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## Developmental Crime Prevention

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### **Published as:**

Homel, R. (2005). Developmental crime prevention. In Nick Tilley (Ed.), *Handbook of crime prevention and community safety* (pp. 71-106). Cullumpton, Devon, UK: Willan Publishing

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People are not like rockets whose trajectory is established at the moment they are launched. Indeed, it is the lifelong capacity for change and reorganization that renders human beings capable of dramatic recovery from early harm and incapable of being inoculated against later adversity. This lifelong plasticity renders us both adaptive and vulnerable. (Shonkoff & Phillips, 2000). (p. 90)

But not even great talent and industry can ensure life success over adversity without opportunity. (Elder, 1998). (p. 9)

*Developmental prevention* involves the organized provision of resources in some fashion to individuals, families, schools or communities to forestall the later development of crime or other problems. Doing something about crime early, preferably before the damage is too hard to repair or crime becomes entrenched, strikes most people as a logical approach to crime prevention. The twin challenges of course are to identify exactly what it is in individuals, families, schools or communities that increase the odds of involvement in crime, and then to do something useful about the identified conditions as early as possible.

The good news is that we now have persuasive scientific evidence that this approach might really work. Indeed, this chapter would probably not have been written if it were not for the solid evidence produced in the last few years by an influential series of experiments that it is possible to work with young children and their families in such a way as to head-off future health, behaviour and crime problems (Farrington & Welsh, 2002). There is quite impressive evidence for long-term effects from a range of studies that commenced in the United States before the 1980s, such as the Perry Preschool Project (Schweinhart, 2004), the Elmira

Prenatal/Early Infancy Project (Eckenrode, Olds, Henderson, Kitzman, Luckey, Pettitt, Sidora, Morris, Powers, & Cole, 1998; Olds, 2002) and the Seattle Social Development Project (Hawkins, Catalano, Kosterman, Abbot, & Hill, 1999). As Brooks-Gunn, Fuligni, & Berlin (2003) have observed, a more recent generation of interventions, again mostly from the United States, has confirmed that early intervention programs can have positive effects for children from low income backgrounds, with “initial gains in intellectual and achievement scores, and longer term outcomes reflecting more successful school experiences ... Reduction of behavior problems and delinquency have also been reported.” (p. 10). (See also Farrington & Welsh (1999); Farrington & Welsh (2003); and Shonkoff & Meisels (2000)).

In most of the successful experiments the systematic delivery to disadvantaged families with young children of basic services or resources that are taken for granted by middle class populations in many countries eventually resulted in surprisingly large reductions in crime involvement amongst those targeted. Of equal or greater importance, a variety of studies have found improved outcomes in terms of educational performance (mother and child), child maltreatment, maternal workforce participation, child and youth behaviour, income, substance abuse, and similar measures (Brooks-Gunn, Fuligni, & Berlin, 2003; Hawkins, Catalano, Kosterman, Abbot, & Hill, 1999; Olds, 2002; Reynolds, Temple, Robertson, & Mann, 2001; Schweinhart, 2004). So it seems that simple things that everybody believes in and can feel good about, like baby health care or preschool, if they are done ‘right’, might be an important component not only of successful crime policies but of policies that promote many aspects of the health and wellbeing of disadvantaged populations.

The aim of this chapter is to help people interested in developmental prevention think more clearly about how to understand crime problems and how to apply a developmental perspective in formulating preventive responses. My starting point is the literature on risk-focused prevention and early-in-life interventions since these approaches are currently dominant, but I take the view that in fact developmental prevention is more general in its scope and methods than either of these approaches. One noteworthy feature of the criminological literature, for example, is that despite a bias toward early prediction and child-focused models (Sampson & Laub, in press), there is considerable interest in prevention programs in the primary and high school years (D. C. Gottfredson, 2001). This extensive literature is one of several reasons, discussed later in this chapter, for a broader focus when thinking about developmental prevention than interventions restricted to preschool and early childhood.

So in this chapter we explore how the boundaries of developmental prevention can be extended by thinking from a developmental and life-course perspective about crime problems in diverse contexts, drawing extensively on the literatures on risk factors and early-in-life interventions, but not being limited by them. Given the emphasis on conceptual issues, neither the review of risk factors nor prevention programs is complete or systematic; my aim rather is to use these literatures to elaborate concepts and to raise issues. For readers interested in narrative and systematic reviews and overviews, some excellent references are outlined at the end of this chapter in “Selected further reading.”

In the next section we look at risk-focused and early-in-life prevention approaches in a little more detail, emphasising their promise while asking what processes lie behind the long-term changes that have been observed. This leads, in the following section, to a consideration of some of the core conceptual issues and

debates that underpin the theory and practice of developmental prevention. These include most fundamentally the notions of ‘development’ and ‘criminality,’ as well as what ‘early’ means in ‘early intervention,’ and the strengths and limitations of a risk-focused approach. A case study (Jack’s story) is used as a vehicle to further elaborate developmental prevention concepts, particularly life phases and life transitions, turning points, ecological-transactional analysis, and prevention programs suitable for different life phases. We conclude by suggesting some new directions for the field.

### *Early intervention and risk-focused prevention*

The term *early childhood intervention* (or, sometimes, *early-in-life* or simply *early intervention*) is used to label a vast body of literature concerned with the study of multidisciplinary services designed to enhance the health and well-being of children aged from birth to five, and their families (Shonkoff & Meisels, 2000). Partly as a result of the successful experiments cited above there has been an enormous increase in interest in recent years in early childhood as a site for social interventions (Brooks-Gunn, Fuligni, & Berlin, 2003), especially in English-speaking countries where there is an historic emphasis on individual family rather than collective responsibility for child raising.

Hertzman (2002), for example, observes that “[i]n Canada, the past ten years have been a time of renewed focus on early childhood and the challenge of making a strong collective commitment to our young children” (p.1). Fraser Mustard, the Founding President of the Canadian Institute for Advanced Research, has been extremely influential in Ontario and internationally in highlighting the critical importance of the early years for a healthy and competent population (McCain & Mustard, 1999). In the United Kingdom, enormous resources have been directed

through Sure Start to the needs of families with children under the age of four, especially in disadvantaged communities (Glass, 1999; Tunstill, Allnock, Meadows, & McLeod, 2002). In the United States, programs like Head Start attracted increased resources in the 1990s, despite general cutbacks in public expenditure on social programs (Kamerman, 2000). By contrast with the US, as part of a general increase in social expenditure from a low base (Australian Government Taskforce on Child Development, 2003; Kalisch, 2000; Saunders, 1998) Australia has increased expenditure on family support and early-in-life intervention programs through a National Agenda for Early Childhood (Australian Government Task Force on Child Development, 2003) and the Stronger Families and Communities Strategy (Note 1). Internationally, the World Bank, the OECD and UNICEF have all issued reports in recent years on the importance of investment in early childhood for building human and social capital (McCain & Mustard, 2002).

The Elmira (New York) home visiting study by David Olds and his colleagues is an excellent example of an influential, policy-relevant prevention program that is usually classified as 'early intervention' since many outcomes related to babies and young children, although the target population was actually young mothers. This work is also usefully viewed as a good example of risk-focused prevention. Olds' research has shown that for teenaged first-time mothers from very disadvantaged backgrounds regular prenatal and postnatal home visits by trained health professionals can, under some circumstances, have long-term benefits not only to the mothers but also to their children. Although many elements of this intervention can be found in community child health programs around the world, what is distinctive about the Olds' approach is the fact that the program is explicitly grounded in theories of human ecology, self-efficacy, and human attachment and the nurse home visitors systematically and

rigorously addressed risk factors associated with poor birth outcomes, child abuse and neglect, welfare dependence, and poor maternal life course (Olds, Henderson, Kitzman, Eckenrode, Cole, & Tatelbaum, 1999). Early evaluation of this randomised trial showed a decrease in recorded child physical abuse and neglect during the first two years of life, and in a 15-year follow-up both mothers and the children had fewer arrests than control groups where the mothers were not visited. In fact the children had less than half as many arrests as children of control mothers, and also smoked and drank less, and had had fewer sexual partners (Olds, Pettitt, Robinson, Henderson, Eckenrode, Kitzman, Cole, & Powers, 1998).

The term 'risk factor' captures an emphasis on the identification, measurement and manipulation of key variables correlated with future crime as the basis for program design and delivery. Risk factors are essentially common sense notions that have been put through the wringer of exact measurement and statistical analysis, often in longitudinal surveys where the same individuals are followed for some years (sometimes from birth). Longitudinal studies, such as the Mater-University of Queensland Longitudinal Study of Pregnancy and its Outcomes (Bor, Najman, O'Callaghan, Williams, & Anstey, 2001), permit the study of statistical associations between conditions at one time (such as being aggressive at age 4) and outcomes at a later time (such as involvement in delinquency at age 13). The language of risk factors is used to avoid the epistemological and scientific challenges posed by the language of causation (Susser, 1998) and to highlight the essentially correlational nature of our knowledge. We know rather more about factors that are associated in a statistical sense with crime than we do about 'causal processes' (Farrington, 2002).

Risk factors that have been found most commonly to predict youth crime include childhood antisocial behaviour, low self-control (impulsiveness,

hyperactivity, a poor ability to plan ahead, etc.), low levels of parental supervision, harsh and inconsistent discipline, child maltreatment (abuse and neglect), offending by parents and siblings, parental conflict, a large family size, and weak parental and school attachment (Farrington, 2002; Sampson & Laub, in press). All of these have been the focus of preventive efforts in recent years on the assumption that we do not require a full understanding of causal processes in order to do effective prevention work, especially if an 'omnibus' or 'scattergun' approach is adopted that targets as many risk factors as possible in the hope of scoring some hits on some key causes.

According to Farrington (2002):

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. (p. 660)

As Farrington notes this approach became enormously popular in the 1990s, and in fact there is now a strong tendency in the literature to equate developmental prevention with risk-focused prevention.

Risk-focused prevention does seem to work. Although based on different theories and methods from the Olds' program of research (Olds, 2002), the findings from a number of other experiments are equally noteworthy. Table 1 summarises the evaluations of a sample of five well-known interventions, including the Elmira Project. Although many projects could have been selected, the five projects in Table 1 serve our present purposes since their focus ranges from the prenatal and infancy periods to the late teens, they use a variety of approaches underpinned by different processes, they involve work in multiple contexts, and they have all been well evaluated. Projects are classified using terminology first proposed in 1994 by the US Institute of Medicine (Marshall & Watt, 1999): *universal* interventions are provided

for the general population or for all members of a specified collectivity like a local community, a school, or a workplace; *selected* interventions are directed at groups judged to be at increased risk; and *indicated* interventions are directed at individuals already manifesting a problem such as disruptive behaviour. (Note 3).

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TABLE 1 ABOUT HERE

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*The Perry Preschool Project* is probably the most widely cited and influential early intervention project ever implemented, with follow-ups of the 123 study children annually at ages 3 through 11 and then at ages 14, 15, 19, 27 and 40. The goal of the project, which was implemented in the years 1962 to 1967, was to enhance intellectual development and subsequent school achievement in disadvantaged 3 and 4 year-old children (Schweinhart, 2004; Schweinhart, Barnes, & Weikart, 1993). A daily preschool program was provided in addition to weekly home visits by teachers. The aims were to “encourage children in effective decision making, self discipline (setting and achieving goals), working effectively with others and recognising their views, self-expression, reasoning, having an enquiring spirit and in understanding and accepting people’s differences” (Pirani, 1994).

Although cognitive gains for children in the program were not maintained, the program participants’ school achievement and behaviour were significantly better than those of control children. They were more likely to graduate from high school and continue to further education. By ages 27 and 40, they had higher incomes and were more likely to be home-owners, and at age 40 more program-group males than controls were employed (70% vs. 50%). The impact of the preschool program on later offending was impressive: at age 15, program children had lower self-reported offending; at age 19, they were less likely to have been arrested; at age 27, the control group had twice the number of arrests; and at age 40 the program group had

significantly fewer lifetime arrests than the no-program group (36% vs. 55% arrested 5 or more times). As summarised by Schweinhart (2004):

The study presents strong evidence that the Perry Preschool program played a significant role in reducing overall arrests and arrests for violent crimes as well as property and drug crimes and subsequent prison or jail sentences over study participants' lives up to age 40. (p. 3).

Family support was the key intervention component in the *Syracuse Family Development Research Program* (Lally, Mangione, & Honig, 1988) with the provision of child care as a supplementary feature. Home visitation was conducted by paraprofessionals, often from similar backgrounds to the program participants. Known as Child Development Trainers (CDTs), they had the role of a knowledgeable friend, adviser and advocate. All CDTs attended weekly training sessions which included case reviews and group problem solving. Intensive annual two-week training programs were conducted for all program staff, including cooks, bus drivers and secretaries. During weekly home visits, CDTs performed ten activities that are important features of home visitations. These included teaching families games, language interactions and learning tasks appropriate to the child's level of development; nutritional information; positive support and encouragement for the mother; and encouraging the mother to take an active role in the child's schooling. At age 15 only 6% of program children compared to 22% of a control group had official juvenile delinquent records. The children in the control group had more serious and chronic offences compared to those of the program children. Charges included burglary, robbery, physical assault, and sexual assault.

In the *Montreal Prevention Project*, boys identified by their preschool teachers as the most disruptive learned social skills and self-control strategies (Tremblay, Pagani-Kurtz, Masse, Vitaro, & Pihl, 1995). Their parents received training in monitoring behaviours, using effective discipline, and encouraging prosocial

behaviour. Evaluations at age 12 showed that boys in the program were achieving more highly at school and displaying less antisocial behaviour (e.g. fighting) than the non-intervention group. Self-reported delinquent behaviour (e.g. burglary and theft) was significantly lower and the differences between program and non-intervention boys increased with time (from ages 10 to 12).

Instead of targeting an indicated group, the *Seattle Social Development Project* (Hawkins, Catalano, Kosterman, Abbot, & Hill, 1999; Hawkins, Catalano, Morrison, O'Donnell, Abbott, & Day, 1992; Hawkins, Von Cleve, & Catalano, 1991) provided a universal program of teacher training and supervision, child training in cognitive problem solving, peer group sessions and parent training for effective behaviour management. The focus was grade 1 children, but there was also a late intervention for children in grades 5 and 6. There was an underlying belief that offending would be discouraged in children who established strong bonds with their families, schools and communities. Following the program, teachers rated children as less aggressive, although this effect was only apparent for white children. Subsequent evaluations when the children were beginning fifth grade showed that fewer experimental children reported alcohol use or delinquent behaviour. In addition, program children displayed greater attachment to school and their parents demonstrated better management skills, greater involvement in their children's development and more effective family communication. At age 18, fewer students receiving the full intervention (compared with the controls) reported violent delinquent acts, heavy drinking, sexual intercourse, having multiple sex partners, and pregnancy or causing pregnancy. The positive results observed earlier for school attachment and achievement were maintained. Late intervention in grades 5 and 6 only did not appear to affect these outcomes.

Significantly, these and similar interventions seem in most cases not only to have yielded reductions in crime and a range of other problem behaviours, but to have done so in a cost-effective manner (see the last column of Table 1) (Aos, Phipps, Barnoski, & Lieb, 2001; Karoly, Greenwood, Everingham, Hoube, Kilburn, Rydell, Sanders, & Chiesa, 1998; Welsh, 2001). For example, a cost-savings analysis of the Elmira Prenatal/Early Infancy Project for high-risk families estimated the total cost per participant as US\$6,083 (1996 dollars) with estimated net savings of US\$24,694 to the government. Cost-benefit analysis of the Perry Preschool Program (Barnett, 1993) yielded the oft-quoted figure of US\$7.16 return per dollar spent. The biggest 'bang for the buck' was reductions in crime (an estimated \$49,044 per participant), followed by increased taxes on earnings (26%), a decrease in the need for special education for participating children (25%), and reduced welfare assistance (9%) (Karoly, Greenwood, Everingham, Hoube, Kilburn, Rydell, Sanders, & Chiesa, 1998).

Contrary to these positive results, cost-savings analysis of the Syracuse Family Development Research Program demonstrated that savings to the government did not exceed program costs. Program costs per participant (1998 dollars) were estimated to be US\$18,037, outweighing the combined benefits of criminal justice costs avoided (\$3,953) and crime victim costs avoided (\$3,842). This resulted in a total net cost to taxpayers per participant of minus \$10,242 (Aos, Barnoski, & Lieb, 1998). However, these findings only demonstrate the program's savings in terms of criminal justice and crime victim costs avoided. Although savings to the government did not match the program's costs, the overall intervention could well be considered a success. This is evident from the lower failure rates of participating students, higher grades, lower rates of juvenile delinquency, and greater family unity (Manning, 2004). Thus the

Syracuse program is a good example of why net savings to the government should not be the only indicator of a program's viability or worthiness for funding. This is particularly salient given that some costs are very difficult to monetise, and so are not usually included in economic analysis.

It is important to note that positive outcomes are not limited to the early 'classic' studies. Farrington and Welsh (2003) have for example shown in a meta-analysis of the effectiveness of 40 family-based crime prevention programs, some of which commenced more recently than those in Table 1, that the majority had an impact on delinquency and antisocial child behaviour. The mean effect size was .321, which corresponds roughly to a decrease in offending from 50% in a control group to 34% in an experimental group.

How is it that these outcomes were achieved? What were the processes involved? Many possibilities are suggested by the studies reviewed. Of fundamental importance, all the interventions were well-resourced and were carefully implemented by staff that were well trained. All were based on explicit theories, although these were rather varied in nature suggesting that there is no one 'correct approach.' All involved some form of development of parental capacities, resources and skills, sometimes through parent 'training' and sometimes more broadly through family support. All illustrate the importance of working simultaneously in multiple domains, most commonly involving children, their parents and their teachers. Some studies suggest that improvements in children's cognitive abilities (such as IQ) are crucial, others that improvements in social skills or in the extent of the child's attachment to family, school or community are the key. Significantly, some studies found that effects were not universal, indicating complex interactions between the program elements and the characteristics of participants and the groups from which they come.

In the Elmira study, for example, positive outcomes were restricted to the high-risk mothers and their children; in the Seattle study, black children did not improve in their behaviour.

It would be easier to understand what underlies improved outcomes, or their absence, if evaluations of interventions collected more data on intervening mechanisms, but unfortunately often little can be learned from major interventions about the specific processes of change (Brooks-Gunn, Fuligni, & Berlin, 2003). Even when interventions have been well evaluated, not many studies (until very recently) have collected rich qualitative or quantitative data on the multiple sources of influence on individual pathways, or on the amount, intensity and variety of services children or families receive. This is a major challenge for the field.

It is certainly the case that one is left with the impression from some studies that 'getting in' before the age of five is crucial, or at least highly desirable. For example, Schweinhart (2004) presents a path model linking the Perry Preschool intervention at ages 3 and 4 with outcomes at age 40, with post-program IQ serving as a crucial predictor of school achievement and commitment in the mid-teens linking to the later outcomes (admittedly with attenuated predictive power by age 40). This could be taken to mean that to some extent the intervention acted as a 'magic bullet', boosting IQ (at least temporarily) and hence later life performance. The failure of the 'late' intervention on its own in the Seattle project could also be interpreted as evidence that intervening at an earlier age is essential in order to bring about sustained changes in individual characteristics or 'propensities.' We now turn to a more detailed examination of these and related issues.

*Concepts and controversies*

Perhaps Laub and Sampson (2003) have most clearly articulated the debates about ‘development,’ and the associated concept of ‘propensity’ or ‘criminality’ from the perspective of their analyses of the life histories of 52 men up to age 70 from the original sample constructed by Sheldon and Eleanor Glueck (1950):

Developmental accounts, especially from developmental psychology, focus on regular or lawlike development over the life span. ... The resulting emphasis is on systematic pathways of development (change) over time, with the imagery being one of the execution of a program written at an earlier point in time. .... In contrast, life-course approaches, while incorporating individual differences and notions of lawlike development such as aging, emphasize variability and exogenous influences on the course of development over time that cannot be predicted by focusing solely on enduring individual traits ... or even past experiences. .... A life-course focus recognizes emergent properties and rejects the metaphor of “unfolding” that is inextricably part of the developmental paradigm. (pp. 33-34)

While the intensity and extent of the pre-programmed deterministic view of human development in modern developmental psychology is debatable (Lerner, 2002), Laub and Sampson’s critique is nevertheless useful for identifying some of the key tensions underlying the developmental approach to prevention. If a propensity to commit crime is established before the age of five (M. R. Gottfredson & Hirschi, 1990), or if more generally early childhood development “... is a key step in human development trajectories that are set in the early years and tend to carry on through education into adult life in respect to health, learning and behaviour” (McCain & Mustard, 2002), then logically the main focus of prevention efforts should be the early years. If on the other hand Laub and Sampson are correct in their arguments that childhood risk factors have very modest predictive power into adulthood and that human agency, situational factors, and chance events are of much greater importance than previously believed in terms of understanding the enormous variability and

diversity in life histories (including the process of desistance from crime), it follows that one would devote resources to prevention efforts across the life course, be sceptical about relying too much on risk factor analyses and offender typologies in designing interventions, and give weight to routine activities theory and to situational approaches to prevention as well as to developmental research.

Some years ago the Developmental Crime Prevention Consortium (1999) prepared a report for the Australian Government that anticipated many of these issues. This interdisciplinary group that I had the privilege to convene evolved a view of developmental pathways and of developmental prevention that took a life course approach and did not presuppose the existence of a propensity to offend, although the possibility of enduring individual traits that predispose some people to crime was by no means dismissed. This stance contrasted with the definition of developmental prevention adopted by Farrington (1996), which makes criminality reduction (or inhibiting “the development of criminal potential in individuals”) the central focus of prevention efforts. The concepts and models proposed in this chapter have developed from the foundations we laid in our earlier work (Note 2).

*Developmental pathways.* Life, according to this perspective, is not marked by one steady march toward adulthood whose direction becomes fixed after early childhood, or one steady line of change, either for better or for worse. Instead, what occurs is a series of phases, a series of points of change, a series of transitions. These points of transition are when intervention can often occur most effectively, since at times of change individuals are both vulnerable to taking false steps and open to external support or advice. In the course of becoming an adult, for example, most people move from home to school, from primary to secondary school, from school to seeking entry into the paid work force, acquiring a driver's license, being legally able

to buy alcohol, possibly leaving home. Throughout adulthood, further transitions occur: making commitments to other people, possibly becoming a parent, coping with shifts in employment status, being faced with the evidence that one's child is in various kinds of trouble, to a time of standing back and allowing one's children to bring up the next generation.

Consistent with the analysis of Laub and Sampson, the nature of these transitions becomes increasingly hard to predict as time passes since they depend on life events and on how individuals understand and react to these events, and indeed how they help to shape them. Many transitions require a person to come to grips with new social institutions, and many involve new developmental tasks and challenges. Extensive literatures have developed around many of these life phases and transitions. For example, the transition from home to school is well researched, with a special focus on the concept of 'readiness for school' and how such readiness can be understood and perhaps improved through planned interventions (Ramey & Ramey, 1998).

Life phases are not 'stages' in the sense that they represent the unfolding of a pre-determined developmental blueprint, but are socially constructed and highly variable, depending as much on individual choices and happenstance as on normative or biological timetables. At each time of transition there is the possibility of more than one outcome. For some children, the transition from home to school is unproblematic, especially if they have had the advantage of a happy preschool experience and a family that values education and understands how to get the best out of the school system. Others soon learn that school is a place to stay away from as much as possible, since the main lesson is that one is a failure that doesn't belong. Again, some

people negotiate the transition from school to the paid workforce with a minimum of effort, while others never make the transition.

Essentially, developmental approaches are characterized by a pervasive emphasis on *pathways* and on aspects of time and timing. Pathways are understood not just as unique individual biographies, but as roads through life - from conception to death - that fork out in many directions (often unpredictable) at the kinds of crucial transition points that mark new experiences and relationships. A person may follow an easy path to respectable middle age, or a painful path through teenage substance abuse, homelessness, and early death. In contrast to earlier generations when for most people fewer choices were available, increasingly there is no set timetable or established societal route for many children and young people. Youth pathways in particular tend now to be characterised by 'non-linearity' and by complex patterns of transition in which, through force of circumstance and an increased societal emphasis on individualism, young people enter a 'new adulthood' earlier and choose their own timetables for achieving goals such as a steady job or finishing school (Wyn, 2004).

Crucially, developmental pathways in the sense discussed here should be distinguished from the kind of pathways models proposed by Hertzman (1999) and others who write from a medical or epidemiological background, where there is a much stronger (although mostly implicit) emphasis on what might be characterised as 'linear causal chains of events.' In these conceptions, one condition (such as a lack of readiness for school) tends to lead inexorably to another (such as disability and absenteeism in the fifth decade of life) via intermediate events (such as being stuck in a high stress-low control job). According to this model, much of the social gradient effect in health outcomes arises from the amplification and reproduction by social processes of the effects of differences in individual traits and in life circumstances at

(or before) birth. Both conceptualisations – the causal pathways model and the developmental pathways model – obviously have many points in common, but the developmental model has a greater place for human agency and the possibility that people can ‘reinvent themselves’ in the light of social circumstances and opportunities that arise over the life course (Elder, 1998).

Whatever the role of agency and happenstance, quantitative analysis of developmental pathways would not be possible without some degree of underlying regularity and predictability. Since patterns in pathways are largely constructions out of correlational data, it is important to ask what may underlie the statistical connections. From a developmental perspective three kinds of answers are possible.

The most familiar explanation is in terms of proposing a variety of processes or ‘carrier mechanisms’ that may account for connections over time. These processes are most often placed within the individual, as Laub and Sampson complain. The experience of particular events, for example, establishes some predisposition to react with hostility, to lie, to steal, to think only in terms of one's own pleasure or of the short-term. The recent work by Caspi and Moffitt and their colleagues (Caspi, McClay, Moffitt, Mill, Martin, Craig, Taylor, & Poulton, 2002) on genetic factors that appear to moderate the effects of child maltreatment illustrates one way this kind of process could operate, while also highlighting the importance of “environmental insults” to children (p. 851). Using data from the Dunedin Multidisciplinary Health and Development Study, this research team found that “maltreated children with a genotype conferring high levels of MAOA [monoamine oxidase A] expression were less likely to develop antisocial problems” (p. 851). This is consistent with the hypothesis that genetic factors are part of the carrier mechanism linking the early experience of abuse with later violent behaviour, although the possibility that the

same genetic factors drive both parental abuse of children and child aggression cannot be discounted.

The interaction between individual and environmental factors found by Caspi and his colleagues suggests another general way of thinking about what underlies patterns in pathways. This consists of seeing the particular processes as contained in the interactions between people, a point we return to later in discussing the case study. The best-known example, based on observations of behaviour sequences, is the concept of “coercive cycles” proposed by Patterson and Dishion (1988). A child starts off, for example, with a low-level aggressive action. The parent responds ineffectively, reinforcing the child’s negative behaviour and moving it up a notch. The parent then finds it even more difficult to respond effectively, and so problems intensify. In effect, each party’s response to the other both perpetuates and escalates the connection between a prior event and a later behaviour.

Perhaps the least familiar approach to understanding connections over time is the one taken by Sameroff and his colleagues (Sameroff, Seifer, Baldwin, & Baldwin, 1993). They observed that a number of environmental conditions were negatively related to a child’s IQ scores at age 4, and that these scores were in turn correlated with IQ scores at age 13. They took as well, however, the unusual step of measuring for the presence of the same risk conditions at age 13. The correlations between the two sets of risk conditions were quite high (around 0.7) and taking that into account effectively halved the correlation between the IQ scores at the two ages. In effect, what might appear to be some disposition carried forward within the individual could well reflect continuity in the conditions that are being encountered. This is an important insight, since as Elder (1998) has emphasised, “longitudinal studies *seldom* examine the stability and nature of children’s social environments over time ... As a

result, sources of behavioral continuity and change remain poorly understood.” (p. 5)  
[emphasis in the original.]

*Do these possibilities matter for the task of prevention?* These alternative explanations matter for the choice of what to change. Prevention, it has been argued, should target what we think of as causally related to crime -- what we see as the underlying process -- rather than be aimed at what is simply correlated (Farrington, 2000; Tremblay & Craig, 1995). They matter also for our interpretation of any effects we obtain. What we see as change within the individual (and as then likely to persist even if circumstances change) may in fact be a change in the individual's circumstances, making it likely that the old behaviour will appear again as soon as the circumstances swing back to where they were. So when we come to evaluate whether what we have done has made a difference we should check both for changes in individuals *and* in circumstances, something that is, as we have seen, too seldom done.

*The timing of interventions.* One crucial consequence of a focus on developmental pathways is that ‘early intervention’ means *intervention early in the pathway*. This may or may not mean early in life. What a person does at a particular time does depend heavily on current circumstances as well as on chance events and the exercise of individual choice, as Laub and Sampson (2003) emphasise. However, behaviour is also influenced by earlier events, as they also acknowledge. Decisions in the present depend at least to some extent on how earlier problems have been coped with and on the extent to which they have equipped the person involved with the skills, the strategies, the energy, and the openness to advice or opportunity that are now called for. A first time offender, for example, needs to be ready to listen, to feel shame, empathy, and embarrassment. His or her family also need to have developed

sufficient will and trust to be able to cope with this particular false step and to move on effectively. Whether they can do so depends on what has happened at earlier points in life. If those earlier situations have led to distrust, alienation, or entrenched and unproductive strategies for dealing with difficulty, then success in working through this new problem will be all the more difficult to achieve.

There are then good reasons for intervening early in life. Families with babies and preschoolers who suffer the consequences of poverty, relationship breakdown, and abusive or inept parenting styles are more likely to produce teenagers who participate in crime and substance abuse (Farrington, 2002). Once it is accepted that some conditions and situations at an early age have multiple consequences later in life – they alter the ‘baggage’ one carries - it follows that successful intervention at an early age should be a cost effective preventive strategy.

In summary, there are two main reasons for taking early-in-life interventions seriously. One key reason is that early in the pathway frequently equates to early in life, especially for children living in disadvantaged areas. Some sequences of offending, for example, are manifest in the preschool years through aggressive and hostile behaviour. In these cases, early interventions have more immediate as well as long-term goals, especially since dealing with behaviour problems in a reactive fashion even at a young age can be extremely costly (Manning, 2004). The second reason for considering an early-in-life approach is that it is likely to be strategically effective to attempt to divert people from harmful pathways before maladaptive patterns of behaviour are well entrenched. Protective and anticipatory action is more powerful and less painful than clinical or punitive interventions after a history of offending, even if such interventions can be very cost-effective (as is the case for example with multisystemic therapy: (Aos, Phipps, Barnoski, & Lieb, 2001).

Much crime prevention work, however, also means intervening with those who have made a false start (so developmental prevention encompasses what is usually regarded as ‘offender treatment’). Creating *pathways to recovery* is probably as important as keeping people on the straight and narrow, given the prevalence of offending in western societies compared with developing countries (Wei, Homel, Prichard, & Xu, 2004). Moreover, firm foundations in early life do not guarantee a problem-free adolescence. Wickström and Loeber (2000) have for example demonstrated that well adjusted adolescents from well functioning, loving families can be more likely to become engaged in late onset serious crime (including violence and drug dealing) if they grow up in high crime public housing area. A broad view of developmental prevention is that it involves interventions early in developmental pathways that might lead to problems (or the escalation of problems), not only interventions in early childhood. The nature and timing of intervention depends, from the developmental perspective, not just on the individual’s age, but on the identified pathways to offending and the critical transition points that characterise those pathways. The first offence - the first contact with the criminal justice system - is one of those critical transition points in a person’s life.

*Risk-focused prevention.* Sampson and Laub (in press) argue that child risk factors have very limited predictive power across the life course. Risk is not destiny. Moreover, recent evaluations in the UK by Crow and his colleagues (2004) of implementations of *Communities That Care*, a prominent exemplar of risk-focused prevention, underline the considerable practical difficulties entailed in identifying, measuring and changing risk factors in local communities. On the other hand, the examples of risk-focused prevention we examined earlier suggest that it would be foolish to abandon prevention initiatives that aim to influence child and family risk

factors. The evidence, after all, is that this approach can work very well. What then to make of risk factors and risk-focused prevention?

Much of the inspiration for risk-focused preventive approaches in criminology derives from experience in public health, with programs designed to reduce heart disease or cancer through a focus on such factors as smoking, exercise and diet being viewed as models for how crime prevention programs should be constructed and evaluated (Hawkins, Catalano, & Associates, 1992). Amongst its many virtues, this approach maximises the likelihood that programs will be implemented that really influence some of the key factors that lead to crime and violence, while building on individual and family strengths through an emphasis on protective factors.

Randomised clinical trials emerge in this paradigm as the gold standard to which other study designs aspire, since they produce the highest quality evidence concerning the causal impacts of interventions (Weisburd, Lum, & Petrosino, 2001).

It is the case, however, that whilst criminologists have been embracing public health models as an enlightened scientific alternative to the traditional preoccupation with largely ineffective, punishment-oriented criminal justice remedies (Moore, 1995), a growing number of public health researchers have been expressing serious dissatisfaction with the dominant perspective and direction of their own discipline. McKinlay and Marceau (2000), for example, take stock of the state of public health in the United States, arguing that it is preoccupied with methods to the exclusion of philosophical orientation and theory development, and that established epidemiology is hamstrung by its adherence to “an individualistic/ medical natural science paradigm” (p. 25). They are especially critical of “risk factorology,” likening epidemiology to a maze of risk factors with no opening or exit in sight. Mining of extant databases produces the phenomenon of “the risk factor du jour” (p. 28), with a

thicket of single factor associations measured at the individual level obscuring the view of the larger landscape of environmental and social structural forces that have the more profound influence on population health. As Keating and Hertzman (1999) put it, "... the development of health and well-being is a population phenomenon rather than a purely individual affair. Particularly striking is the discovery of a strong association between the health of a population and the size of the social distance between members of the population" (p. 3).

The problem of "levels of explanation" is a recurrent theme in recent public health writings, with a plea for epidemiology to rediscover its population focus and to use methods that fit the problem rather than making the problem fit the method. And the problem is increasingly understood as requiring an analysis of "...the historical and social context and ... the importance of diversity and local knowledge rather than only searching for universal relationships" (Pearce, 1996). In an analysis of the implications of the results of community intervention trials, Sorenson and colleagues (1998) call for: the targeting of multiple levels of influence (moving beyond a focus on individual behaviour change); addressing social inequalities in disease risk; involving communities in program planning and implementation; tailoring interventions to the unique needs and cultures of communities (avoiding a one-size-fits-all approach); and utilising rigorous process tracking (understanding better what is inside the intervention 'black box'). They also call for the use of the full range of research phases and methods, from hypothesis generation and methods development to dissemination research. As Pearce and many others have argued, the randomised clinical trial is no doubt the most appropriate design for studies of the impact of individual factors or specific programs where control can be maintained by the researcher, but is ill-suited to other kinds of problems, such as complex community

trials incorporating multiple programs that develop and change as participants are incorporated into the research process as partners, not just as subjects.

Thus there is a strong current of thinking in contemporary public health that acknowledges the remarkable achievements of the field in the past century in tackling the causes and consequences of illness, disability and death, but that questions the continued appropriateness of risk-focussed prevention initiatives for every problem, at least as conventionally understood. There is a plea for increased attention to history, community context and social structure, particularly to the malign impact on population health and wellbeing of the steepening social gradient – the social distance between rich and poor - in most developed countries. There is a concomitant discontent with conventional research methods that elevate certain techniques to gold class while relegating others to steerage, regardless of the nature of the problem.

Of course this kind of critique has not bypassed the crime prevention community. Many of the issues that trouble our health colleagues have their echoes in the criminological literature. There is for example a vigorous debate around the methodology of community trials (Farrington, 1998; Laycock, 2002; Pawson & Tilley, 1998); and the need to intervene at multiple levels – individual, parent, family, school, community – has been recognised for many years (Wasserman & Miller, 1998). Nor has the necessity of community involvement and empowerment escaped attention, although such emphases are still not central to most crime prevention initiatives. As noted earlier, Hawkins and his colleagues are the most prominent exponents of a community mobilisation approach within a risk-focused framework, drawing on experience with cardiovascular disease and smoking prevention programs. Their *Communities That Care* model is undoubtedly one of the most influential community crime and drug abuse prevention programs, with trials and evaluations in

the United States (Harachi, Ayers, Hawkins, Catalano, & Cushing, 1996; Hawkins, Catalano, & Associates, 1992), the United Kingdom (Communities that Care, 1997; Crow, France, Hacking, & Hart, 2004); and Australia (Toumbourou, 1999). This approach involves intervening at the community level as well as at the levels of individuals and families, using mobilisation techniques that promote community ownership of programs and that empower diverse groups to take control of efforts to assess, prioritise and address risk and protective factors. Unfortunately, as with the majority of community-based prevention programs designed to promote health and welfare, the evidence is not yet in that CtC ‘works’ to reduce crime and related problems.

Perhaps one of the key lessons to be drawn from the various literatures is that risk factor research is an essential tool in any analysis, but that it is also essential to draw on any historical data on how a community has arrived at the point of social dislocation, or on qualitative data that tell us about how people view their situations and the challenges they face (Peel, 2003). Such analyses are, for example, the beginning of wisdom in attempts to understand the needs of indigenous communities (Burns, Burns, & Menzies, 2000; Homel, Lincoln, & Herd, 1999). There is also a need to better understand the human stories and processes that lie behind statistical indicators.

### *Jack's Story*

To explore further the meanings of development prevention, in this section we consider Jack's story (Box 1). This is a story about one individual's pathway to tragedy, but it is also a story about his society and key social institutions, about missed opportunities and misunderstandings. The story therefore helps to ‘flesh out’

some of the processes that could only be hinted at in the previous section. Although we know less than we might like about Jack's life, particularly his early years, some features of what we do know about his experiences will ring bells amongst those who have studied the development of problem behaviours, particularly conduct disorder. As Stewart-Brown (1998) observes, behaviour problems have now become the most important cause of disability in childhood.

In our analysis of Jack's experiences we draw for inspiration on the transactional-ecological model proposed by Sameroff and Fiese (2000), although the detailed application of this approach to the case study probably goes somewhat beyond what can be supported by systematic empirical research. A key feature of the transactional-ecological model is that not only does the environment in its many facets affect child development, the child influences and takes from the environment: "... the development of the child is seen as a product of the continuous dynamic interactions of the child and the experience provided by his or her family and social context" (p. 142).

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#### BOX 1 ABOUT HERE

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The journalist who wrote about Jack, Jane Wheatley, raises two questions critical to the developmental perspective on prevention. The first is simply, "How did it come to this?" How does it happen? How does the child of two ordinary, well-intentioned parents with a strong and supportive network of family and friends go so badly out of control that he ends up causing two deaths and, in his own words, destroying the lives of three families? (p. 15). The second question Wheatley poses arises directly from the first: "So how did he manage to fall through all the cracks?" What went wrong with the systems that were supposed to stop this kind of thing from happening?

One way of approaching this question is to organise what we know about Jack's story in terms of life phases and transitions, identifying the associated developmental challenges and the problems, difficulties or obstacles encountered in meeting these challenges. We can then contrast the responses of Jack, his family and societal institutions with examples of the kinds of responses (programs, services and resources) that, had they been available, might have helped Jack and his family to overcome the difficulties. Table 2 sets out the results of a simple analysis along these lines, based on selected aspects of Jack's story. It should be emphasized that the table is designed to illustrate a method of analysis rather than present the results of an exhaustive examination of what went wrong and what should have been done (for which clinical data would be required). The suggested preventive responses at each life phase are also only a small sample of possible approaches.

In the table institutional responses have been placed immediately after the listing of problems, before the responses of Jack and his family. This is because many of the problems Jack encountered, and his reactions to those problems, related both to his failure to negotiate key transitions between social institutions (chiefly primary and high school), and the failure of institutions to respond adequately to his needs. In reality, however, we could place institutional, individual and family responses in different orders at different life phases, depending on the nature of the interactions at different times.

An attempt has been made, in the spirit of Sameroff and Fiese's (2000) ecological analysis, to represent with arrows some of these interactions or transactions between Jack and his family and other institutions. Using this approach, there is no single 'cause' of Jack's behavioural problems but a series of person-environment transactions extended over time and embedded in an interpretive framework. For

example, Jack's behaviour suddenly deteriorates causing conflict with his puzzled parents, leading to a sense of rejection by Jack who runs away but is brought back by an angry and hurt father who inadvertently accelerates the downward spiral. Experiences are constructed, interpreted, and re-interpreted over time in ongoing interactions, making it impossible to think of the environment as independent of the child. The transactional-ecological model implies that continuity in individual behaviour is a systems property rather than a characteristic of individuals like 'criminal propensity', thus providing a rationale for an expanded focus of intervention efforts.

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TABLE 2 ABOUT HERE

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One striking aspect of Jack's experience is how problems seemed to start, or to intensify, after he commenced both primary and high schools. School served as an arena in which it seemed that his many defects and failures were progressively identified, denounced and punished, so that for him schooling became an increasingly isolating experience. Problems at school, in the form of aggressive behaviours, academic failure, low commitment, and truancy, are known to be associated with juvenile crime, violence and mental health problems (Hawkins, Herrenkohl, Farrington, Brewer, Catalano, & Harachi, 1998; Marshall & Watt, 1999). In particular, Jack's experiences point to the importance of making a successful transition to school, and later to high school.

Transition points, as we have seen, mark the boundaries or markers between life phases. Each life phase brings with it related developmental tasks (e.g., for preschoolers, regulating one's social behaviour; in adolescence, establishing one's identity and independence), and moving from one phase to another usually involves movement between social institutions (e.g., family to school). Jack clearly had trouble

very early in primary school in mastering the new tasks required such as making friends, a problem that was compounded by chronic ill-health. Both these factors are commonly implicated in the development of problem behaviours in the early stages of school (Marshall & Watt, 1999), although there are many other material, cognitive, social and emotional influences on a child's readiness for school (Lipps & Yiptong-Avila, 1999).

In Jack's case the school provided support in the early years, which might have been reasonably effective since it was only in Grade 5, after the sexual abuse incident, that his behaviour really started to get out of control. Nevertheless, it is likely that since childhood peer rejection is known to contribute to antisocial behaviour (Coie & Miller-Johnson, 2001), a more concerted effort by schools to manage such problems in the early years would have general benefits. One obvious way of preventing or mitigating the effects of teasing and associated behaviours (McCarthy & Carr, 2002) is through a whole-school bullying prevention program (Olweus, 1993). An equally attractive approach would be to implement a version of the Seattle Social Development Project (Table 1). Whatever specific approach is adopted, the points emphasised by McCarthy and Carr in their review apply: programs should be routinely introduced into primary and secondary schools according to program guidelines, supported by extensive training and consultancy resources. The key to success is rigorous implementation.

Universal programs of this nature should be supported by selected interventions that address the needs of specific sub-groups, such as those (like Jack) with sensory impairments. For example, there is evidence that daily school lessons that teach deaf children interpersonal problem-solving skills are effective in promoting social-emotional understandings and behavioural adjustment (Fahey &

Carr, 2002; Kusche & Greenberg, 1994). Once again, however, such a program must be underpinned by systematic screening procedures and a commitment to a range of initiatives that meet the diverse needs of children and their parents.

Sexual abuse is known to have devastating short- and long-term consequences for both men and women, including the risk of subsequent juvenile crime, sexualised behaviour, school-based attainment problems, relationship difficulties, violent behaviour by males, further sexual victimisation for females, and running away for both males and females (Duane & Carr, 2002; Kaufman & Widom, 1999; Maxfield & Widom, 1996; Swanston, Parkinson, O'Toole, Plunkett, Shrimpton, & Pates, 2003; Weatherburn & Lind, 2000). The specific effects on a boy of sexual victimisation by a larger and older boy are less well researched. In Jack's case, the experience constituted a major turning point in his life.

Unlike transitions, turning points are personalised, non-normative life events that instigate a radical change in a particular person's pathway (Laub & Sampson, 2003) (Note 4). Nearly everyone goes to school and faces the maturational and institutional demands entailed, but not everyone is sexually abused. Sexual abuse takes on significance in developmental terms because it usually has radical and far-reaching impacts on the psychological wellbeing and subsequent behaviours of the affected individuals. In other words, it occasions a major change in direction, with life taking a different (and worse) course thereafter. Turning points can of course take many forms. They need not be negative in their effects, as Sampson & Laub (1993) found in some cases for juvenile institutionalisation. They may (and often do) coincide with life transitions, and so are not just milestones in individual biographies. Some turning points involve choice, and some open up options rather than closing them down.

All these features – the coincidence, on occasion, with points of transition, their possible positive consequences, and the potential opening up of doors previously shut – make turning points particularly important to those interested in preventive interventions. Indeed, one way in which interventions may bring about change is by facilitating individual experiences that serve as positive turning points for at least some in the targeted groups or populations. Alternatively, and perhaps more commonly, an intervention may assist in the avoidance of negative turning points. Prevention programs with a specific target, like sexual abuse or bullying, are obviously of the latter type. One effective approach to the prevention of child sexual abuse across all primary grades uses multimodal behavioural skills training techniques including video modelling, didactic instruction and discussion, and targets multiple members of children’s social systems (including parents and teachers). Duane and Carr (2002) recommend that such programs span at least one school term, be developmentally staged, and comprise a routine part of primary school curricula.

Jack did not benefit from any routine sexual abuse prevention program, and there was nothing positive about the ‘intervention’ that took place in Grade 5. However, his life was not marked even then by a completely steady descent into drugs, crime and violence. It seemed that in Grade 6 (the year before high school), through kindness, a teacher’s professional skill and constant encouragement, that Jack might recover from his trauma. This “lifelong capacity for change and reorganization” (Shonkoff & Phillips, 2000) is what makes the science of prevention possible.

Jack’s improved behaviour did not survive the transition to high school, for reasons that are not entirely clear from the published record but can almost certainly be guessed at with some accuracy. In reality, the transition to high school often involves three kinds of transitions simultaneously: the transition to a new, larger,

more demanding and less supportive school structure; the transition to puberty, with the associated need to establish one's own identity as an adult, independent of parents; and a transition to a new neighbourhood or peer group. Probably Jack had difficulties in all three areas, and the school failed to provide the supports that might have maintained his record of positive achievements in primary school. The Developmental Crime Prevention Consortium (1999) found that of all major transitions in childhood, the transition to high school is least often the focus of prevention programs in Australia, despite the strong and universal evidence for big increases in participation rates and accelerated rates of offending in early adolescence (M. R. Gottfredson & Hirschi, 1990; Moffitt, 1993).

Like most serious offenders, by early high school Jack was engaging not only in frequent acts of crime like car stealing, he was using drugs, frequently running away from home so that he was sometimes homeless, he was becoming more difficult to control at home, school and elsewhere, beginning to commit acts of physical violence (such as the assault on the taxi driver), and exhibiting mental health problems such as depression and suicidal ideation. In fact, he illustrates in a single case the phenomenon of intertwined and escalating psycho-social problems stemming from common risk factors (Durlak, 1998; Farrington, 2002; Huizinga & Jakob-Chien, 1998). According to Huizinga & Jakob-Chien's analysis, interventions that deal effectively with school problems such as low grades, truancy, suspensions or dropping out – all part of Jack's colourful history – may be especially valuable for serious, violent juvenile offenders like him.

So, how should we evaluate the attempts that were made throughout Jack's life to help him and to steer him into more positive pathways? Certainly, despite Jack's headlong rush to disaster once he hit high school, it is not correct to conclude

that no one cared about him or that responsible individuals and agencies did not attempt to slow him down or divert his path. The published account suggests that his parents did just about all that one could reasonably expect of normal, untrained people in the absence of meaningful external supports, almost becoming casualties themselves on a few occasions. This is not to say that their parenting styles were perfect. For example, Jack's father sometimes reacted with harsh physical discipline that did not appear to produce positive results, while his mother's 'good cop' style of discipline might have sent contradictory and confusing messages to a boy who already had serious emotional problems. Nevertheless, the family is portrayed as essentially functional, loving, long-suffering and desperate to co-operate with whatever agency could offer assistance to Jack. Unfortunately, like Jack, they seemed to become increasingly isolated.

A fatal mistake, precipitated by the perceived failure of the Education Department to offer any form of practical help, was the decision to send Jack at age 13 to a mission on a farm, run by an ex-minister. The disastrous outcomes in terms of escalating drug use and intensified problem behaviours seem to be in line with a growing literature on the iatrogenic effects of peer-group interventions, particularly for high-risk youth, like Jack, who are in the 13-14 age range (Dishion, McCord, & Poulin, 1999). The evidence adduced by Dishion and his colleagues comes both from analysis of videotapes of interactions between boys aged 13-14 who were then followed up as part of the Oregon Youth Study, and also from the results of two experimental interventions that included group training of adolescents. The phenomenon of "deviancy training", defined as "the process of contingent positive reactions to rule-breaking discussions" (Dishion, McCord, & Poulin, 1999) (p. 756), is a possible explanation for the long-term negative effects of the Cambridge-

Somerville prevention experiment for youths who were sent to summer camp on at least two occasions (McCord, 2002).

Perhaps the main conclusion is that Jack had particular needs that mainstream institutions, including the criminal justice system, could not meet with existing knowledge or resources. Even positive institutional responses were often the outcome of an individual initiative, such as a teacher taking a particular interest, rather than a reflection of adequate systems based on evidence. Systemic responses failed to deal with the real problems. For example, in the light of the results of the Montreal Prevention Project (Table 1), if the courts or child welfare department had been able to refer Jack and his family to a social skills program instead of ordering ineffectual care by relatives, or if adequate support and guidance for his family had been available, then outcomes for both Jack and the family might have been very different.

Some system responses were positively destructive. High speed pursuits are a routine response by police agencies to suspected law breaking. In nearly every case there is no evidence of a serious crime when they are commenced, but from the police point of view it's who might be caught or what might be found that is the real justification for pursuing. Every pursuit is a fishing expedition with the potential to end as tragically as did Jack's (Homel, 1990). Since pursuits are a primary and frequent manifestation of a deeply engrained police culture that takes for granted the absolute primacy of catching crooks over maintaining order or preventing crime and injuries, firm legislative action banning such destructive practices would, from a developmental perspective, be highly desirable.

Unfortunately, political realities make such legislation very unlikely. Police pursuits can be viewed as a highly socially valued component in the dominant policy response to problem behaviours. This dominant orientation dictates reasonably

indulgent responses to malefactions in a person's early years, tinged with the threat that if the individual does not take advantage of the second chances provided and mend their troublesome ways they will increasingly be held personally accountable. The responses typically progress from laissez-faire, uncoordinated and under-resourced helping programs to interventions that increasingly abandon the rehabilitative ideal for the more pragmatic goals of containment, exclusion or punishment. The image of the "killer youth" is a totally logical social construction from this point of view, as is the depiction of the legal system as having "colluded with evil" through its manifest leniency.

#### *New Directions*

Jack's story reminds us that prevention based on science must compete with other political priorities based on very different views of the world. It also highlights the fact that children and families need help – sometimes a great deal of help - to overcome difficulties posed by problem behaviours and by the obstacles thrown up by the social institutions that should be part of the solution. Where was the community in Jack's case? Why was the family apparently so isolated? Where were the programs that could have made a difference to Jack and many other children?

The major lesson from the literature on developmental crime prevention is that it *is* possible to make a difference, in the short-term and in the long-term, especially for disadvantaged and vulnerable children and young people. Starting in early childhood is good, but much can be done later in the life course. In general the rule is, "never too early, never too late" (Loeber & Farrington, 1998). Of course the extent to which a society is prepared to go down the track of intervening early in developmental pathways instead of relying on popular 'end of the line' law-and-order

policies is a matter of political choices. It is at this point that the deep cultural attachment to notions of childhood determinism noted by Sampson and Laub (in press) could be harnessed by social scientists in support of policies that embody the principles of development prevention. The distinguished Canadian paediatrician Fraser Mustard has, as noted earlier, been particularly effective in tapping into societal concerns about early childhood, although in his home province of Ontario success so far in moving public policy forward appears to have been mixed (McCain & Mustard, 2002).

Unfortunately mixed success is the current state of the field. If the good news is that science now provides some foundation for optimism about developmental approaches, the bad news is that not all appealing ideas work, some backfire (they increase crime involvement), and even techniques that ‘work’ (such as home visiting programs) don’t do so consistently across all the settings in which they have been studied (Chaffin, 2004). Moreover, nearly all community-based implementations of early intervention initiatives have encountered major problems in engaging successfully with families and children, especially in disadvantaged areas. They have also faced difficulties in moving beyond a sole focus on the child to include family, school and community systems, and most have struggled with long-term funding and sustainability (Farran, 2000; Halpern, 2000). Social scientists are therefore faced with a pretty tough challenge if asked to advise policy makers. On the one hand they can point to the success stories, emphasising the scientific rigour of the experiments and the solid data on outcomes and cost-effectiveness they have yielded, but on the other hand they cannot guarantee that the results will be reproducible if adopted, maybe many years later, in different communities, cultures or countries in a routine fashion

by agencies that, perhaps, lack the knowledge, expertise and commitment of the original experimenters.

The risk-factor paradigm may not be perfect as a tool for extending the reach of developmental prevention, and certainly needs to be deposed from its position as ‘the one true way’ of proceeding, but it has at least provided a bridge between longitudinal and prevention research that has helped move prevention policies from the realm of good ideas to evidence-based practice. Reference to risk factors should help to ensure that interventions deal effectively with some of the baggage that people carry and the barriers they face, so increasing the odds that some developmental pathways will take a more positive direction. What is needed now is a creative dialogue between risk-factor analyses and approaches based on different methodologies, especially those that situate communities in their social and historical context and endeavour to take seriously the voices of children and young people and those who care about them.

Based on personal experience in designing, implementing and evaluating (with colleagues) a large community-based developmental prevention program in a disadvantaged area of Brisbane (Freiberg, Homel, Batchelor, Carr, Lamb, Hay, Elias, & Teague, in press; Homel, Elias, & Hay, 2001), several conclusions can be asserted with confidence.

One conclusion is based on the observation that the local community exerts a pervasive influence on families and children, sometimes supporting but often undermining the efforts of parents and schools. Programs cannot just be introduced by outsiders based on their expert knowledge without some understanding of local issues and without engaging with parents, community leaders, teachers and principals, and many other people. Partnerships at many levels are essential, and steps must be taken

at an early stage to try to understand the world through the eyes of program participants and key community ‘influentials’ so that meaningful interventions can be devised. It follows from this that there is no royal road, no magic carpet. Partnerships, governance arrangements, and specific programs must be tailored to the needs of the community and to individual families while maintaining scientific integrity. This requires creative methodologies of the kind recommended by Sorensen, Emmons, Hunt, & Johnston (1998), underpinned by an unwavering commitment to quantitative measurement. There is no one right way of doing all of this, and our experience is that a great deal of trial and error is involved. One useful principle, discussed earlier in this chapter, is the strategic value of focusing on life transitions (such as starting school) when parents are open to support because they have a felt need.

Perhaps the most important conclusion from our work in Brisbane is that communities cannot ‘do it all.’ While it is essential to work in partnership, disadvantaged communities in particular need a wide range of tangible external resources to overcome the numerous barriers faced every day by parents who to a man and woman want their children to succeed at school and in life but who frequently do not have the knowledge, skills and resources to achieve this goal. Attempting to bridge the significant gap between needs and resources from a developmental perspective helps to keep the focus on institutions and social arrangements, not just the deficiencies of individuals. As Arnold Sameroff (2003) has observed, the fact that the death rate for women in third-class cabins on the Titanic was about 45 percent compared with 3 percent for women in first-class cabins could be interpreted to mean that poorer women don’t swim as well or are less resilient. The reality, of course, is that stewards were told to lock the doors on the lower decks.

Unlocking doors, or making them more attractive or easier to go through, is what developmental prevention is all about. The steepening social gradient in many countries has increased the number of young people who are denied the opportunity to participate fully in social and economic life. Programs such as quality preschool education and home visiting, as well as broader initiatives such as poverty alleviation and public housing, are strategies which attempt to compensate for the impact of these trends and promote the attachment of individuals and communities to mainstream social supports and developmental institutions. These social institutions form an essential backdrop to crime prevention programs through the creation of a 'child friendly' society, a society which fosters meaningful developmental pathways for its citizens.

#### *Selected further reading*

It is useful to have a nodding acquaintance with several literatures in order to get a grip on what developmental prevention is about. In criminology David Farrington is undoubtedly one of the most prolific and influential scholars. In the 3<sup>rd</sup> edition of the *Oxford Handbook of Criminology* Farrington (2002) presents an excellent overview of developmental criminology and risk-focused prevention as they are commonly understood, including a comprehensive discussion of individual, family and school risk factors. For a more detailed examination of family-based interventions, his systematic review with Brandon Welsh in *Children and Society* in 1999, and his meta-analysis in 2003 (also with Welsh) in the *Australian and New Zealand Journal of Criminology* are recommended. An older review, but worthy of serious study for the manner in which it links a comprehensive review of developmental interventions with theoretical issues around causal pathways, is by

Richard Tremblay and Wendy Craig in Volume 19 of the annual *Review of Research in Crime and Justice* in 1995. The Australian report produced by this author and colleagues in 1999, *Pathways to Prevention: Developmental and Early Intervention Approaches to Crime in Australia*, is also still a useful and comprehensive resource on how to think about developmental crime prevention and relate it to broader literatures in developmental psychology, sociology and human services.

For readers interested in the broader field of developmental research and early-in-life interventions, a wealth of literature is available. Particularly useful is the US report published by the National Academy Press in 2000 on behalf of the Committee on Integrating the Science of Early Childhood Development, chaired by Jack Shonkoff. Titled *From Neurons to Neighborhoods*, this book provides a good introduction to developmental research and its social and policy contexts. Equally useful is the second edition of the *Handbook of Early Childhood Intervention* edited by Jack Shonkoff and Samuel Meisels in 2000. A more recent edited publication by Jeanne Brooks-Gunn and colleagues published in 2003, *Early Child Development in the 21<sup>st</sup> Century*, contains an account of several “families” of contemporary large-scale studies of early development, including evaluations of large-scale intervention programs.

A third literature that is important for developmental crime prevention is influenced by medical and public health research, although its interdisciplinary nature makes this too narrow a characterisation. Noteworthy is the book edited in 1999 by Dan Keating and Clyde Hertzman, *Developmental Health and the Wealth of Nations*, which brings together biological, psychological and sociological perspectives and introduces the concept of “developmental health” as representing the true wealth of a nation. An Australian publication, *Child Behaviour Problems* written by Dr Jann

Marshall and Paula Watt, is an excellent resource for understanding child behaviour problems and appropriate interventions. It was published by the Interagency Committee on Children's Futures in Western Australia in 1999.

### *Acknowledgments*

I am particularly indebted to Matthew Manning for his assistance with the bibliography and with the economic analyses of early intervention programs. Colleagues from the Developmental Crime Prevention Consortium (Note 2) have been enormously important over the years in shaping my thinking, although the ideas in this chapter are my own version of what it all means. I should also like to thank especially Nick Tilley and Alan France for helpful comments on earlier drafts of this chapter.

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## Footnotes

1. See <http://www.facs.gov.au/internet/facsinternet.nsf/aboutfacs/programs/sfsc-sfcs.htm>
2. The Developmental Crime Prevention Consortium comprised (at the time the Pathways report was prepared) the convenor Ross Homel (Griffith University), Judy Cashmore (NSW Child Protection Council), Linda Gilmore, Ian O'Connor, John Western & Jake Najman (University of Queensland), Jacqueline Goodnow and Alan Hayes (Macquarie University), Jeanette Lawrence (University of Melbourne), Marie Leech (Uniya: Jesuit Social Justice Centre) & Tony Vinson (University of NSW). The project was funded by the Commonwealth Department of the Attorney General through its National Crime Prevention Program.
3. Contrary to the usage proposed here, Farrington & Welsh (2002) argue that programs that target all children in a high-crime area should be called selective, not universal, since these children are as much at risk as those living in (say) low income families. If this approach is adopted a new term is required for 'universal' programs restricted to specific collectivities like an entire school. This is because the dynamics of such programs are very different from those that target at-risk individuals, and also because (as Farrington & Welsh acknowledge) there are very few truly universal programs in their sense of the term.
4. I am indebted to Jeanette Lawrence for these insights on turning points.

Table 1. *Summary of five major prevention program evaluations*

Program	Level	Focus / outcome	Life phase	Participants	R	Duration	Content	Outcomes	Economic Outcome
Elmira Prenatal/ Early Infancy Project (Olds, 2002)	S	Poor birth outcomes, child maltreatment, welfare dependence, poor maternal life course	Prenatal/ Infancy and late teens	400 first-time young, single &/or low SES mothers	yes	2yrs	Family support	Improved pregnancy outcomes, better parenting skills At age 4: higher maternal employment, fewer and more widely spaced pregnancies, more mothers returned to education, less abuse/neglect. At age 15: fewer arrests (mother & child), less smoking & drinking, fewer sexual partners.	Cost –savings analysis: High-risk families, program cost US\$6,083 (1996 dollars), savings to government US\$24,694 (1996 dollars), net savings \$18,611. 80% of savings (\$20,384) attributed to higher employment rates for mothers and reduced welfare usage. \$4,310 attributed to less crime over the child's lifetime
Syracuse Family Development Research Program (Lally, Mangione, & Honig, 1988)	S	Cognitive	Prenatal/ infancy	108 low-income families	no	5yrs	Family support Early education	Initial cognitive gains not maintained 10 year follow-up (children aged 13-16): lower delinquency, better school attendance & performance for girls	Cost-savings analysis: findings demonstrate savings to government do not break even with program costs. Program cost US\$45,092 (1998 dollars). Taxpayers receive \$0.19 in criminal justice system benefits for every dollar spent. Combined taxpayer and crime victim receive \$0.34 for every dollar spent
Perry Preschool Program (Schweinhart, 2004)	S	Cognitive	Preschool	58 disadvantaged 3-4 year olds	yes	1-2yrs	Family support (teacher visits)	Intellectual gains not maintained, but higher school achievement, higher rates of literacy and employment, less offending	Cost –benefit analysis, program cost US\$12,356 (1993 dollars), savings to government \$108,002, net savings \$95,646. Most savings

							Enriched early education	(especially fewer arrests) & antisocial behaviour, less welfare dependency (up to age 40).	to government due to reduction in criminal justice costs \$49044, then reduction in health services, taxes from increased employment, reduction in welfare
Montreal Prevention Project (Tremblay, Pagani-Kurtz, Masse, Vitaro, & Pihl, 1995)	I	Antisocial behaviour	Early primary	250 disruptive boys aged 7-9 yrs	yes	2 yrs	Parent training Child training	At age 12: lower delinquency, less antisocial behaviour, higher school achievement	
Seattle Social Development Project (Hawkins, Catalano, Kosterman, Abbot, & Hill, 1999)	U	Antisocial behaviour; connectedness to school, family & community	Early primary	500 Grade 1 children; late intervention for grades 5 & 6	No	2 yrs	Parent training Child training Teacher training	After program, intervention group less aggressive. 5th grade: intervention group less delinquent, better family communication & parent management, higher attachment to school. Age 18: intervention group less delinquent, less heavy drinking, less sexual activity & fewer pregnancies	Cost-benefit analysis, cost per participant US\$3,017 (1998 dollars), taxpayers receive \$0.90 in criminal justice system benefits for every dollar spent (per participant benefit \$2,704). Crime victims save avg. \$2,695 per participant. Combined taxpayer/crime victim benefit of \$1.79 for every dollar spent

**R** = Randomised design: At recruitment families were randomly allocated to treatment and non-treatment groups.

**U** = Universal: Program offered to general population or group.

**S** = Selected: Participants were chosen on the basis of membership of a group judged to be at increased risk.

**I** = Indicated: Participants were selected because they displayed behaviours that were precursors to aggressive/offending outcomes

Table 2  
*Jack's story: Life phases and transitions, challenges, obstacles and responses*

<i>Life phase</i>	<i>Developmental challenges</i>	<i>Problems/obstacles</i>	<i>Institutional responses</i>	<i>Jack's responses</i>	<i>Family's responses</i>	<i>Resources needed (examples)<sup>a</sup></i>	
<i>Transition to school</i>							
Middle Childhood & primary school	Peer relationships	Teasing about hearing aid.	School 'support' for behaviour problems.	Poor behaviour	Concern	Whole-school bullying prevention program.	
	Adjustment to school	Taunts about AIDS.	No apparent response to teasing.	Lack of concentration			
Grade 5 (age 9)	Trust in others	Sexual abuse by an older boy	Conflict with teachers	Told no one.	Increased concern	School-based	
	Self esteem			Deterioration in behaviour.			Conflict with parents.
				Ran away from home.			Brought home by father, more conflict
	Labeled as a problem child	Ran away	Father gives up chasing by age 13			multimodal-multisystemic child sexual abuse prevention program, targeting children in all grades, parents, teachers, others.	

Table 2. Jack's story: Life phases and transitions, challenges, obstacles and responses (cont.)

<i>Life phase</i>	<i>Developmental challenges</i>	<i>Problems/obstacles</i>	<i>Institutional responses</i>	<i>Jack's responses</i>	<i>Family's responses</i>	<i>Resources needed (examples)<sup>a</sup></i>
Grade 6	Preparation for high school		Supportive and caring teacher	Problem behaviour Improved behaviour		Whole-school focus on preparing children for transition to high school
<i>Transition to high school</i>						
Adolescence	Defining identity Growth of autonomy in a context of peer conformity	Entrenched, unproductive strategies for dealing with challenges & relationships.	Little support in new environment. Rejection by teachers. School unable to help	Disobedient & abusive. Poor relationships with peers. Worse behaviour.	Physical punishment from father. Desperate search for assistance.	Schools supported by Department to mobilise family support, parent training and a behaviour management program for children with serious problems.
Age 13	Developing value system	Ill-equipped for transition to high school. Influence of deviant peers.	Threat of long suspension. No help available from Dept. of Education.	Rapid escalation in drug use, problem behaviours	Call for help from Ed. Dept. Placement in private centre.	

Table 2. Jack’s story: Life phases and transitions, challenges, obstacles and responses (cont.)

<i>Life phase</i>	<i>Developmental challenges</i>	<i>Problems/obstacles</i>	<i>Institutional responses</i>	<i>Jack’s responses</i>	<i>Family’s responses</i>	<i>Resources needed (examples)<sup>a</sup></i>
<i>Transition to criminal justice system</i>						
Age 14	Surviving living on the streets.	Family under huge stress.	Threat of expulsion from school	Ran away all the time.	Kept out of school.	Courts and welfare department improved
		Surviving living on the streets.	Court order to stay with relatives	Committed assault	Relatives provided accommodation.	capacity to assess child and family needs and to refer offenders to effective programs such as social skills training.
		Child welfare dept. unable to help	Threat to burn house down and to commit suicide.	Conflict between parents.	Legal prohibition of police pursuits except when serious offence known to have been committed.	
		No treatment for effects of abuse	No detention.	Car theft	Accident & deaths	
		High speed pursuit. Detention				

<sup>a</sup> See text for details of the proposed interventions.

## BOX 1. Jack's story

Condensed from "Before that night in June ...", by Jane Wheatley, *Sydney Morning Herald Good Weekend* magazine, February 13, 1999, pp. 14-21.

"Jack" as a 14-year-old boy caused the deaths of two young people when the BMW he stole crashed during a high speed police pursuit. The victims, a 24 year-old female accountant and her 25-year old doctor boyfriend, were immolated when their vehicle burst into flames after Jack hurtled through red traffic lights at maybe 100 km/h. Jack was critically injured but not killed, sustaining head injuries that prevented him remembering what happened. His young female passengers also survived.

Stories about the "Killer Youth" made headlines all around Australia. Jack's record of crime and drug abuse was contrasted with the promising lives of his victims, with the young woman's father lamenting that "it is tragic that two people with so much to give can be blotted out by a bunch of losers." Radio airwaves crackled with demands to get tough on teenage crime. Community outrage became even more intense some months later when Jack, having recovered from his injuries, was sentenced to six years in a detention centre, with a minimum of three years and three months for good behaviour. Eighteen months for each life was universally seen as too little, the legal system – according to a local psychiatrist - having "colluded with evil rather than dealing with it."

Jack's parents were a working class couple, married for 20 years and reasonably prosperous as a result of hard work in their own business. Jack himself seems to have been a happy, normal kid, "cheeky and bright." However, things began to go wrong when he went to school. A mild hearing impairment that necessitated a hearing aid occasioned some teasing by other children, but taunts about AIDS, arising from hepatitis B that was contracted from his father (who in turn had acquired the disease when he was tattooed), was the major form of persecution. Jack began to exhibit behavioural and concentration problems, for which support was provided by the school.

But it was in Grade 5, at age 9, that Jack's behaviour suddenly and inexplicably deteriorated. Only years later was it revealed that at that time Jack had been sexually abused by an older and much bigger boy. He told no one and ran away from home, a pattern of behaviour that occurred frequently over the next few years. His father eventually gave up chasing him. Nevertheless, in Grade 6 it seemed that some kind of recovery might be underway: Jack had a good year with a teacher that cared a lot,

and his reports were full of praise and promise. However, the promise was not fulfilled in high school, where after only a few months not one teacher had a good word to say about this student who was characterised as disobedient, abusive and unable to develop healthy peer relationships. At home his father increasingly responded to bad behaviour with physical punishment, in contrast to his mother's attempts to rely more on discussion and persuasion.

By age 13 Jack was facing a long suspension from school and his parents were at their wits' end, having consulted the Education Department endlessly about special residential schools or centres. Apparently Jack was deemed too young for such treatment, but in the end his parents found a private centre run by an ex-minister of religion that was prepared to take him in. This experience proved a disaster, since it provided the ideal environment for the rapid escalation of Jack's drug usage from experimentation with marijuana to the regular use of a range of drugs "beyond his wildest dreams." He returned, ill with hepatitis, to a household under enormous stress. His mother kept him out of school to avoid expulsion, but he ran away all the time. By age 14 he was living on the streets, at which time he first appeared in court charged with assault on a taxi driver. The court remanded him to live with his aunt and uncle on their farm 500 kilometres away, the first of a series of court-ordered attempts to make "a fresh start." Jack repeatedly breached these court orders, living with four different sets of relatives as well as in a refuge and a special learning centre.

The state department responsible for child welfare was sympathetic but depressing, officers seeming unable to offer meaningful assistance. Jack's father started to act violently towards his wife, so that she was forced to seek a court restraining order. They separated briefly before reconciling, but by now Jack was out of control. He threatened to burn the house down, provoking a strong physical response from his father, then threatened suicide when the sexual assault incident was finally revealed through his grandmother. A psychiatrist decided that in fact Jack was not likely to kill himself, and in desperation his parents had him charged with stealing 80 cents from his grandmother in the hope that the court would remand him in custody and order counselling. In fact despite interviews about the sexual assault by a psychiatrist and a joint investigation team, the court sent him away to his uncle's farm again, from which he ran away (again). Shortly after this came the accident and hospitalisation, and only then the detention his parents had sought. Unfortunately two people lost their lives along the way. Jack summed it all up best when he faced the families of the dead couple after sentencing: "I am very sorry ... I have destroyed your families and I have destroyed my own family."