Evidence-Based policy on crime and justice

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Abstract

This paper describes the work of the Campbell Collaboration Crime and Justice Group, which aims to assist and encourage evidence-based policy by producing systematic reviews of criminological interventions to determine what works to reduce crime. Unlike previous literature reviews, these systematic reviews describe their methods more explicitly, search for relevant literature more extensively, provide more information about criteria for inclusion or exclusion and sources searched, include more detailed tables, are subject to rigorous quality control, are revised in light of cogent criticisms, are regularly updated, are speedily disseminated and are immediately available electronically to everyone. The paper also reviews some crime prevention programmes that have proved to be effective in high quality evaluation research, including general parent education, parent management training, pre-school intellectual enrichment programmes, child skills training, teacher training, anti-bullying programmes, situational prevention and “hot spots” policing.

In this paper, I will cover two topics. I will first of all talk about the Campbell Collaboration Crime and Justice Group, which aims to produce systematic reviews of the effectiveness of criminological interventions. Secondly, I will review the current state of knowledge about crime prevention programmes that have proved to be effective in high quality evaluation research. This review of programmes is not based on the new science of systematic reviewing but rather highlights some of the most effective interventions according to the best research.

Systematic Reviews and the Campbell Crime and Justice Group

Characteristics of Systematic Reviews

Systematic reviews use rigorous methods for locating, appraising and synthesizing evidence from prior evaluation studies. They contain a methods and results section, 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? 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 should be 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 data bases that were searched should be made explicit so that potential gaps in coverage can be identified.

4) Each study is screened according to eligibility criteria, with exclusions justified. The searches will undoubtedly locate many citations and abstracts to potentially relevant studies. Each of the reports of these potentially relevant studies must be screened to determine if 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 data from the authors of the original report.

6) Quantitative techniques are used, when appropriate and possible, in 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 prior research studies. Since it involves the statistical summary of data (e.g. effect sizes), 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 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 of a particular intervention, and features of studies that are correlated with variations in effect sizes.

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. These studies may 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. Another possibility is that a researcher may carry out a meta-analysis adequately but use inexplicit and potentially biased methods in conducting the search for relevant studies. In this case, the review would not be systematic.

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.

The Campbell Crime and Justice Coordinating Group

The success of the Cochrane Collaboration in reviewing health care interventions stimulated international interest in establishing a similar infrastructure for conducting systematic reviews of research on the effects of social and educational interventions. Following several exploratory meetings in London and elsewhere, the Campbell Collaboration (named after the psychologist Donald Campbell) was officially founded at a meeting of over 80 persons from 12 countries in Philadelphia in February 2000. Professor Robert Boruch of the University of Pennsylvania was appointed Chair of the Campbell Collaboration’s Steering Group. As he will be speaking at this conference, I will not speak in more detail about the Campbell Collaboration now.

At that February 2000 meeting, the Campbell Collaboration appointed a Crime and Justice Coordinating Group (CJCG) to co-ordinate the work of the Crime and Justice Group. The broad mission of the CJCG is to oversee the preparation, maintenance and accessibility of systematic reviews of research on the effects of criminological and criminal justice interventions. The main emphasis is on reviews of interventions designed to prevent or reduce crime or delinquency. Broadly, the CJCG will include systematic reviews of research on the effects of interventions delivered by the courts, police, probation or parole agencies, prisons, and community groups; for more information about the Campbell Crime and Justice Group, see Farrington and Petrosino (2000, 2001).

Persons who contribute systematic reviews to the Campbell Collaboration must agree to the following requirements:

(1) A commitment to conduct updates of the systematic review to incorporate new evidence, respond to criticisms, or use more advanced methods, on a regular basis (e.g. every two years)

(2) A commitment to undergo a rigorous editorial review process not only from researchers but also policy makers, practitioners and citizens to ensure that the review meets high scientific standards and is also written to be understandable to non-academic audiences

(3) A commitment to maintain transparent and open review processes so that users can comment and criticise each stage of the review, from its proposal through to its completion

(4) A commitment to use the most rigorous search methods available to ensure
that all relevant studies are considered for inclusion or exclusion and not just those reported in easily accessible journals and books.

(5) A commitment to cover literature from around the world and not just the English-speaking world.

(6) A commitment to code and computerize key features of each evaluation study reviewed (so that anyone accessing the review can organize the studies according to such features as sample size, design, and effect size).

(7) A commitment to produce an explicit report so that readers can understand decisions made at each stage, justifications for those decisions, and how conclusions were reached.

(8) A commitment to make the review available to broader audiences than readerships of peer-reviewed academic journals through electronic publication and dissemination into policy, practice and media outlets.

The CJCG consists of 14 members from 10 countries: David P. Farrington (UK, Chair), Ulla V. Bondeson (Denmark), Vicente Garrido (Spain), Peter Grabosky (Australia), Jerry Lee (USA), Mark W. Lipsey (USA), Friedrich Losel (Germany), Joan McCord (USA), Anthony Petrosino (USA), Lawrence W. Sherman (USA), Chuen-Jim Sheu (Taiwan), Richard E. Tremblay (Canada), Hiroshi Tsutomi (Japan) and David L. Weisburd (Israel). Anthony Petrosino was appointed as part-time coordinator for the CJCG, and Joan McCord was appointed to liaise with the Campbell Collaboration Steering Group. The CJCG has been funded by the Home Office.

So far, systematic reviews have been commissioned on over 25 diverse topics, including the effectiveness of closed-circuit television, improved street lighting, neighbourhood watch, hot spots policing, parent education programmes, child skills training, juvenile curfews, restorative justice, boot camps, electronic monitoring, cognitive-behavioural programmes for offenders, community service orders and length of prison sentences. The first systematic reviews are being published in a special issue of the Annals of the American Academy of Political and Social Science in November 2001.

**Key Challenges**

Several major challenges have been identified. The first (perhaps most important and controversial) is what criterion of methodological quality should be set for including evaluation studies in systematic reviews. Several CJCG members argued that only randomized experiments should be reviewed, since these were able to demonstrate effects most convincingly (with highest internal validity). However, setting the "gold standard" of randomized experiments would inevitably exclude almost all evaluations based on areas (as opposed to individuals), covering the effects of interventions such as neighbourhood watch or closed-circuit television. Therefore, it was decided that both experimental and high quality quasi-experimental evaluation studies should be included in systematic reviews.

The second challenge is funding. The very welcome Home Office funding covers the salary of the part-time coordinator and some CJCG meeting expenses but not the cost of reviews. Without funding, it was thought likely that reviewers would not give Campbell reviews high priority. Already, one potential reviewer has responded that he thinks that the systematic review is very important and would love to do it, but cannot without resources. It is hoped that further funding will be received from other sources, including the US National Institute of Justice and the Smith-Richardson Foundation. Funding is needed not only for reviews and meeting expenses but also for refereeing proposals and completed reviews, administrative and organizational support, translation costs, and setting up a registry of studies.

A third challenge, related to incentives for reviewers, is the worry that academics will not give Campbell reviews high priority if they do not produce publications. Academics need publications in scholarly journals in order to get tenure, promotion and fame. It was therefore suggested that reviewers should be encouraged to complete not only a detailed electronic Campbell review but also an (inherently less detailed) review for a scholarly journal. Of course, this raises problems of copyright and duplication that need to be resolved. Journal editors may be reluctant to publish systematic reviews if a more detailed version is
available on the Web. On the other hand, many journals are now being published on the Web. Hopefully, in due course Campbell reviews on the Web will have sufficient prestige themselves to carry weight in tenure and promotion decisions.

A fourth challenge is the coordination of reviews, both with other parts of the Campbell Collaboration and with the Cochrane Collaboration. For example, some similar topics are being reviewed by the Cochrane Developmental, Psychosocial and Learning Problems Group, such as the treatment of sex offenders. We decided to go ahead with our own reviews and to see how they differed from Cochrane reviews, which focus more on medical and health care issues.

The fifth challenge is how the CJCG can cope with the work needed to maintain the high quality of systematic reviews. This involves refereeing both proposals and final versions of reviews, as well as building up the network and infrastructure of the Crime and Justice Group. Already, organizing the CJCG has generated an enormous amount of day-to-day work, as all the different activities have built up. This is why we decided to move forward initially with a relatively small number of reviews and to learn from experience. We are concerned that large-scale publicity, inviting people to volunteer to do particular reviews, might open the flood gates and paralyse us with correspondence. However, we need to open things up and move to unsolicited review proposals and wider participation by the research community as soon as possible.

The sixth challenge is how to regularize the CJCG, which was essentially appointed on an ad-hoc basis for three years (until August 2003). The overall Campbell Collaboration Steering Committee needs to work out procedures for appointing and replacing CJCG members and the Chair, ensuring that the CJCG covers a wide variety of expertise and countries and that it has the capacity to supervise reviews and reviewers effectively.

A seventh challenge is that the people who are most knowledgeable and motivated to carry out a systematic review are often those who have worked on the particular topic, but arguably they are not unbiased and may have a stake in the conclusions. One way of dealing with this challenge is to encourage collaborations between reviewers who have and have not previously worked on a particular topic. Also, there is a need for workshops to train people in how to do systematic reviews.

There are other issues to be resolved. For example, most of the persons who have so far been asked to do systematic reviews are located in the United States. It is important to solicit more reviews, and more contributions to reviews (possibly involving translation), from persons in other countries. In order to build up a registry of studies, it is necessary to agree on a common core of items to be coded and computerized in all reviews. Another issue is how far all reviewers should be encouraged to carry out a meta-analysis or other quantitative summary of conclusions. Ideally, cost-benefit information should be included in all reviews, where available. Also, the CJCG should develop a master plan (a systematic classification and organization of all possible intervention topics for review), and aim to fill this in systematically with solicited reviews.

Another issue is how far Campbell reviews should include policy recommendations. These would be useful for funding agencies, but some members of the CJCG feel that systematic reviews should be restricted to scientific conclusions. An issue for the future is how to ensure that systematic reviews are understandable to a wide audience. This will probably involve soliciting comments on reviews from members of the public as well as from policy makers and practitioners. So far, we have focussed on reviews of interventions designed to reduce crime and offending. In future, we could expand our remit to systematic reviews of the strength of relationships between particular risk factors and offending, or of tests of particular criminological theories. However, it might be better to establish a new crime and justice coordinating group committee to cover these topics.

Conclusions

The Campbell Collaboration Crime and Justice Coordinating Group has made enormous progress in a very short time. We are proud to have received the first Donald Campbell Award from the Campbell Collaboration in 2000 to recognize our outstanding progress. Nevertheless, we anticipate that the majority of reviews of criminological interventions will always be carried out outside the Campbell
Collaboration. By setting and maintaining high standards, we hope that Campbell reviews will become recognized as the best available. We also hope that reviewers outside the Campbell Collaboration will be influenced to carry out systematic reviews, and that the greater use of systematic reviews will lead to improvements in the reporting of intervention studies. While the work ahead is daunting, systematic reviews of criminological interventions have enormous potential both to advance knowledge and to make policy and practice more effective in the future. The aim of making the best knowledge about the effectiveness of interventions to reduce crime immediately available to everyone is ambitious and very important and would benefit everyone in all countries.

Risk-focussed Prevention

I now turn to the best current knowledge about the effectiveness of particular criminological interventions. During the 1990's, there was an enormous increase in the influence of risk-focussed prevention in criminology. The basic idea of this approach 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 experiments are used to evaluate the impact of prevention and intervention programmes. Thus, risk-focussed prevention links explanation and prevention, links fundamental and applied research, and links scholars, policy makers, and practitioners. The book Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions (Loebel & Farrington, 1998) contains a detailed exposition of this approach as applied to serious and violent juvenile offenders.

Individual and Family Programmes

Four types of programmes are particularly successful; parent education (in the context of home visiting) parent management training, child skills training, and pre-school intellectual enrichment programmes (Farrington & Welsh, 1999). Generally, these programmes are targeted on the risk factors of poor parental child-rearing, supervision or discipline (parent education or parent management training), high impulsivity, low empathy and self-centredness (child skills training) and low intelligence and attainment (pre-school programmes).

In the most famous intensive home visiting programme, Olds et al. (1986) in Elmira (New York) randomly allocated 400 mothers either 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 a 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 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. This last result is important because children who are physically abused or neglected tend to become violent offenders later in life (Widom 1989). In a 15-year follow-up, the main focus was on lower class unmarried mothers. Among these mothers, those who received prenatal and postnatal home visits had fewer arrests than those who received prenatal visits or no visits (Olds et al. 1997). Also, children of these mothers who received prenatal and/or postnatal home visits had less than half as many arrests as children of mothers who received no visits (Olds et al., 1998).

The most famous pre-school intellectual enrichment programme is the Perry project carried out in Ypsilanti (Michigan) by Schweinhart and Weikart (1980). This was essentially a “Head Start” programme targeted on disadvantaged African-American children, who were allocated (approximately at random) to experimental and control groups. The experimental children attended a daily pre-school programme, backed up by weekly home visits, usually lasting two years (covering ages 3-4). The aim of the “plan-do-review” programme was to provide intellectual stimulation, to increase thinking and reasoning abilities, and to increase later school achievement.
This programme 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 homeowners. More of the experimental women were married, and fewer of their children were born out of wedlock.

The Montreal longitudinal-experimental study was based on child skills training and parent management training. Tremblay et al. (1995) identified disruptive (aggressive/hyperactive) boys at age 6, 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 modelling, 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), which focus on promoting the use of consistent and contingent rewards and penalties.

This prevention programme was quite successful. By age 12, the experimental boys committed less burglary and theft, were less likely to get drunk, and were less likely to be involved in fights than the controls (according to self-reports). Also, the experimental boys had higher school achievement. At every age from 10 to 15, the experimental boys had lower self-reported delinquency scores than the control boys. Interestingly, the differences in antisocial behaviour between experimental and control boys increased as the follow-up progressed.

**Peer, School and Community Programmes**

Peer, school and community risk factors are less well-established than individual and family risk factors. For example, while it is clear that having delinquent peers, attending a high-delinquency-rate school, and living in a high-crime-rate area all predict a person's offending, the precise causal processes are not well understood.

The most important intervention programme whose success seems to be based mainly on reducing peer risk factors is the Children at Risk programme (Harrell et al., 1997), which targeted high risk youths (average age 12) in poor neighbourhoods of five cities across the United States. Eligible youths were identified in schools and randomly assigned to experimental or control groups. The programme was a comprehensive community-based prevention strategy targeting risk factors for delinquency, including case management and family counselling, family skills training, tutoring, mentoring, after-school activities and community policing. The programme was different in each neighbourhood.

The initial results of the programme were disappointing, but a one-year follow-up showed that (according to self-reports) experimental youths were less likely to have committed violent crimes and 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 programme, linked to the serious and multiple needs and problems of the families.

One of the most important school-based prevention experiments was carried out in Seattle by Hawkins et al. (1991). This combined parent management 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 behaviour in a programme 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 behaviour, and to teach children prosocial (socially desirable) methods of solving problems.

This programme had long-term benefits. O’Donnell et al. (1995) focussed on children in low income families and reported that, in the sixth grade (aged 12), experimental boys were less likely to have initiated delinquency, while experimental girls were less likely to have initiated drug use. In the latest 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.

School bullying, of course, is a risk factor for offending (Farrington 1993). Several school-based programmes have been effective in reducing bullying, the most famous by Olweus (1994) in Norway. A similar programme was implemented in 23 Sheffield schools by Smith and Sharp (1994). The core programme involved establishing a "whole-school" anti-bullying policy, raising awareness of bullying and clearly defining roles and responsibilities of teachers and students, so that everyone knew what bullying was and what they should do about it. In addition, there were optional interventions tailored to particular schools: curriculum work (e.g. reading books, watching videos), direct work with students (e.g. assertiveness training for those who were bullied) and playground work (e.g. training lunch-time supervisors). This programme was successful in reducing bullying in primary schools, but had relatively small effects in secondary schools.

Programmes targeting community risk factors have not been notably effective (Hope 1995). However, community-based programmes have been effective. For example, Jones and Offord (1989) implemented a skills training programme in an experimental public housing complex in Ottawa and compared it with a control complex. The programme centred on non-school skills, both athletic (e.g. swimming and hockey) and non-athletic (e.g. guitar and ballet). The aim of developing skills was to increase self-esteem, to encourage children to use time constructively and to provide desirable role models. Participation rates were high; about three-quarters of age-
eligible children in the experimental complex took at least one course in the first year. The programme was successful; delinquency rates decreased significantly in the experimental complex compared to the control complex.

One of the most important community-based treatment programmes is multi-systemic therapy (MST), which is a multiple component programme (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. Typically, MST has been used with juvenile offenders. For example, in Missouri, Borduin et al. (1995) randomly assigned 176 juvenile offenders (average age 14) either to MST or to individual therapy focussing 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.

Situational and Policing Programmes

Several situational crime prevention programmes are effective. Two studies show that improved street lighting can lead to reductions in crime. In the first, in Dudley, crimes committed before and after the improved lighting were measured using victimization surveys in experimental (relit) and control areas (Painter & Farrington, 1997). Comparing the year before with the year after, crimes decreased significantly more in the experimental area than in the control area. Personal crimes (robberies, assaults, threats and pestering) decreased by 41% in the experimental area.

In the second study, in Stoke-on-Trent, crimes committed before and after the improved lighting were measured in experimental (relit), adjacent and non-adjacent control areas (Painter & Farrington, 1999). Comparing the year before with the year after, crimes decreased significantly in the experimental and adjacent areas (which were not clearly delimited) but not in the control area. Personal crimes decreased by 68% in the experimental area. It was suggested that there might have been a diffusion of benefits to the adjacent area.
From the viewpoint of crime prevention, the most important policing projects are those targeting "hot-spots", or places where large numbers of crimes occur. In one of the most important "hot-spot" studies, Sherman and Weisburd (1995) carried out a randomized experiment in Minneapolis: over 100 high crime places were randomly assigned either to receive increased police patrolling (a target of three hours per day) or not, on the assumption that increased police presence would deter offending. Calls for police service for crime were monitored in the year before and the year of the experiment. Crime and disorder was also measured in the second year using systematic observation in all places. The experiment showed that the increased patrolling led to decreased crime in the experimental places.

Conclusions

The most effective programmes to counter delinquency include general parent education, parent management training, preschool intellectual enrichment programmes, child skills training, teacher training, anti-bullying programmes, situational prevention and "hotspots" policing. These programmes can be implemented within a large scale community-based risk focussed prevention strategy. The time is ripe to invest in this strategy to promote not only law-abiding behaviour but also mental and physical health and life success in areas such as education, relationships, employment, housing and child-rearing. There are enough hopeful results to justify adopting early developmental prevention as a key method of reducing delinquency. However, systematic reviews are needed to confirm and refine these conclusions.

References


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