

# Nipping crime in the bud: developmental research and intervention in infancy

**Ros Burnett** discusses the thinking behind research on very early risk factors and looks at the ethics of interventions in infancy.

Three distinct areas of research concerned with antisocial conduct influence developmental prevention in the very early years: the 'risk-factor prevention paradigm', 'gene-environmental interplay in the development of psychopathology', and 'evaluation of perinatal and pre-school interventions'. We need to exercise some caution in discussing 'violence', 'antisocial conduct disorders', 'psychopathology', 'offending', and 'criminality' collectively. However, empirical research does show 'co-morbidity' between these behaviours (they tend to be present at the same time). Such studies (reviewed selectively by Burnett, 2007) present conflicting moral questions about how to identify these indicators in infancy and the implications of doing so on later problems.

## Early risk factors and preventative interventions

The risk-factor prevention paradigm (led by Farrington) is based on studies that have tracked children from an early age to identify the main risk and protective factors that distinguish them according to their subsequent offending careers. The best known longitudinal studies though, have focused on white males, and commenced with school-age children. Relatively few studies have commenced with birth cohorts or pre-schoolers, though the *Dunedin Multidisciplinary Health and Development Study*, New Zealand is one well-known exception. Reviewing such studies, Shaw and Gross (2006:27-28) identified associations between the following early childhood characteristics and later serious antisocial behaviour:

- prenatal and perinatal environment (e.g. tobacco and alcohol use, maternal age, perinatal complications; poor nutrition);
- social adversity during infancy (e.g. poverty, poor quality of parenting, cumulative family adversity);
- child disruptive behaviour emerging around age two (modest association) and at age three (stronger association) though only a subgroup go on to demonstrate early starting, severe antisocial behaviour (linked with compromised parenting and family adversity);
- hostile, rejecting, and abusive parenting during the infant's early childhood.

Discovering causal variables, which account for the association between known risk factors, could be significant in advancing preventative strategies. Genetic-environmental interplay is identified as a likely causation by researchers at the Institute of Psychiatry, London (Moffitt 2005). For example, studies have found a link between low activity of the MAOA enzyme and aggression, but this genetic background is only significant in previously abused children. Enzymes inhibit reactivity of emotions, such as fear and anger; while genetic coding for low

MAOA activity is common, those who have been maltreated are more affected by it.

Developmental interventions to ameliorate risk factors and foster resilience, can be 'primary' (aimed at the community as a whole) or 'secondary' (targeting those categorised as at risk), in contrast to 'tertiary' prevention, targeting those who have already been convicted and therefore occurring much later.

Perhaps the best known secondary pre-school intervention is the *High/Scope Perry Preschool Project*, which began in the 1960s; a high quality, 'head start' intervention using a participatory learning approach supplemented by home visits. A follow-up study 35 years later found that the participants had had significantly fewer arrests and better employment histories than counterparts who had been randomly assigned to a non-treatment group. *Sure Start* is the nearest equivalent in England and Wales, though much more recent, having commenced in 1999. It aims to provide families with children under five, in disadvantaged areas, with seamless education, health, support and information services from multi-disciplinary teams of professionals. The impact so far has been mixed, with preliminary evaluations suggesting that those who use them are benefiting (parents find them helpful and children's language skills improve) but that it is difficult to engage 'hard to reach' and minority ethnic families.

Another early intervention programme that has captured wide attention because of its positive outcomes is *Olds' Prenatal/Early Infancy Project*, a nurse visitation programme, in the US (see Olds p.4), with follow-up research involving three cohorts of parents. An analysis of studies evaluating the effectiveness of early childhood home visit schemes (Bilukha et al. 2005) produced mixed findings regarding subsequent violence by the children concerned. However, it found strong evidence of their effectiveness in preventing child maltreatment – a key indicator in the development of conduct disorders.

## The underlying logic for a 'very early' focus

While much longitudinal research has started with school age children, there is a growing consensus that the time frame for research and preventative interventions should shift from school-age to the first five years of life (Loeber and Farrington 2000). This would move research away from risk factors to an understanding of causal variables and processes.

Studies of offending in adolescence risk confusing normal (adaptive and short-lived) offending behaviour at this stage of life with similar behaviour that is symptomatic of underlying problems which run much deeper, begin earlier and will endure much longer. Typologies carry their own dangers, but Moffitt has, famously, identified two delinquent groups: 'adolescent limited' and 'life-course persistent' offenders, which appear very similar at the peak ages of offending but which have very different

criminal careers. She argued that studies should commence in infancy, or pre-natally, in order to extend knowledge of 'the etiology of severe, persistent antisocial behaviour' (Moffitt 1993:696).

Rationales for early intervention programmes are similarly based on the premise that the foundations for antisocial behaviour are in infancy. While this early development paradigm includes inherited characteristics among the variables of importance, it is equally a recognition of the powerful effects of experiences.

Environmental-genetic research by Moffitt and colleagues rests on a theory of cumulative continuity, according to which 'the child who 'steps off on the wrong foot' remains on an 'ill-starred path' (1993:682). More specifically, if infants lack services and opportunities to arrest the neuropsychological difficulties and abusive treatment that indicate development of antisociality then a vital opportunity for averting this cumulative process is missed. The Quebec study on the origins of violence found that physical aggression (biting, hitting, kicking) is at its most frequent between two and three years of age, but persists for much longer, with many negative consequences, if the infant is not helped to adapt this behaviour into positive forms of interacting with others. Tremblay (2000:19) argues that: 'safe streets could thus start with quality early education'.

## Ethical issues and other limitations

The notion that violence or chronic adult criminality might be prevented by research programmes and interventions for at risk babies gives rise to practical and ethical debates. One criticism is that early interventions focus on risk factors that are linked to 'conventional delinquency, or street type delinquency' while those who are responsible for corporate crimes and corruption are let off the hook (Gatti 1998:118). Considered in this light, it can seem ludicrous to be targeting pregnant mothers, new borns and toddlers.

Moreover, attempting to identify babies who could grow up to be persistent offenders may be a non-starter because physical aggression in toddlerhood is 'age-normative' (Tremblay: 2000). Assessment tools are fallible and there is no blueprint for predicting who would cause serious harm. Two types of error are possible: errors of under-prediction ('false-negatives'), where individuals are *not* predicted to be at risk of the behaviour in question but who then *do* engage in it; and errors of over-prediction ('false-positives'), where individuals *are* predicted to be at risk because of the behaviour in question but then *do not* engage in it. Analysts conclude that false-positive rates of 50% or more are common. Given their hit and miss rate, choosing a group to impose interventions on that restrict liberty and opportunities would be ethically indefensible as early assessments tools identify infants as 'high risk'.

False positives may have serious consequences, such as damaging 'labelling' effects which influence the way an individual sees themselves as well as the way they are perceived by others. And applying programmes for individuals and families who do not need them, is simply a waste of resources. Further, as Gatti (1998:120) observes: 'We are here faced with the question of the child's right not to be classified as a future delinquent; violation of this right constitutes one of the greatest ethical problems raised by early prevention programmes'. That is a powerful message, but since we normalise a degree of adolescent delinquency in our society, the risk of such a label might not be as catastrophic for the individual concerned as a non-interventionist approach that allows serious conduct disorders to worsen unchecked. Primary prevention programmes that build on protective factors and which are

aimed at disadvantaged communities, offer the best way to avoid stigmatising individuals.

Research on the genetic basis of violence is likely to be viewed with particular disapprobation because of its influence on deterministic conceptions of behaviour and potential abuses in the form of discrimination. Risk assessment based on genetic variables conjures scenarios such as that in the film '*Minority Report*' in which individuals are put into suspended animation based on predictions that they will commit crime in the future. Recent public protection measures are not so far removed from this horrific narrative. Before jumping onto a moral high ground however, we should familiarise ourselves with the theoretical basis and approach of the research teams. For example, investigators at the Institute of Psychiatry make abundantly clear their premise that behaviour is multifactorial, and that genes are strongly moderated by environmental experiences; notably, physical abuse and neglect as opposed to healthy, nurturing socialisation practices.

It is easy to depict this 'very early' focus as the embodiment of an Orwellian state that increasingly limits personal liberties, and to caricature the approach as one of criminalising fetuses and toddlers whilst neglecting the real villains in our society. It is important though to distinguish insidious developments from those which are benign. Our judgements should take account of what precisely is on offer and, beyond the policy makers, the motivations and practices of those who deliver interventions and deal with individuals on a human, face to face level.

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