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Science and Politics of Early Crime Prevention: The American Experience and Directions for Canada

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RÉSUMÉ

Il existe une importante quantité de preuves scientifiques de grande qualité concernant l'efficacité des programmes de prévention précoce visant la réduction de la délinquance et de la criminalité. Malgré ces preuves ainsi que plusieurs autres développements prometteurs prenant place aux États-Unis, l'intérêt du Gouvernement américain d'utiliser la prévention précoce dans la lutte contre le crime est plus au moins disparu. Dans l'ouvrage *Saving Children from a Life of Crime : Early Risk Factors and Effective Interventions* (Farrington et Welsh 2007), les auteurs s'inspirent des pays occidentaux comme le Canada afin d'établir de modestes propositions pour changer la perspective actuelle des politiques pénales américaines. L'approche du Canada concernant la prévention de la criminalité a plusieurs points forts, mais il y a aussi place à l'amélioration. Cet article explore ce que le Canada devrait retenir des preuves scientifiques concernant la prévention précoce ainsi que les leçons qu'il devrait tirer de l'inaction politique de ses voisins du sud. La discussion se concentrera sur l'application en politique et en pratique des méthodes de prévention précoce basées sur les connaissances scientifiques, dans le but de réduire la criminalité et contribuer à une société plus sûre et durable.

ABSTRACT

There is a growing body of high-quality scientific evidence on the effectiveness of early prevention programs in reducing delinquency and later criminal offending. Despite this and other promising developments taking place in America, the U.S. government's interest in putting early prevention on the map in the nation's fight against crime has largely languished. In the book *Saving Children from a Life of Crime: Early Risk Factors and Effective Interventions* (Farrington & Welsh 2007), we look to Western countries like Canada for inspiration in setting out some modest proposals to change this state of affairs in U.S. crime policy. There are a number of strengths to Canada's current approach to preventing crime, but there is also room for improvement. This paper builds on this research by exploring what Canada can take from the current scientific evidence on early crime prevention and the political inaction of its neighbor to the south. This discussion is focused on translating evidence-based early prevention methods into policy and practice in order to help reduce crime rates and contribute to a safer, more sustainable society.

Introduction

Two separate but interrelated research developments focus attention on the importance of early intervention policy and programs to improve children's life chances and prevent them from embarking on a life of crime. First, after decades of rigorous research in the United States and across the Western world – using prospective longitudinal studies – a great deal is now known about early risk factors for delinquency and later criminal offending. These early risk factors can be found at the individual, family, and environmental levels.

The second development is the growing body of high quality scientific evidence on the effectiveness of early prevention programs designed to tackle these risk factors and from which evidence-based conclusions can be drawn. Many early prevention trials have followed up children long enough to measure delinquency. Systematic literature reviews and meta-analyses of early intervention programs provide scientific evidence that a wide range of programs in different domains (individual, family, school, and community) can be effective and others promising in preventing delinquency and later offending.

In the U.S. in recent years, a number of national scientific commissions on early childhood development and juvenile offending have examined some of this scientific evidence and identified the many benefits of early prevention programs. These commissions called for concrete action to make early prevention a top government priority. They include the National Research Council and Institute of Medicine's Committee on Integrating the Science of Early Childhood Development (Shonkoff & Phillips 2000) and Panel on Juvenile Crime (McCord, Widom and Crowell 2001) and the Surgeon General's report on youth violence (U.S. Department of Health and Human Services 2001).

But despite these promising developments, not to mention the important efforts of national not-for-profit organizations such as the Children's Defense Fund, the Child Welfare League of America, and Fight Crime – Invest in Kids, the U.S. government's interest in putting early prevention on the map in the nation's fight against crime has largely languished. Unlike other Western democracies, such as Canada, Sweden, the Netherlands, and Australia, the U.S. has no national strategy to harness this research evidence and put into practice efficacious early prevention programs to reduce delinquency and later offending.

This is not to suggest that the federal government is the sole purveyor of early prevention policy and programs. Success stories abound at the local and state levels, and, as Greenwood (2006a: 155) reminds us, "service delivery for prevention programs is primarily a local matter". But what the federal government does bring to the table, like the federal or central governments of these other countries, is the ability to mobilize a diverse array of governmental and non-governmental partners, offer a vision for the nation over the short- and long-term, and contribute sizable technical and financial resources to state and local governments.

In ***Saving Children from a Life of Crime: Early Risk Factors and Effective Interventions*** (Farrington and Welsh 2007), we look to the likes of Canada for inspiration in setting out some modest proposals to change this state of affairs in U.S. crime policy. There are a number of strengths to Canada's approach to preventing crime, but there is also some room for improvement. This paper builds on this research by exploring what Canada can take from the current state of scientific evidence on early crime prevention and the political inaction of its neighbor to the south. Importantly, this discussion is not about political window dressing or administrative paper shuffling, but is focused on translating evidence-based early prevention methods into policy and practice in order to help reduce crime rates and contribute to a safer, more sustainable society.

Science of early prevention

This section reviews the effectiveness of early prevention programs organized around three main categories of early risk factors: individual, family, and environmental. It draws upon the highest quality research studies (i.e., experiments and quasi-experiments), as well as the most rigorous literature reviews (i.e., systematic and meta-analytic reviews) that include only high-quality projects (see Appendix for more details). This ensures that conclusions are based on the best available evidence.

Individual prevention

Among the most important factors at the individual level that predict offending are low intelligence and attainment, personality and temperament, low empathy, and impulsiveness (Farrington and Welsh 2007). As noted by Duncan and Magnuson (2004: 94), "individual interventions focus directly on the person whose development is targeted, and can occur very early in life, as with intensive preschool education".

Early childhood prevention programs have wide appeal across a large spectrum of constituencies (Karoly et al. 1998). Reasons for their support can be found in any number of areas, from developmental theory, to prevention science, to the welfare of children. These programs help society's most vulnerable members. They have as explicit aims the betterment of children's immediate learning and social and emotional competencies, as well as the improvement of children's success over the life-course. Also, they are implemented at a time when children are most impressionable and hence most receptive to intervention (Duncan and Magnuson 2004).

Systematic and meta-analytic reviews find that two main types of individual-based programs – preschool intellectual enrichment and child skills training – are generally effective in preventing delinquency or later criminal offending (Farrington and Welsh 2003; Lösel and Beelmann 2003 and 2006). A number of narrative reviews and one comprehensive, vote-counting review of experimental and high-quality quasi-experimental evaluations, provide further support for this finding (Currie 2001; Duncan and Magnuson 2004; Farrington and Welsh 2002; Welsh and Farrington 2004).

Preschool intellectual enrichment

Preschool intellectual enrichment programs generally seek to foster intelligence and attainment in children through improved cognitive skills, school readiness, and social and emotional development (Currie 2001). As noted by Duncan and Magnuson (2004: 105), "child-focused early-education intervention programs are designed to provide economically disadvantaged children with cognitively stimulating and enriching experiences that their parents are unlikely to provide at home".

A meta-analysis of the effects of a wide range of early interventions on antisocial behavior, delinquency, and later offending found that interventions that included both daycare and preschool programs (N=5) were highly effective (Farrington and Welsh 2003). The mean effect size of these five programs was .259, corresponding to a significant 13% reduction in offending (e.g., from 50% in the control group to 37% in the experimental group). Compared to the other types of early intervention, day care and preschool programs were in the mid-range level of effectiveness.

If we remove the three daycare programs (because their main intervention was parent education rather than intellectual enrichment of the children), the mean effect size of two preschool programs was .316, corresponding to a significant 16% reduction in offending. These two programs are the Perry Preschool project (the follow-up at age 27; Schweinhart, Barnes and Weikart 1993) and the Chicago Child-Parent Center program (Reynolds, Temple, Robertson and Mann 2001).

It is, of course, less than adequate to assess the effectiveness of preschool intellectual enrichment (or any other intervention type) on the basis of just two studies. A later paper by Farrington and Welsh (2005; see also Farrington and Welsh 2006) identified two other studies of preschool intellectual enrichment programs that used randomized experimental designs: the Abercedarian program by Campbell and colleagues (2002) and another by Mills, Cole, Jenkins, and Dale (2002). The effect sizes of these programs were calculated to be .27 and -.11, respectively. This corresponds roughly to a 14% reduction in offending for the Abercedarian program and an undesirable 6% increase in offending for the other preschool program. Combining the effect sizes of the four preschool programs yields a mean effect size of .266, which corresponds to a 13% reduction in offending in the experimental group compared to the control group. If we use the most recent evaluation of the Perry program when the participants were 40 years old (Schweinhart et al. 2005), the mean effect

size of the four preschool programs drops slightly to .242, or about a 12% reduction in offending.

Child social skills training

Social skills training or social competence programs for children are generally targeted on the risk factors of impulsivity, low empathy, and self-centeredness. As noted by Webster-Stratton and Taylor (2001: 178), this type of individual-based program is designed to "directly teach children social, emotional, and cognitive competence by addressing appropriate social skills, effective problem-solving, anger management, and emotion language". A typical program includes one or more of these elements and is highly structured with a limited number of sessions, thus lasting for a relatively short period of time (Lösel and Beelmann 2003).

Lösel and Beelmann (2006; see also Lösel and Beelmann 2003) carried out a systematic review of the effects of child social skills training on antisocial behavior (including delinquency). The review included 55 randomized controlled experiments with 89 separate experimental-control group comparisons. A meta-analysis found that almost half of the comparisons produced desirable results favoring the children who received the treatment compared to those who did not, while less than one out of ten revealed undesirable results (i.e., the control group fared better than the treatment group). Control participants typically received non-intensive, basic services.

Mixed results were found for temporal effects of child social skills training on delinquency. At immediate outcome or post-intervention (defined as within two months after treatment), the smallest effect size was for delinquency, although the mean effect sizes for all outcomes favored the treatment condition. At a later follow-up (defined as three months or more after treatment), delinquency was the only outcome that was significantly improved. The meta-analysis also found that the most effective social skills training programs used a cognitive-behavioral approach and were implemented with older children (13 years and over) and higher risk groups who were already exhibiting some behavioral problems. On the basis of their findings, Lösel and Beelmann (2006) concluded that child social skills training represents a "promising approach to crime prevention."

Family prevention

Family-based prevention programs target risk factors for delinquency and later offending that are associated with the family, the most important of

which include poor child rearing, poor parental supervision, and inconsistent or harsh discipline (Farrington and Welsh 2007). Broadly speaking, family-based prevention programs have developed within two major fields of study: psychology and public health. When delivered by psychologists, these programs are often classified into parent management training, functional family therapy, or family preservation (Wasserman and Miller 1998). Typically, they attempt to change the social contingencies in the family environment so that children are rewarded in some way for appropriate or prosocial behaviors and punished in some way for inappropriate or antisocial behaviors.

Family-based programs delivered by health professionals such as nurses are typically less behavioral, mainly providing advice and guidance to parents or general parent education. Home visiting with new parents, especially mothers, is perhaps the most popular form of this type of family intervention. In the early 1990s, Hawaii became the first state to offer free home visits for all new mothers. A small number of other states, with Colorado at the forefront, have more recently implemented more intensive but targeted versions of home visiting programs with the aim of eventually providing universal coverage (Calonge 2005).

A recent meta-analysis found that two main types of family-based programs – general parent education (in the context of home visiting and parent education plus daycare services) and parent management training – are effective in preventing delinquency or later criminal offending (Farrington and Welsh 2003). Other reviews of the effectiveness of home visiting programs – one a systematic review (Bilukha et al. 2005) and the other a narrative review (Gomby, Culross, and Behrman 1999) – found that the evidence on child behavior outcomes (from antisocial behavior to delinquency) was somewhat mixed. Another systematic review that assessed the effectiveness of parent education in the context of home visiting and combined with daycare services (Bernazzani and Tremblay 2006) also found mixed results. Regarding parent management training, one other meta-analysis (Serketich and Dumas 1996), a number of narrative reviews, and one comprehensive vote-counting review of experimental and high-quality quasi-experimental evaluations (Duncan and Magnuson 2004; Farrington and Welsh 2002; Kazdin 1997; Kumpfer and Alvarado 2003; Welsh and Farrington 2004) provide further support for the finding that this is an effective early family-based intervention to prevent delinquency and offending.

On the totality of the evidence, it can be concluded that general parent education (in the context of home visiting and parent education plus daycare services) and parent management training are effective.

Parent education

Home visiting with new parents, especially mothers, is a popular, although far from universal, method of delivering the family-based intervention known as general parent education. The main goal of home visiting programs is to educate parents in order to improve the life chances of children from a very young age, often beginning at birth and sometimes in the final trimester of pregnancy. Their main objectives are to prevent preterm or low weight births, promote healthy child development and school readiness, and prevent child abuse and neglect (Gomby et al. 1999: 4). Home visits often also serve to improve parental well-being, link parents to community resources to help with employment, education, or addiction recovery. Home visitors are usually nurses or other health professionals with a diverse array of skills in working with families.

A meta-analysis that included four home visitation programs found that this form of early intervention was effective in preventing antisocial behavior and delinquency (Farrington and Welsh 2003). The mean effect size of these programs was .235, corresponding to a significant 12% reduction in antisocial behavior/delinquency (e.g., from 50% in the control group to 38% in the experimental group). Compared to the other types of early intervention that were examined in this meta-analysis, home visiting programs were at the mid-range level of effectiveness.

Another type of program, parent education plus daycare, include daycare services for the children of parents participating in the educational program. As noted above, daycare programs are distinguished from preschool programs in that the former are not necessarily focused on the child's intellectual enrichment or on increasing the child's readiness for kindergarten and elementary school; they rather serve largely as an organized form of child care to allow parents (especially mothers) to return to work. Daycare also provides children with a number of important benefits, including social interaction with other children and stimulation of their cognitive, sensory, and motor control skills.

The meta-analysis by Farrington and Welsh (2003) found that parent education programs that include daycare services for children are effective in preventing child antisocial behavior and delinquency. The mean effect size of the three parent education plus daycare programs was .138, corresponding to a nonsignificant 7% reduction in antisocial behavior and delinquency (e.g., from 50% in the control group to 43% in the experimental group).

Parent management training

Many different types of parent training have been used to prevent and treat externalizing behavior problems in children and delinquency (Wasserman and Miller 1998). Parent management training refers to "treatment procedures in which parents are trained to alter their child's behavior at home" (Kazdin 1997: 1349). Patterson (1982) developed behavioral parent management training. His careful observations of parent-child interaction showed that parents of antisocial children lacked appropriate methods of child rearing. These parents failed to tell their children how they were expected to behave, failed to monitor their behavior to ensure that it was desirable, and failed to enforce rules promptly and unambiguously with appropriate rewards and penalties. The parents of antisocial children used more punishment (such as scolding, shouting, or threatening), but failed to make it contingent on the child's behavior.

Patterson attempted to train these parents in effective child rearing methods, namely noticing what a child is doing, monitoring behavior over long periods, clearly stating house rules, making rewards and punishments contingent on behavior, and negotiating disagreements so that conflicts and crises do not escalate. Small-scale studies showed that this method was effective in reducing child stealing and antisocial behavior over short periods of time (Patterson, Chamberlain and Reid 1982; Patterson, Reid and Dishion 1992).

In a meta-analysis that included ten parent management training programs, it was found that this form of early intervention was effective in preventing antisocial behavior and delinquency (Farrington and Welsh 2003). The mean effect size of these programs was .395, corresponding to a significant 20% reduction in antisocial behavior/delinquency (e.g., from 50% in a control group to 30% in an experimental group). Compared to other types of early intervention examined in this meta-analysis, parent management training was the second most effective.

Each of the ten parent management training programs included in this meta-analysis aimed to teach parents to use rewards and punishments consistently and contingently in child rearing. The programs were usually delivered in guided group meetings of parents with role-playing and modeling exercises, and three of the programs were delivered by videotape. Only one of the ten programs combined parent management training with another intervention (child skills training).

School and community prevention

School and community prevention programs target environmental-level risk factors for delinquency and later offending. The most important of these risk factors include growing up in a low socioeconomic status household, attending schools with high rates of delinquency, and living in deprived areas (Farrington and Welsh 2007).

School-based programs

Schools are a critical social context for crime prevention efforts, from the early to later grades (Elliott, Hamburg and Williams 1998). All schools try to produce vibrant and productive members of society. According to Gottfredson, Wilson and Najaka (2002b: 149), "students who are impulsive, are weakly attached to their schools, have little commitment to achieving educational goals, and whose moral beliefs in the validity of conventional rules for behavior are weak are more likely to engage in crime than those who do not possess these characteristics." The school's role in influencing these risk factors and preventing delinquency in both school and the wider community (the focus here) differs from situational and administrative measures taken to make the school a safer place (e.g., through metal detectors, police in school, or closed-circuit television surveillance cameras).

There have been a number of comprehensive, evidence-based reviews on the effectiveness of early school-based programs to prevent delinquency and offending. Wilson, Gottfredson and Najaka (2001; see also Gottfredson, Wilson and Najaka 2002a and 2002b) conducted a meta-analysis that included 165 randomized and quasi-experimental studies with 216 experimental-control group comparisons. Their meta-analysis identified four types of school-based programs that are effective in preventing delinquency: school and discipline management, classroom or instructional management, reorganization of grades or classes, and increasing self-control or social competency using cognitive behavioral or behavioral instructional methods. Reorganization of grades or classes had the largest mean effect size (d = .34), corresponding to a significant 17% reduction in delinquency. Three of these four types of school-based programs (other than school and discipline management) were also effective in preventing alcohol and drug use. Increasing self-control or social competency using cognitive behavioral or behavioral instructional methods was effective in preventing other problem behaviors.

Two other meta-analyses, one by Wilson and Lipsey (2005) and the other by Mytton et al. (2002), provide further support for the effectiveness of school-based prevention programs in general, especially those targeted on the highest risk children.

Community-based programs

Community crime prevention has been defined as "actions intended to change the social conditions that are believed to sustain crime in residential communities" (Hope 1995: 21). Local social institutions (e.g., community associations, churches, youth clubs) are usually the means by which these programs are delivered to address delinquency and crime problems (Hope 1995: 21).

The most rigorous reviews of the effectiveness of community-based crime prevention find that two main types of programs – after-school and community-based mentoring – can be classified as promising in preventing delinquency or later criminal offending (Sherman 1997; Welsh and Hoshi 2002; see also Welsh 2003). Promising programs are those where the level of certainty from the available scientific evidence is too low to support generalizable conclusions, but where there is some empirical basis for predicting that further research could support such conclusions (Farrington, Gottfredson, Sherman and Welsh 2002: 18).

After-school programs are premised on the belief that providing prosocial opportunities for young people in the after-school hours can reduce their involvement in delinquent behavior in the community. They target a range of risk factors for delinquency, including alienation and association with delinquent peers. There are many different types of after-school programs, including recreation-based, drop-in clubs, dance groups, and tutoring services.

As part of an effort to update Sherman's (1997) review, Welsh and Hoshi (2002) identified three high-quality after-school programs with an evaluated impact on delinquency. Each program produced desirable effects on delinquency, and one program also reported lower rates of drug activity for program participants compared to controls. Welsh and Hoshi concurred with Sherman's assessment that community-based after-school programs (based on the same three programs) represent a promising approach to preventing juvenile offending, but this conclusion only applies to areas immediately around recreation centres.

Gottfredson et al. (2004), as part of a larger study to investigate the effects of after-school programs on delinquency in the State of Maryland, reported on a brief review of the effectiveness of these programs. They concluded that there is insufficient evidence to support claims that after-school programs are effective in preventing delinquency or other problem behaviors. However, they noted that, among a small number of experimental and quasi-experimental studies (which included two of the three programs in Welsh and Hoshi's review), after-school programs that "involve a heavy dose of social competency skill development … may reduce problem behavior" (Gottfredson et al. 2004: 256).

Community-based mentoring programs usually involves nonprofessional adult volunteers spending time with young people at risk for delinquency, dropping out of school, school failure, and other social problems. Mentors behave in a "supportive, nonjudgmental manner while acting as role models" (Howell 1995: 90). In many cases, mentors work one-on-one with young people, often forming strong bonds. Care is taken in matching the mentor and the young person.

Welsh and Hoshi (2002) identified seven community-based mentoring programs (of which 6 were high-quality) that were evaluated for their impacts on delinquency and other problem behaviors. Two programs had a direct measure of delinquency and showed mixed results: one found desirable effects on delinquency for youths with prior offenses but undesirable effects on delinquency for youths with no prior offenses; the other found desirable effects on delinquency. Four programs measured outcomes related to offending (e.g., disruptive and aggressive behavior) and mostly found favorable results. On the basis of these findings the authors concluded that community-based mentoring represents a promising approach to preventing delinquency.

A slightly more optimistic conclusion was drawn in DuBois, Holloway, Valentine and Cooper's (2002) meta-analysis of a much wider range of mentoring programs. For mentoring programs that measured "problem/high-risk behavior" (the closest outcome measure to delinquency), the average effect size was d = .19, corresponding to a modest but significant 10% reduction. The authors did not investigate the effects on problem/high-risk behavior of mentoring programs that were strictly community-based.

Conclusions on the effectiveness of early prevention

There is a growing body of high-quality scientific evidence on the effectiveness of early prevention programs designed to tackle the most important early risk factors for crime:

- At the individual level, preschool intellectual enrichment and child skills training are effective in preventing delinquency and later offending.
- At the family level, parent education (in the context of home visiting and parent education with daycare services) and parent management training programs are effective.
- At the environmental level, a number of school-based interventions are effective in preventing delinquency among youths in middle school and high school, while after-school and community-based mentoring hold promise as effective programs.

Politics of early prevention

In the U.S., there is a disconnect between the body of scientific evidence on the effectiveness of early prevention – which the U.S. has largely been responsible for producing – and efforts to translate it into policy and practice. In Canada and other Western countries, a national strategy has been the mechanism of choice to try to foster effective and sustainable prevention efforts at the local level across the country.

A national strategy is one way of harnessing the influential role of federal or central governments. In commenting on the importance of the federal role in early childhood initiatives in the U.S., Ripple and Zigler (2003: 482) note that,

> Federal policy has the ability to shape programs and approaches to prevention nationwide and can direct considerable federal funds toward primary prevention initiatives. Even when it does not provide significant funding, federal policy is a potent voice in setting the national agenda (education is an example, in which the federal government seeks to set national education policy despite paying just 7% of costs).

This section looks at the political inaction that confronts early prevention in the U.S. It does so within the framework of the key elements of a national crime prevention strategy. These elements include a national vision, a national council and support for prevention at the local level.

Vision and substantive concepts

At its most basic level, a national prevention strategy sets out the ideological orientation or vision of the country's approach to preventing crime. This orientation then becomes the guiding principle for more practical operations,

including funding, technical assistance, research and evaluation, and so on. On the one hand, a national strategy is symbolic; on the other hand, it is the organizing principle from which all policy and programmatic action can flow.

Underlying the vision for the national strategy are the substantive concepts that are needed to make it happen. These should be risk-focused prevention and evidence-based prevention. These two concepts are closely related and should be thought of in combination. By identifying the key risk factors for offending and implementing effective prevention methods designed to counteract them (and, albeit to a lesser extent, identifying key protective factors against offending and implementing effective prevention methods designed to enhance them), risk-focused prevention represents the basic building block of evidence-based prevention. What evidence-based prevention adds is the utilization of accumulated scientific research evidence on effectiveness (and, where possible, economic efficiency) from systematic reviews.

A national strategy needs to make use of and promote risk-focused, evidence-based prevention at the local and state levels. The U.S. has no national strategy on early prevention or crime prevention in general to spearhead such an approach. Instead, there exists a meager patchwork of federally funded early prevention programs. Head Start is the main one, reaching about half of all impoverished children (Currie 2001). Despite evaluations showing desirable results (see Garces, Thomas and Currie 2002), it remains under constant threat of funding cuts.

In an effort to overcome the federal inaction on early childhood programs, states have begun funding such programs on their own. Importantly, some of these programs adhere to a risk-focused, evidence-based approach. Colorado is one example. The state's focus is on home visiting services to prevent child maltreatment by targeting poor, first-time mothers. This initiative, known as the Nurse Home Visitor Program (NHVP), was created by state law in 2000 and was based on the evidence-based early childhood home visiting program developed by David Olds (see Olds et al. 1998). Importantly, NHVP is not funded as a one-off program or designed to be limited to the most at-risk families: "the intention of the legislation is that the program be expanded annually so that the services will be available for all eligible mothers who choose to participate in all parts of the state" (Calonge 2005: 5).

At the same time, there is growing discontent in some parts of the country, like California, over misuse of the language of evidence-based programs

(Greenwood 2006b). This misuse runs the gamut of practitioner claims-making to legislative bills that have co-opted the increasingly popular evidence-based language to help ease their passage.

A national council

A national strategy often involves the federal government establishing a permanent structure, such as an agency, council, or secretariat. In Canada, this is known as the National Crime Prevention Centre or NCPC (formerly the National Crime Prevention Council, established in 1994). The need for and key roles of a national structure of this sort were outlined in the "Final Declaration" of the second international crime prevention conference, held in Paris in 1991. It stated that "governments must establish national crime prevention structures to recommend improved national policies, undertake research and development, and foster the implementation of effective crime prevention programmes, particularly by cities" (European Forum for Urban Safety et al. 1991: 2).

Other key functions of national councils should include (Waller and Welsh 1999: 197):

- Providing technical assistance, skills, and knowledge to state and local agencies in implementing prevention programs.
- Providing funding for prevention programs.
- Ensuring continuity, coordination, and monitoring of local programs.
- Maintaining high standards for evaluation research.

Unlike Canada and other Western countries, the U.S. has no permanent structure to support early prevention or crime prevention nationally. The Clinton Administration's Ounce of Prevention Council, begun in the mid-1990s and headed by Vice President Al Gore, is seen as a failed attempt to organize and foster effective crime prevention efforts on a national scale (Gest 2001). While it is not known if such an initiative may be revisited any time soon, recent academic works have drawn attention to the benefits of a coordinated, national effort on early prevention in the U.S. (Greenwood 2006a; Farrington and Welsh 2007; Waller 2006).

One important consideration in setting up a national council is where in the federal government it should be located. Greenwood (2006a) argues that Health and Human Services (HHS) should be the lead department for early prevention programs, while Justice is the more appropriate department for

serving the needs of high-risk and adjudicated youths. One argument in favor of HHS is that the benefits of early prevention are not restricted to crime but include many other aspects of a successful or healthy lifestyle (education, employment, substance use, relationships, mental health, etc.).

However, it will not be enough to establish a national council as yet another agency in a government department's bewildering bureaucracy. National crime prevention councils in most countries have a fairly high degree of influence with the top government official (Waller and Welsh 1999; Sansfaçon and Welsh 1999). Sweden's National Council for Crime Prevention, for example, reports to an official (director general) two levels down from the top public servant (Minister of Justice). In Canada, there are three levels of reporting between the NCPC Executive Director and the top public servant. It goes without saying that a government agency that reports directly to the top public servant will have a great deal more influence in shaping national policy and obtaining resources to pursue the agency's objectives than one that does not. If a national council on early crime prevention is to be established at HHS, efforts should be taken to place it under the immediate control of the Office of the Secretary and for it to be chaired either by the Secretary or the Under-Secretary of HHS.

Prevention at the local level

Crucial to the success of a national early prevention strategy is the ability of a council to support the implementation and delivery of evidence-based programs at the local level. National crime prevention councils in other countries that have been successful have emphasized three main mechanisms: collaboration with other government departments, development of local problem-solving partnerships, and involvement of citizens (Waller and Welsh 1999).

These points specify the pivotal role of the translation of evidence-based results into local practice. Each point specifies concrete actions that a national agency can influence at the local level, but program success ultimately will depend on local persons. The influence a national agency can have on these implementation issues has a number of features; for example, developing guidelines on effective practice and making project funding conditional on the use of evidence-based programs.

The Communities That Care (CTC) program has many attractions to serve as the model for the implementation of evidence-based early prevention methods at the local level. CTC aims to reduce delinquency and later offending by

implementing particular prevention programs that have demonstrated effectiveness in reducing risk factors or enhancing protective factors. It is based on large-scale community-wide public health programs designed to reduce illnesses such as coronary heart disease by tackling key risk factors. There is special emphasis in CTC on enhancing protective factors and building on strengths, partly because this is more attractive to communities than tackling risk factors.

CTC programs begin with community mobilization. Key community leaders (e.g., elected representatives, education officials, police chief, business leaders) are brought together with the aim of getting them to agree on the goals of the prevention strategy and on implementing the CTC model. Key leaders then set up a Community Board that is accountable to them, consisting of neighborhood residents and representatives from various agencies (e.g., schools, police, social services, probation, health, youth groups, businesses, churches, media). This 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 that need to be tackled and key protective factors that need to be enhanced in their community. 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. With specialist technical assistance and guidance, they choose programs from a menu of strategies that have been shown effective in well-designed evaluation research. Prevention strategies are chosen based on empirical evidence about their effectiveness in tackling each particular risk factor, while taking into account the particular problems and strengths of the community.

In the U.S., CTC is an important tool in the delivery of crime prevention at the local level. It is supported at the local level in several hundred communities across the country, and is a core component of the U.S. Office of Juvenile Justice and Delinquency Prevention's (OJJDP) Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders (Wilson and Howell 1993). It has also been implemented in over 20 sites in England, Scotland, and Wales, and in Australia, Canada, and the Netherlands. Furthermore, while the effectiveness of the overall CTC strategy has not yet been demonstrated (no evaluation has yet to take place), the effectiveness of its individual components is clear (Harachi et al. 2003).

Despite these achievements, CTC is largely underused on the American crime prevention scene. Part of the reason for this is that there is no dedicated government source for funding or technical assistance capacity to aid communities. This could be a role for a U.S. national council on early prevention, just as it could be for Canada's NCPC in partnership with the provinces and territories. Another reason for its under-utilization arises from the fact that it is not just focused on crime. A focus on risk factors for and protective factors against delinquency and offending often means that it is also concerned with other areas, such as health, education, substance abuse, and employment. This multi-dimensional focus should be viewed as a strength but in some cases it presents problems to funding agencies that take a narrow view of crime prevention. This was exactly the problem that faced the University of Ottawa's Centre for Research on Community Services' funding proposal for a large-scale demonstration project of CTC in Canada.

Yet another reason for CTC being underused in the U.S. (and in other countries for that matter) may have to do with competition with other comprehensive initiatives and community planning models. Other initiatives underway like PACT (Pulling America's Communities Together) in the U.S. or Aboriginal Head Start and Better Beginnings Better Futures in Canada need not be replaced by CTC. At the end of the day, CTC does not advocate a "one-size-fits-all" approach to crime prevention. What it does advocate, actually demand, is that prevention programs be targeted on scientifically identified risk and protective factors and be based on the highest quality scientific evidence on "what works".

Directions for Canada

Having a national strategy and the political will to use the best available scientific evidence to prevent crime are two different matters altogether. Against the backdrop of the current state of affairs on the science and politics of early prevention in the U.S. – as well as the comparatively forward-thinking national crime prevention efforts undertaken in Canada – this section explores directions for a made-in-Canada evidence-based approach to preventing delinquency and later criminal offending.

A program of high quality evaluation research

There is not a strong tradition of high quality research to evaluate the impacts of early crime prevention programs in Canada. The Montreal Longitudinal-Experimental study by Richard Tremblay (Tremblay et al. 1995) and the

Toronto Earlscourt Social Skills Group program by Debra Pepler (Pepler et al. 1995), both randomized experiments, are two exceptions to what amounts to an absence of scientifically rigorous evaluation research. It is important to note that it is altogether another matter in Canadian corrections, where many rigorous evaluations, including randomized experiments, have been carried out. A Canadian program of new early prevention programs incorporating high quality evaluation designs is needed in order to create a base for evidence-based crime prevention now and in the long run.

These new early prevention programs should be selected so as to contribute to the knowledge base in which it is presently deemed insufficient, such as in the case of promising practices (e.g., mentoring, after school programs) or as part of a program of replications to test effective practices with other populations and in other regions of the country.

Not all evaluations of new early crime prevention programs need be randomized experiments, but it may be instructive to consider Weisburd's (2003: 350) view on what should be required when randomized experiments are not to be used: "the burden here is on the researcher to explain why a less valid method should be the basis for coming to conclusions about treatment or practice."

Experiments and quasi-experiments should have large samples, long follow-up periods, and follow-up interviews (Welsh and Farrington 2006). Sample size is particularly important for both individual- and area-based studies. Long-term follow-ups are needed to assess how long effects persist after the intervention ends. This information may point to the need for booster sessions. Long follow-ups are a rarity in criminological interventions and should be a top priority of funding agencies. Research is also needed to identify the active ingredients of successful (and promising) early prevention programs (Farrington 2000). Many programs are multi-modal, making it difficult to isolate the independent effects of different components. Future experiments that attempt to disentangle the effects of different elements of the most successful programs are needed.

It is also important that early prevention programs include, as part of the original research design, provision for an economic analysis – either a cost-benefit or cost-effectiveness analysis – to allow for an assessment of the economic efficiency of the program (Welsh and Farrington 2000; Welsh, Farrington and Sherman 2001). Canada's National Crime Prevention Centre has carried out the important task of developing a standard methodology for conducting economic evaluations of crime prevention programs and preparing a manual for evaluators (Hornick, Paetsch and Bertrand 2000). Background

research on the cost-benefit of crime prevention programs with relevance to the Canadian situation has also been completed (National Crime Prevention Council 1996a, 1996b and 1997). These are important developments that need to be built upon as part of this effort.

Funding decisions guided by evidence on what works best

While other government considerations such as scarce resources, competing national priorities, and public opinion will continue to impact on funding decisions for early crime prevention programs, scientific evidence about what works best needs to be central to this process. The present state of scientific evidence on what works best to prevent delinquency and later criminal offending – from systematic reviews and other high quality review methods that may or may not include Canadian evaluations – represents an immediately accessible and most robust source to aid in decision-making about what types of prevention programs should be funded. For example, Canada's National Crime Prevention Strategy's substantive interests in crime prevention through social development could be guided, over the short- to medium-term, by the available evidence on what works best in individual, family, school, and community prevention.

Importantly, successful implementation calls for taking account of local context and conditions. Some critics of the evidence-based paradigm (Lab 2003) claim that it fails to adequately account for local context and conditions in reaching conclusions about what works. The main thrust of this argument is that unless local context and conditions are investigated undue weight may be ascribed to any effects of the intervention on the outcome of interest (e.g., crime). Evidence-based crime prevention has in place the capacity to take account of these features. For example, those tasked with investigating the research evidence on the effectiveness of prevention methods can question the original researchers or solicit unpublished reports to learn about how local context and conditions may have influenced the observed results. This information can then be integrated into the existing profile of the program.

Evidence-based prevention also has the capacity to appropriately tailor proven strategies or practices to the local setting. While perhaps obvious and supported in research on diffusion of knowledge and replication studies (see Ekblom 2002; Liddle et al. 2002), not paying attention to this (and using the "one-size-fits-all" approach) can severely impact upon implementation as well as the overall effectiveness of the intervention. Hough and Tilley (1998: 28) make clear this point:

> *Routinely-used techniques often cannot be taken off the shelf and applied mechanically with much real prospect of success. Standard, broad-brush, blockbuster approaches to problems tend to produce disappointing results. Where new approaches are adopted it is likely that adjustments will be needed in the light of early experience. All crime prevention measures work (or fail to do so) according to their appropriateness to the particular problem and its setting.*

Detailed observational and other information on the crime problem that is the focus of attention, as well as the setting (e.g., urban density, unemployment rates), can be matched with the proven practice and modifications can then be made as needed.

After a few years, this largely American source of knowledge could be augmented once a Canadian program of high quality evaluation research begins to produce results. Ultimately, this may lead to Canadian evidence about what works best to prevent crime becoming the primary source of information to aid in funding decisions.

As scientific research accumulates, decisions on funding early crime prevention programs may be able to integrate other important issues. One of these could be a program's ability to reduce crime within a specific time frame, such as over the short- or medium-term. Another could be a program's ability to produce benefits in addition to reduced crime, such as improved educational achievement, less reliance on social services, improved health, and increased employment. Funding decisions should also be guided by research evidence about a program's ability to produce value for money.

A program of research on incorporating evidence into policy and practice

It is well known that having convincing research evidence and having it influence policy and practice are two very different matters. A program of research needs to be initiated in Canada to learn how scientific evidence on what works best in early prevention can be incorporated into policy and practice. Already, some work on this front has begun in Canada, with a specific focus on the transference of principles of effective treatment into secure correctional settings (Bourgon and Armstrong 2005).

Learning from the lessons of new research in this area in the U.S. (see Crime and Justice Institute 2004) will also be helpful, but it will be important to

understand the specific needs of Canadian crime prevention practitioners, as well as the relationships among the scientific community (and the research evidence they produce), policymakers, and practitioners. What are the resource, service delivery, and training needs of practitioners with respect to an evidence-led approach? What are the systems needs of practitioners to allow for the adoption of new evidence as it becomes available? Is there a need for accountability and performance measures to ensure that the latest scientific evidence is being utilized? These are just a few of the questions that need to be addressed as part of a made-in-Canada program of research on incorporating scientific evidence into policy and practice.

APPENDIX

Evaluation Research and Assessing Research Evidence

An evaluation of a crime prevention program is considered to be of high-quality if it possesses a high degree of internal, construct, and statistical conclusion validity (Cook and Campbell 1979; Shadish, Cook and Campbell 2002). Internal validity refers to how well the study unambiguously demonstrates that an intervention (e.g., parent training) had an effect on an outcome (e.g., delinquency). Construct validity refers to the adequacy of the operational definition and measurement of the theoretical constructs that underlie the intervention and the outcome. Statistical conclusion validity is concerned with whether the presumed cause (the intervention) and the presumed effect (the outcome) are related.

Put another way, researchers and policymakers can have a great deal of confidence in the observed effects of an intervention if it has been evaluated with a design that controls for the major threats to these three forms of validity. Experimental, especially randomized (see Farrington and Welsh 2006), and quasi-experimental research designs are the types of evaluation designs that can best achieve high internal validity in particular.

Just as it is crucial to use the highest quality evaluation designs to investigate the effects of crime prevention programs, it is also important that the most rigorous methods be used to assess the available research evidence. The systematic review and the meta-analytic review (or meta-analysis) are the most rigorous methods for assessing effectiveness.

Systematic reviews use rigorous methods for locating, appraising, and synthesizing evidence from prior evaluation studies, and they are reported with the same level of detail that characterizes high-quality reports of original

research. According to Johnson, De Li, Larson and McCullough (2000: 35), systematic reviews "essentially take an epidemiological look at the methodology and results sections of a specific population of studies to reach a research-based consensus on a given study topic." They have explicit objectives, explicit criteria for including or excluding studies, extensive searches for eligible evaluation studies from all over the world, careful extraction and coding of key features of studies, and a structured and detailed report of the methods and conclusions of the review. All of this contributes greatly to the ease of their interpretation and replication by other researchers. It is beyond the scope of this paper to discuss all of the features of systematic reviews, but interested readers should consult key reports on the topic (see e.g., Welsh and Farrington 2001 and 2006).

A meta-analysis addresses the question: How well does the program work? It involves the statistical or quantitative analysis of the results of prior research studies (Lipsey and Wilson 2001). Since it involves the statistical summary of data (in particular, effect sizes), it requires a reasonable number of intervention studies that are sufficiently similar to be grouped together; there may be little point in reporting an average 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.

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