the work of this Group (see Farrington & Petrosino, 2001; Petrosino, Farrington, & Sherman, 2003b).

The mission of the C2CJG is to prepare and disseminate systematic reviews of high-quality research on methods to reduce crime and delinquency and improve the quality of justice. Campbell systematic reviews undergo a rigorous editorial process at three stages—the title proposal, protocol (plan for conducting the review), and the final review itself to ensure that the search is comprehensive, the methods are accurate, and the inclusion/exclusion criteria and conclusions are free from bias. Where possible, Campbell reviews also strive to be international in scope (see Farrington et al., 2011; The Campbell Collaboration, 2015).

In the past 15 years since it was founded, the C2CJG has made considerable progress in completing and disseminating systematic reviews. As of June 2015, 38 reviews have been published (some of which have been updated to account for emerging new evidence) and a further 36 reviews are in progress. The topics of the completed reviews range from policing tactics to mentoring at-risk juveniles to corporate crime prevention. Campbell reviews have been downloaded tens of thousands of times, featured at researcher and practitioner conferences around the world, and used in government debates and policymaking (e.g. Woodhouse, 2010).

Reviewing Systematic Reviews

In developing this volume, we did not restrict the authors only to Campbell systematic reviews—we simply asked our authors to analyze systematic reviews in a particular area. However, the Campbell Collaboration remains the most important resource for systematic reviews of what works in crime and justice. Moreover, Campbell reviews provided a baseline for quality that could be used in assessing whether systematic reviews should be included in a comprehensive examination of the research evidence in a field. In the chapters that follow, we review the evidence base from systematic reviews in key areas of crime prevention and rehabilitation across the life course and at each stage of the criminal justice process. We ask: What has been studied? Which programs are most effective? Which programs or interventions appear not to work? How rigorous are research designs in that area? What areas still need to be studied, and how can methods of systematic review be advanced to extend existing knowledge?

In Chap. 2, David Farrington, Maria Ttofi, and Friedrich Lösel examine the evidence base for developmental and social prevention programs on offending outcomes. Developmental and social programs are interventions that are provided in the community to children and adolescents up to age 18. They are designed to alter individual, family, and school risk factors in order to prevent antisocial behavior. Chapter 2 assesses the research on general prevention programs and those aimed at individual children, families, and school students, including early-childhood home visitation, bullying prevention, and interventions for youth with certain conduct disorders.

Chapter 3 focuses on community interventions, broadly defined as civic engagement in crime prevention, supportive interventions for at-risk youth such

as mentoring, and community correctional and reentry programs for adjudicated offenders. In this chapter, Charlotte Gill discusses the limited evidence base for community interventions and the challenge of defining "community" and its role in crime prevention, and describes the mechanisms of community prevention most likely to impact crime.

In Chap. 4, Kate Bowers and Shane Johnson discuss what works in situational crime prevention—interventions that seek to prevent crime by reducing opportunities and/or increasing the effort and risk to offenders. In addition to identifying effective situational approaches, Bowers and Johnson assess the contextual factors, such as the time and place of implementation or the type of crime targeted, that explain the variability in effectiveness of these types of approaches.

Cody Telep and David Weisburd examine the effectiveness of policing strategies in Chap. 5. They highlight a substantial growth in the number of systematic reviews in policing over the past decade and assess whether the findings of these reviews counter the "nothing works" claims made about policing as recently as the early 1990s. The review of the evidence concludes with a discussion of the methodological shortcomings the authors identify in many of the primary studies and recommendations for improving future policing research.

In Chap. 6, Amanda Perry reviews the research on deterrence-based sentencing strategies. In the context of increasing prison and jail populations in a number of countries, it has become increasingly important to assess the relative effectiveness of different sentencing practices, the impact of deterrence-based strategies versus individualized treatment, and the choice of custodial versus non-custodial sentences. However, despite a number of systematic reviews and primary studies in this area, there are questions about whether the findings are generalizable to non-US contexts.

In Chap. 7, David B. Wilson assesses what works in correctional programs designed to rehabilitate offenders. In addition to highlighting the most effective rehabilitation programs, this chapter discusses the types of risk factors and focuses on areas that are generally addressed by correctional programming, and the need for further research on which of these factors are most important for successful rehabilitation.

Katy Holloway and Trevor Bennett review what works in drug treatment and prevention interventions in Chap. 8. The impact of drug treatment programs on criminal behavior has not been studied to the same extent as the effect of these programs on more immediate behaviors such as drug use, but there is a growing body of evidence involving crime outcomes. The authors offer directions for future research, including whether drug interventions play a role in crime reduction beyond individual behavior change.

Chapters 9–11 provide insights into how the current use of systematic reviews can be extended to better answer questions about what works. Qualitative research is usually excluded from systematic reviews, which tend to focus highly on assessments of internal validity and quantitative synthesis of findings. In Chap. 9, Mimi Ajzenstadt attempts to bridge the gap between quantitative and qualitative reviews by highlighting the important roles qualitative research can play in understanding the mechanisms of effective programs and generating knowledge for future evaluations.

In Chap. 10, Michael Caudy, Faye Taxman, Lienshang Tang, and Carolyn Watson provide an overview of the Evidence Mapping to Advance Justice Practice project, which focuses on assessing the quality of systematic reviews and meta-analysis. The authors highlight a number of challenges in primary evaluation research and systematic reviews alike, and make recommendations for improving the quality of future research synthesis.

Jacqueline Mallender and Rory Tierney discuss the importance of including economic analyses in systematic reviews in Chap. 11. While an important goal of systematic review is to distill a large amount of information into a manageable summary for policymakers and practitioners, very few reviews or primary studies include the cost—benefit data crucial to policy decision-making. Chapter 11 provides examples of the use of economic analysis in systematic reviews and offers a methodology for combining high-quality research evidence with jurisdiction-specific economic models.

In Chap. 12, we conclude with an overview of what has been learned about the effectiveness of crime prevention and criminal justice interventions based on our review of systematic reviews. As we noted at the outset, we find much evidence for optimism. The "nothing works" conclusion is certainly not consistent with the vast array of studies that show that intervention and prevention programs are effective. Not all programs work, but many do and this provides a basis for guiding crime policies. This concluding chapter also summarizes the additional lessons and areas for improvement highlighted by this exercise, including improving the utility of systematic reviews to policymakers, extending the scope and quality of both primary evaluation research and meta-analytic models, and the need for continuous innovation and improvement in both research and practice.

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Chapter 2 **Developmental and Social Prevention**

David P. Farrington, Maria M. Ttofi and Friedrich A. Lösel

The main aim of this chapter is to assess systematic reviews of the effects of developmental and social prevention programs (hereafter shortened to developmental prevention programs) on offending outcomes. These programs are defined as community-based programs designed to prevent antisocial behavior, targeted on children and adolescents up to age 18, and aiming to change individual, family, or school risk factors. These programs can be distinguished from situational or physical prevention programs and from criminal justice prevention based on deterrence, rehabilitation, or incapacitation.

Over the past few decades, numerous developmental prevention programs have been implemented in families, kindergartens, schools, family education centers, child guidance clinics, and other contexts to reduce risk factors and strengthen protective factors in child development. Universal prevention programs target the whole population, or an age cohort, a neighborhood or a school, irrespective of who is at risk or not. Selective prevention includes programs that address specific risk groups such as single parent, lower-class families, or minority families in deprived neighborhoods. Indicated prevention programs address families whose children already reveal behavior problems. As with primary, secondary, and tertiary prevention, the categories partially overlap. For example, some "prevention" programs contain treatment for high-risk children and—as in public health care—universal prevention also serves some children or families who are at risk. In principle,

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universal prevention approaches are more easily implemented because they do not require risk assessment and selection and avoid potential problems of stigmatization. However, for financial reasons, universal programs must be less intensive and thus may not sufficiently meet the needs of high-risk groups.

Many programs focus on individual children or youth by providing training in social competencies, interpersonal problem solving, and other behavioral or cognitive skills. Other programs concentrate on the family by providing training in parenting skills, counseling on child rearing, or coping with family stress. School-oriented programs address issues of school and class climate, the origins of bullying, and authoritative teacher behavior. However, an increasing number of programs are multimodal and contain program components for children, parents, schools, and other social contexts such as peers or neighborhood (e.g. Hawkins, Brown, Oesterle, Arthur, Abbott, & Catalano, 2008; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009). Developmental prevention programs also vary in numerous other characteristics (see, e.g. Farrington & Welsh, 2007; Lösel & Bender, 2012):

- Breadth of targets, e.g. general promotion of child development, focus on social behavior, or prevention of specific behavior problems such as violence;
- Children's age at intervention, e.g. pregnancy/postnatal, early or late childhood, and adolescence;
- Degree of program structure, e.g. unstructured counseling, semi-structured guidance, or detailed manuals for training in skills;
- Recruitment of participants, e.g. proactive contact with at-risk families, general
 offers to schools and families, and mandatory intervention for juveniles or families at risk;
- Format of delivery, e.g. individual counseling, group teaching, mixed approaches;
- Intensity and dosage, e.g. a handful of sessions, regular contact over a few months, long-lasting implementation over several years;
- Theoretical foundation, e.g. based on social learning, attachment theory, psychodynamic concepts, or an eclectic integration of different approaches; and
- Evaluation, e.g. no systematic evaluation at all, some methodologically weak process and/or outcome data, controlled evaluation studies, randomized controlled trials, and multiple replications.

Because of these and other issues the field of developmental prevention is extremely varied, and it is difficult to draw consistent conclusions across all areas. Therefore, we had to restrict our inclusion criteria and we excluded reports that may have some criminological relevance (e.g. on child externalizing behavior), but were not directly addressing a criminological topic.

The inclusion criteria for our review were as follows:

1. The report describes a systematic review and/or a meta-analysis. A systematic review has explicit inclusion/exclusion criteria and explicit information about searches that were carried out. A meta-analysis specifies effect sizes and reports a summary effect size. Systematic reviews that yielded no includable studies—so-called "empty" reviews (e.g. the Campbell Collaboration reviews by Fisher, Montgomery, & Gardner, 2008a, b)—were excluded.

- 2. The report summarizes individual, family, or school programs targeted on children and adolescents up to age 18 and implemented in the community. We classified programs that targeted individual risk factors in schools as school-based programs. In the interests of including more reviews, this criterion was relaxed to include high-quality reviews targeting adolescents aged between 10 and 21 (Wilson & Lipsey, 2000; Wilson, Lipsey, & Soydan, 2003a). Clinic and institutional programs are excluded, but again the criterion was relaxed to include high-quality reviews including a minority of clinic or institutional programs (Sukhodolsky, Kassinove, & Gorman, 2004; Wilson et al., 2003a). Mentoring programs are excluded because they are included in Chap. 3.
- 3. The report summarizes effects on outcomes of delinquency, offending, violence, aggression, or bullying. Originally we included antisocial behavior, conduct disorder (CD), and conduct problems, but the number of reviews on these topics was too many to include. (Many reviews on these topics are listed in Table 2.1 as excluded reports.) In the interests of including more reviews, we included high-quality reviews that primarily focused on one or more of our outcomes but also included studies of other (disruptive or antisocial behavior) outcomes (Mytton, DiGuiseppi, Gough, Taylor, & Logan, 2002; Park-Higgerson, Perumean-Chaney, Bartolucci, Grimley, & Singh, 2008; Wilson & Lipsey, 2000, 2007). We excluded reports focusing on substance abuse because these are included in Chap. 8.
- 4. We excluded earlier reviews that were superseded by later reviews (by the same authors), reviews not published in English, and reviews that did not report outcomes separately (e.g. for juveniles vs. adults, or for offending vs. antisocial behavior). We also excluded reviews of juvenile correctional treatment (see e.g. Garrett, 1985; Lipsey, 2009; Walker, McGovern, Poey, & Otis, 2008); reviews of adult correctional treatment are included in Chap. 7.

We searched Google Scholar and PsycINFO up to the end of 2012 using the following keywords: systematic review/meta-analysis, prevention, and delinquen*/offend*/violen*/aggress*/bully*.

Table 2.2 summarizes key features of included reviews, while Table 2.3 summarizes key results of included reviews. Table 2.1 summarizes some reviews that were screened and obtained but excluded, together with reasons for their exclusion. The most common reason was that they did not provide specific information about one of our outcomes of interest. Table 2.4 summarizes weighted mean effect sizes in each review, and their associated confidence intervals (CI). The aim was to convert each effect size into an odds ratio (OR), with OR values greater than 1, indicating an effective program. Where there were two or more effect sizes, a summary effect size was calculated by inversely weighting each effect size by its variance. This is based on the assumption of independence of effect sizes, which may not be true. To the extent that effect sizes are not independent, CI would be wider.

Since 2012, there have been additional systematic reviews of developmental prevention programs. For example, Evans, Fraser, & Cotter (2014) published a review of antibullying programs, and Leen, Sorbring, Mawer, Holdsworth, Helsing, & Bowen (2013) published a review of interventions for adolescent dating violence.

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Researchers (Date)	Intervention	Reason for exclusion
Babcock, Green, & Robie (2004)	Cognitive-behavioral therapy for domestic violence	Studies of adults
Baldry and Farrington (2007)	Antibullying programs in schools	Earlier version of Farrington and Ttofi (2009)
Barlow and Parsons (2009)	Parent training	Outcome measures were child problem behaviors
Barlow, Parsons, & Stewart-Brown (2005)	Parent training	Summarizes Barlow and Parsons (2009)
Beelmann, Pfingsten, & Lösel (1994)	Social competence training (SCT)	Outcome measures were social adjustment, social-cognitive skills, social interaction skills, etc.
Bennett and Gibbons (2000)	Cognitive-behavioral interventions	Outcome measures were antisocial behaviors
Brestan and Eyberg (1998)	Psychosocial treatment for conduct disorder	No relevant outcome measures
Cooper, Charlton, Valentine, & Muhlenbruck (2000)	Summer school prevention programs	No program with the stated goal of preventing juvenile delinquency was found. Programs focused on remedial or accelerated learning outcomes or on a positive impact on the knowledge and skills of participants
De Graaf, Speetjens, Smit, De Wolff, & Tavecchio (2008)	Triple P parent training program	Outcome measures were child problem behaviors
DiGiuseppe and Tafrate (2003)	Anger treatment	Studies of adults
Dretzke, Davenport, Frew, Barlow, Stewart-Brown, Bayliss, Taylor, Sandercock, & Hyde (2009)	Parenting programs for conduct disorder	No relevant outcome measures
Durlak, Fuhrman, & Lampman (1991)	Cognitive-behavior therapy	No relevant outcome measures
Durlak, Weissberg, & Pachan (2010)	After-school programs	Outcome measures were child problem behaviors (and other measures such as school performance)
Durlak, Weissberg, Dymnicki, Taylor, & Schellinger (2011)	Social and emotional learning (SEL) programs	Outcomes included improved social and emotional skills, attitude, behavior, and academic performance only

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Table 2.1 (continued)		
Researchers (Date)	Intervention	Reason for exclusion
Eyberg, Nelson, & Boggs (2008)	Psychosocial treatment for child disruptive behavior	No relevant outcome measures
Fabiano, Pelham, Coles, Gnagy, Chronis-Tuscano, & O'Connor (2009)	Behavioral treatments	Effectiveness of behavior modification for children with attention deficit hyperactivity disorder (ADHD). Mostly clinic studies
Faggiano, Federica Vigna-Taglianti, Burkhart, Bohrn, Cuomo, Gregori, Panella, Scatigna, Siliquini, Varona, van der Kreeft, Vassara, Wiborg, & Galanti, & the EU-Dap Study Group (2010)	School-based prevention of drug use	Outcome measures included drug use and drug knowledge but not offending
Farahmand, Grant, Polo, & Duffy (2011)	School-based mental health and behavioral programs	The meta-analysis did not target any of the desired outcomes
Fisher, Montgomery & Gardner (2008a)	Cognitive-behavioral for gang involvement	No evaluations found
Fisher, Montgomery & Gardner (2008b)	Opportunities provision for gang involvement	No evaluations found
Forness and Kavale (1996)	Social skills training for learning disability	No relevant outcome measures
Furlong, McGilloway, Bywater, Hutchings, Smith, & Donnelly (2012)	Cognitive-behavioral parenting programs	Clinic samples
Gansle (2005)	School-based anger interventions	Outcome measures were child anger and externalizing behaviors
Garrard and Lipsey (2007)	Conflict resolution education in schools	Outcomes were antisocial behaviors
Gilliam and Zigler (2000)	State preschool programs	Outcomes included developmental competence, improving later school attendance and performance, and reducing subsequent grade retention
Gottfredson and Wilson (2003)	Individually focused interventions effective for reducing alcohol and other drug (AOD) use; cognitive-behavioral and behaviorally based interventions	The meta-analysis examined only alcohol or other drug use outcomes
Huey and Polo (2008)	Psychosocial treatments for ethnic minority youth	Outcome measures were not relevant to the current meta-analysis

Table 2.1 (continued)		
Researchers (Date)	Intervention	Reason for exclusion
Kaminski, Valle, Filene, & Boyle (2008)	Parent training programs to treat ADHD and conduct problems	The meta-analysis did not examine any of the desired outcomes. It focused on conduct problems, issues of communication, child development, problem solving, etc.
Lauer, Akiba, Wilkerson, Apthorp, Snow, & Martin-Glenn (2006)	Out-of-school time (OST) programs	Outcomes focused on reading and mathematics student achievement and larger positive effect sizes for programs with specific characteristics such as tutoring in reading
Littell, Winswold, Bjorndal, & Hammerstrom (2007)	Certified functional family therapy programs compared with usual services, alternative services, or no treatment	Campbell Collaboration protocol only
Lösel and Beelmann (2003)	Child skills training	Earlier version of Lösel and Beelmann (2006)
Luke and Banerjee (2012)	Studies on emotion recognition and understanding	Outcome measures focus on social understanding (including emotion recognition and understanding, perspective taking, false belief understanding, and attributional biases). The article did not include any of the outcome measures relevant to the current meta-analysis
Lundahl, Risser, & Lovejoy (2006)	Parent training	Outcome measures were disruptive child behaviors and parental behavior and perceptions
McCart, Priester, Davies, & Azen (2006)	Cognitive-behavioral interventions and parent training	Outcome measures were antisocial behaviors
Maggin, Chafouleas, Goddard, & Johnson (2011)	Classroom token economies	No relevant outcome measures
Maggin, Johnson, Chafouleas, Roberto, & Bergren (2012)	School-based group contingency interventions	No relevant outcome measures
Maughan, Christiansen, Jenson, Olympia, & Clark (2005)	Behavioral parent training	Clinic samples
Montgomery, Bjornstad, & Dennis (2007)	Media-based behavioral treatments	No relevant outcome measures
Nowak and Heinrichs (2008)	Triple P parent training program	Outcome measures were child problem behaviors