

Review of Programmes in Youth Training Centres

Part 1: Literature Review

Dr Sharon Casey and Dr Andrew Day

Forensic Psychology Research Group
Centre for Applied Psychological Research
University of South Australia

for the Guardian for Children and Young People

March 2008

ISBN 978-1-920983-62-8

March 2008

Office of the Guardian for Children and Young People

GPO Box 2281

Adelaide SA 5001

DX 115

Ph 08 8226 8570

Fax 08 8226 8577

gcyp@saugov.sa.gov.au

Contents

Foreword	1
Executive summary	2
1. Introduction	4
2. The importance of theory to practice	5
2.1 Theories of crime	6
2.1.1 Moffitt's Developmental Taxonomy	9
2.1.2 Sampson and Laub's Age-Graded Theory of Informal Social Control and Cumulative Disadvantage	10
2.1.3 Farrington's Integrated Cognitive Antisocial Potential (ICAP) theory	12
2.1.4 Catalano and Hawkins Social Development Model	14
2.1.5 Risk and protective factors	15
3. Interventions for antisocial and delinquent behaviours	18
3.1 Principles of effective rehabilitation: what works?	21
3.1.1 The risk principle	21
3.1.2 The needs principle	24
3.1.3 The responsivity principle	25
3.1.4 The programme integrity principle	26
3.1.5 The professional discretion principle	27
3.2 Rehabilitation programmes	27
3.2.1 Programmes for specific offender groups	29
3.2.1.1 Violent offenders	29
3.2.1.2 Sexual offenders	33
3.2.1.3 Substance abuse	37
3.2.2 Programmes for general offending	39
3.2.2.1 Cognitive skills training	39
3.2.2.2 Social skills training	42
3.2.3 Family level interventions	43
3.2.3.1 Family functioning	43
3.2.3.2 Fostering programmes	45
3.2.3.3 Multi-systemic therapy	45
3.2.3 Education	47
4. Conclusion	50
5. References	51

Foreword

The Office of the Guardian for Children and Young People promotes and protects the rights of children and young people under the age of 18 years under the guardianship, or in the custody of the Minister for Families and Communities. The position of Guardian was established in an amendment to the *Children's Protection Act 1993* proclaimed on 1 February 2006.

Young people in custody for remand or detention, by nature of their captivity, are highly vulnerable to the philosophy, policy and practice of youth justice as expressed in their immediate social and physical environment. In South Australia there are two youth training centres, at Cavan and Magill in Adelaide. I have previously reported on the inadequacy of the physical infrastructure of the Magill Youth Training Centre. Both centres are now to be replaced in 2010 with a combined improved facility.

The Youth Justice Directorate in Families SA, Department for Families and Communities, is undergoing significant reform including reiterating their primary role in rehabilitation. Programmes provided to young people who have offended are critical to reducing the likelihood of re-offending. To my knowledge there had been no independent review of programmes available in secure custody in South Australia and I had heard mixed views on the quality of programmes on offer.

In July 2007 I commissioned the Centre for Applied Psychological Research in the School of Psychology, University of South Australia to conduct this review. The researchers' report was delivered in January 2008. The primary researchers were Associate Professor Andrew Day and Dr Sharon Casey. Ms Linda Davey was involved with the collection and analysis of data from young people. I thank them for a thorough and highly professional job and for their commitment to the broader purpose of the review. The report that follows is their report to me and I endorse the conclusions and recommendations.

I also thank all of the participants in the review and the Families SA Youth Justice Directorate, particularly the managers and staff at the training centres, for their cooperation and contribution. The Director Ms Julie Gunn, and her team have approached this with openness and awareness. The young people who participated demonstrated sincerity and insight that was highly valuable in framing the recommendations.

The recommendations have been accepted by Families SA. I look forward to their implementation and the consequent focused approach to delivering high quality programmes in youth justice.

Pam Simmons
Guardian

Executive Summary

This section of the review contains a detailed account of the published literature relevant to the delivery of effective programmes in youth training centres. This is important for several reasons: first it has been established that some programmes offered to offenders, even when delivered with the best of intentions, can work in opposite ways to those intended. In other words, some programmes increase, rather than decrease, the risk of a young person re-offending. The best examples of this comes from programmes like ‘Scared Straight’ (where young offenders are taken into adult prisons in an attempt to deter them from further offending), and boot camps (highly structured, physically challenging, residential programmes often run on paramilitary lines). Whilst significant efforts and resources have been allocated to the development and delivery of these types of programmes, evaluations have consistently shown that they do not produce the types of outcomes that they were intended to produce. In short, then, it is not always wise to trust our intuitions or personal beliefs about ‘what works’ best for juvenile justice clients. Rather there is a need to evaluate different programmes against standard criteria, and base decisions about which programmes to offer on the basis of what can be shown to be the most effective. Indeed, this is the idea that underpins the notion of evidence based practice, and most health and justice organisations around the world would now subscribe to this approach to service delivery. That is not to say that programmes that have not been evaluated do not work, rather that we do not know whether they work. There is clearly an important role for development and pilot programmes, but these programmes should not form the basis for service delivery. By offering programmes that can be demonstrated to be effective, service providers become accountable to external agencies, young people and the community, and all stakeholders can have confidence in the quality of the services being offered.

In this review, the evidence base underpinning effective programmes for young offenders is described. Evidence can come not only from programme evaluations, but also from theories about the causes of juvenile crime. Indeed researchers have shown that programmes that are based on a coherent theory are around six times more effective than programmes that are not. As such the first part of the review is dedicated to a review of different theories of crime. The focus here is on developmental theories of crime (that is, understanding how criminal behaviour changes as people grow older) as these are considered to be the most appropriate types of theory to guide programming decisions in youth justice. A number of different developmental theories are described, although there are many similarities between each of the theories. Each theory seeks to explain the way in which biological, individual, familial, social, and community and cultural factors interact with life events to create a situation where offending may occur. Such theories have led to the identification of both risk and protective factors for offending and how these may change at key transitional points (for example, starting school; moving from primary to high school; leaving school). This work is important as it suggests, theoretically, that if programmes and services can either reduce the number of (or intensity of) risk factors, or increase the number of protective factors, then they are likely to be effective in reducing the probability of a young person offending. In other words the theories offers important suggestions about what programmes should aim to change.

There is now a reasonable body of evaluation research documenting the outcomes of a range of different types of programmes with young offenders. At the same time there are still many gaps in the literature – some of the research is conducted with older age groups (for example, young offenders are classified as from ages 15-21 years in some countries), and there is very

little published research on effective programmes either for young women or for those who identify as from indigenous cultural backgrounds. However, evaluations have shown that programmes are more effective when they have certain characteristics, such as the types of person, the areas of functioning, and the methods used to bring about that change. For example, the most effective programmes are offered to those young people who are at the most risk of re-offending, address those areas of need that are most closely associated with the reasons why they offend (for example, substance use, associating with other offenders), and are delivered in ways that match the learning styles of adolescents (for example, structured and skills focussed). Perhaps unsurprisingly the most effective programmes are also delivered by highly trained staff who are well supported in their work. It is, however, clear that specialist programmes for juvenile offenders need to be developed such that they are age and developmentally appropriate. Programmes cannot simply be imported in from adult correctional settings.

There is a limited research base from which to examine specific types of programmes, and in this review programmes for violent offenders, sexually aggressive offenders, and substance use are considered separately, along with the evidence for more generic programmes (such as cognitive skills and social skills programmes), programmes to improve family functioning (such as fostering programmes and multi-systemic therapy), and educational and vocational achievement. It is concluded that all of these programmes have an important role to play in any approach that seeks to meet the needs of youth justice clients. However, one programme is unlikely to meet all of the needs of a young person, and supplementary programmes targeting other areas (for example, health and education) also have an important role to play.

Whilst this report is a review of the scientific and research literature, and has been written in an academic way that attempts to adequately describe the current knowledge base, the hope is that it will provide a stimulus for readers to think about how this evidence might inform their own practice. What is clear from this review is that the starting point for any review of programmes in the youth training centres has to be the theoretical and empirical evidence from Australia and internationally relating to what is currently known about what will work best for youth justice clients. In conclusion then, it is important for those involved in programme design and delivery to have some awareness of the literature reviewed in this report.

1 Introduction

This literature review has been written to provide an up to date account of the current status of evidence relating to programmes that are offered to youth justice clients that are likely to reduce the risk of further offending. In any service that purports to be 'evidence-based', it is important that decisions around the organisation, structure, and delivery of programmes can be made in the light of what is currently known about programme effectiveness. Evidence can take two forms: theories and models about how to understand the reasons why young people offend, and hence their likely need for intervention; and evaluations of programmes that have been used with juvenile justice clients. This review starts with an overview of current theoretical models of juvenile offending, before examining the evidence for the delivery of certain types of programme. It is suggested that *all* staff across the Youth Justice Directorate should have some level of familiarity with this literature if they are to design, develop, and support the delivery of effective evidence-based programmes for their clients.

2 The importance of theory to practice

In simplistic terms, the role of criminological theory is to inform practice, although the reality is that the interface between the two is not always as straightforward as one might hope. What is a theory of crime? And by what process does that theory get translated into practice? The answer to the first question is relatively easy, at least from an academic perspective: A theory is a set of abstract concepts developed regarding a group of facts or events in order to explain them. Thus, a theory of crime consists of a set of assumptions (for example, about human nature, social structure, the principles of causation), a description of the phenomena to be explained (that is, facts which the theory must fit), and an explanation or prediction of the phenomenon. In order to meet the criterion of being scientific, a theory must be verifiable (that is, based on empirical observation), compatible (that is, is consistent with other well-established information), have predictive power (that is, can generate new ideas through research), parsimonious (that is, account for the phenomenon in a simple/economic way), and useful (that is, assists our existence in the everyday world). The second question, how a theory is translated into practice, is, perhaps, more difficult to answer. While interventions to reduce offending should be based on knowledge about (1) the causes of crime (that is, theory), and (2) which programmes have been shown to be effective in changing offending behaviour (see Cullen & Gendreau, 2000; Gendreau, 2000), it is not always the case that either conditions inform practice. Consider, for example, the 'theories' that Latessa, Cullen and Gendreau (2002, p.44) found were either implicit in programmes observed by them or identified by agency staff as the crime causing factors their programmes were targeting.

- 'Been there, done that' theory
- 'Offenders lack creativity' theory
- 'Offenders need to get back to nature' theory
- 'It worked for me' theory
- 'Offenders lack discipline' theory
- 'Offenders lack organizational skills' theory
- 'Offenders have low self-esteem' theory
- 'We just want them to be happy' theory
- The 'treat offenders as babies and dress them in diapers' theory
- 'Offenders need to have a pet in prison' theory
- 'Offenders need acupuncture' theory
- 'Offenders need to have healing lodges' theory
- 'Offenders need drama therapy' theory
- 'Offenders need a better diet and haircut' theory
- 'Offenders (male) need to learn how to put on makeup and dress better' theory
- 'Offenders (male) need to get in touch with their feminine side' theory

As noted by the authors, the list would be amusing but for the fact they found theories such as these were commonplace in correctional settings. Indeed, similar ideas are commonly expressed by those who work with juvenile justice clients in Australia. Interventions are

frequently based on what practitioners see as ‘common sense’ or on their own personal experience and/or clinical knowledge, and practitioners often begin work in youth justice settings with relatively little formal training in understanding *why* young people offend. Latessa and his colleagues (2002) use the example of boot camps (intensive residential training programmes for offenders, often run on para-military lines) to illustrate how the failure to consider theory and apply this to practice can not only be detrimental to both offender and victim, but can also become a costly exercise in financial terms:

Based on a vague, if not unstated theory of crime, and an absurd theory of behavioral change (‘offenders need to be broken down’ – through a good deal of humiliation and threats – and then ‘built back up’), boot camps could not possibly have ‘worked’. In fact, we know of no major psychological theory that would logically suggest that such humiliation or threats are components of effective therapeutic interventions (Gendreau et al., forthcoming). Even so, boot camps were put into place across the nation without a shred of empirical evidence as to their effectiveness, and only now has their appeal been tarnished after years of negative evaluation studies (Cullen, Pratt, Miceli, and Moon, 2002; Cullen, Wright, and Applegate, 1996; Gendreau, Goggin, Cullen, and Andrews, 2000; MacKenzie, Wilson, and Kider, 2001). How many millions of dollars have been squandered? How many opportunities to rehabilitate offenders have been forfeited? ...

In developing a programme, practitioners should therefore start with a recognised theory about the causes of crime and then proceed to design an intervention to target the factors identified in that theory (Andrews & Bonta, 1998). In the review that follows, we consider theories of crime that not only explain offending but also take into account the developmental changes that are the hallmark of adolescence. This is followed by a review of programmes that have been designed to address the risk factors identified in these theories. While at times some aspects of the various approaches may appear repetitive, there are subtle and important differences in aetiology that necessarily require consideration.

2.1 Theories of crime

Many theories have been postulated to explain the causes and correlates of criminal behaviour. Given the breadth of this research, attempts have been made to thematically organise these. One particularly useful organising scheme is that proposed by McGuire (2002), which consists of five discrete but interconnected levels moving from large-scale, macro accounts of crime at Level 1 (for example, conflict theory, strain theory), through locality-based accounts at Level 2 (for example, differential opportunity theory), socialisation and group influence processes at Level 3 (for example, sub-cultural delinquency theory, differential association theory, social learning theory), crime events and ‘routine activities’ at Level 4 (for example, routine activity theory, rational choice theory), to individual factors at Level 5 (for example, neutralization theory, psychological control theories, cognitive social learning theory). Many of these theories of crime are, however, static in nature. They fail to provide a sufficient level of explanation for the varying patterns of behaviour that sees some young people never commit crime, some desist from crime at an early age, and a small percentage of offenders continue their criminal behaviour into adulthood.¹

1. For example, while strain or social control theories may explain the process of forming attitudes, values, or attachments that allow or disallow behaviours that violate the law, these theories are less helpful in terms of (a) explaining how these factors change during the life-course and (b) if they do not change, why most delinquents desist and only a few go on to commit adult crimes.

One of the most stable empirical findings to emerge from decades of criminological research is the relationship between age and crime. Criminal behaviour is relatively uncommon in children under ten years of age, despite many children displaying what have been described as ‘precursor behaviours’ during this developmental period (Thornberry, 1997). The onset of actual delinquent and criminal behaviour occurs in late childhood and early adolescence (around the ages of 10 to 14), with the prevalence of criminal involvement peaking during the middle to late adolescent period (that is, 16 to 17 years of age), followed by a rapid decline and subsequent tapering off for most by the early twenties (Brame & Piquero, 2003; Farrington, 1995a; Moffitt, 1993). An important observation here is that minor delinquency during adolescence is statistically normative (Ayers, Williams, Hawkins, Peterson, Catalano & Abbott, 1999), and only a small proportion of young people continue their criminal careers well into adulthood.

An alternative approach to explaining crime is that offered by developmental and life-courses (DLC) theories of offending (for example, Catalano & Hawkins, 1996; Farrington, 2005a; Moffitt, 1993, 1997; Sampson & Laub, 1997, 2005; Thornberry, 1997). Developmental theories are dynamic rather than static, and are effectively concerned with three main issues: the development of offending and antisocial behaviour: risk and protective factors at different ages: and the effects of life events on the course of development. More importantly, from a rehabilitative perspective at least, DLC approaches document and explain within-individual variations in offending throughout life; an approach that is more relevant to causes, prevention, and treatment than the between-individual variations articulated in many of the static theories (for example, the demonstration that unemployed people commit more crimes than employed people). The utility of the DLC approach was recently highlighted by Farrington (2007, p.125) who noted that:

DLC theories usually assume that within-individual variations over age in measured offending reflect within-individual variations with age in an underlying theoretical construct such as antisocial potential or criminal propensity. They suggest that the frequency of offending at any age depends not only on the strength of the underlying construct but also on environmental factors such as opportunities and on cognitive (decision-making) processes. Hence, desistance should be influenced by all of these factors.

From a DLC perspective, the focus is on life experiences that mould the individual and send him or her along a particular trajectory or pathway. The various theories generally agree that human development can be understood in terms of four interrelated and fused dimensions (Tobach & Greenberg, 1984). The first is the principle of relative plasticity, which stipulates that the potential for change exists across the lifespan. Second, DLC theorists support the view that the bases for change lie in the relationships that occur within the multiple levels of organisation that constitute human life. Despite variations in how these levels have been conceptualised (for example, Bronfenbrenner, 1979; Ford & Lerner, 1992; Sameroff, 1983), there is a general consensus they include the biological, individual/psychological, social relational (that is, families, peer groups, social networks) and socio-cultural (for example, governments, schools, churches) levels. The third principle is the understanding that no level of human organisation functions in isolation, but rather, each level functions as a consequence of its fusion or inter-relation with other levels. This interdependence means that change at any level will impact upon continuity or discontinuity at another level. Finally, given the dynamic nature of the interaction between these levels of human organisation,

individual development is embedded in the historical period of study. Notwithstanding this temporality and individuality, differences within and across all levels are seen as having core and substantive significance with respect to the general understanding of human development.

What the developmental/dynamic perspective illustrates is that criminal behaviour is too heterogeneous to be explained by a common set of factors. A DLC approach assumes that different factors may have different effects on the individual offender at different ages. Moreover, such an approach argues that crime data actually contradicts an age-invariant position that maintains that (1) all antisocial behaviour peaks in late adolescence; (2) there are no substantive individual, cohort, historical, or cultural differences in this relationship; and (3) all antisocial behaviour declines sharply and continuously throughout life (Sampson & Laub, 1995). Thus in attempting to understand the continuity and stability of offending behaviour across the life-span, DLC theorists explore transactions between individual characteristics (for example, cognitive abilities, temperament) and age-graded developmental contexts such as social factors (for example, family and peer relations, school, employment), that can mediate both pro- and antisocial pathways.

Thornberry (1997) has described what he sees as the major advantages to adopting a DLC approach to crime. First, he points out that non-developmental approaches fail to identify and offer explanations for many important aspects of crime, including prevalence; age of onset; duration of offending career; escalation and de-escalation in terms of frequency and seriousness of criminal involvement; and, finally, desistance from crime. Second, while non-developmental approaches examine different causal structures for particular types of offenders (for example, violent versus non-violent), there is a failure to identify types of offenders based on developmental considerations (for example, life-course-persistent versus adolescent-limited offending). DLC approaches offer a way to explain the criminological conundrum that whereas most antisocial children are not destined to become antisocial adults, antisocial adults are most often antisocial children. Third, non-developmental paradigms do not sufficiently examine the precursor behaviour of the young (for example, conduct disorder and antisocial behaviour) or the outcomes of such behaviour. Finally, non-developmental approaches neglect to relate developmental changes, including trajectories and transitions, of the life course as it relates to delinquent behaviour.

The DLC approaches described below can be placed within Loeber and LeBlanc's (1990) conceptual framework for the development of juvenile offending (see Table 1 below). Where they differ most is their explanations of desistance. Farrington (2005a), for example, has argued that desistance is dependent upon a decrease in antisocial potential caused by life events (for example, marriage, stable employment), while Catalano and Hawkins (1996) see desistance as a function of changes in opportunities, rewards, costs and bonding that are influenced by life events. Sampson and Laub (2005) have argued that it depends on increased social controls and structured routine activities emerge when an individual marries, obtains steady employment, or joins the military, and Moffit (1997) proposes that desistance is a function of adolescent limited offenders achieving adult goals (for example, material goods) and life events, whereas life-course persistent offenders fail to desist, at least in part, because they select antisocial partners and jobs.

Table 1:

Loeber and Le Blanc's (1990) core concepts of developmental criminology

Concepts		
Generic	Temporal Boundary	Dynamic
Participation	Age of onset	Activation
Lambda	Age at termination	Acceleration
(frequency)	Duration	Diversification
Crime mix	Transfer/crime switching	Stabilisation
Seriousness		Maintenance (Aggravation)
Variety		Escalation
		Developmental Sequence
		Desistance
		Deceleration
		De-escalation
		Reaching a ceiling
		Specialisation

2.1.1 Moffitt's Developmental Taxonomy

Moffitt's (1990, 1993, 1997; Caspi, & Moffitt, 1995) developmental taxonomy of antisocial behaviour posits two discrete types of young offender: adolescence-limited and life-course persistent. The taxonomy is based on research that investigated base rates of persistent and temporary antisocial behaviour in a cohort of 1,037 children in Dunedin, New Zealand who were born between 1972 and 1973. Moffitt found that approximately 5% of the total sample could be identified as engaging in antisocial behaviour that was more than one standard deviation above the average of ratings at each of seven biennial assessments at ages three, five, seven, eleven, thirteen, and fifteen. This contrasted with around two-thirds of the remaining sample being rated as above average on antisocial measures at one or two years of age or by only one reporting agent. Thus Moffitt concluded a significant difference between the two groups in terms of the stability of antisocial behaviour, and proposed her two distinct pathways leading to delinquency.

The majority of young offenders can be considered adolescence-limited, and while this group may become involved in very serious crime, they do not engage in delinquent behaviour prior to or after adolescence. According to Moffitt (1995), adolescence-limited offenders generally have the capacity to suppress antisocial impulses and are, on the whole, law-abiding citizens. Rather than being maladjusted, Moffitt sees this group of young people as exhibiting processes of social mimicry, motivated by a desire to demonstrate maturity and personal independence. For the most part, they engage in low-level offences (for example, alcohol use, shoplifting, vandalism), that represent rebelliousness rather than violent forms of delinquency (see McCabe, Hough, Wood & Yeh, 2001; Nagin, Farrington, & Moffitt, 1995; and Piquero & Brezina, 2001 for an empirical assessment of adolescence-limited offending patterns). Over time, the adolescence-limited offender experiences a lack of motivation for delinquency as biological and social age converge on the path to adulthood (that is, they exit the 'maturity gap'; Moffitt, 1997, p.26).

In contrast, life-course persistent offenders manifest antisocial behaviours at an early age (Henry, Caspi, Moffitt, & Silva, 1996; Moffitt, 1993, 1997; Moffitt & Caspi, 2001). This small group of offenders, approximately 5%, is characterised by persistence in problem behaviour from childhood through adulthood, with different manifestations of that problem behaviour during different stages of development. This life-course pattern of offending is said to be linked to pre- and peri-natal conditions and factors associated with adverse child rearing conditions during early childhood. According to Moffitt, two types of neuropsychological deficits - verbal intelligence (that is, reading ability, receptive listening, problem-solving skill, memory, speech articulation, and writing) and executive function (manifested as inattention, hyperactivity, and impulsivity) - give rise to an array of antisocial behaviours. Children with neuropsychological deficits are restless, fidgety, destructive, and noncompliant, using violent outbursts rather than conversation. The persistence of antisocial behaviour over time is attributed to these early problem behaviours tending to limit the child's opportunities for learning pro-social behaviour during formative developmental stages and, as a result, problem behaviours become increasingly entrenched. Moreover, because these behaviours persist into adulthood, they may continue to increase the probability of adult antisocial behaviour in a 'proximal contemporary fashion' (Moffitt, Lynam, & Silva, 1994).

2.1.2 Sampson and Laub's Age-Graded Theory of Informal Social Control and Cumulative Disadvantage

One of the most dominant developmental theories is Sampson and Laub's (1993, 1997, 2003, 2005) age-graded theory of informal social control and cumulative disadvantage. Based on findings from the analysis of archival data originally collected by Glueck and Glueck (1950) and a matched comparison group, the theory postulates that informal social controls (for example, involvement in family, work, school) mediate structural context and explain criminal involvement, even when an underlying level of criminal propensity exists. Crime is said to be more likely when social bonds to society are weakened or broken. More specifically, informal social controls, which stem from the social relations between individuals and institutions at each stage of the life course, are characterised as a form of social investment or social capital (see Coleman, 1988). Social capital 'includes the knowledge and sense of obligations, expectations, trustworthiness, information channels, norms, and sanctions that these relations engender (Hagan, 1998, p.503). In essence, bonds to society create social capital and interdependent systems of obligations that make it too costly to commit crime (Sampson & Laub, 1993). The individual garners variable amounts of social capital from informal social control networks, which, in turn, explains the continuity in antisocial behaviours across various life stages. Those individuals who are low in social capital (and who have past criminal involvement) 'mortgage' future life changes. This process is the cumulative disadvantage referred to in the theory. Pro-social adult social bonds (or turning points), can serve to 'right' previously deviant pathways (for example, juvenile delinquency, unemployment, substance abuse) and thereby place the individual on a trajectory towards more successful outcomes. According to Sampson and Laub, criminal careers are characterised by change and dynamism: even the most active offender desists over the life course (for example, a 60 year old criminal is not as active and violent as they may have been at 17; see Sampson & Laub, 2003).

Empirical analysis (for example, Sampson & Laub, 1993) has provided support for the notion of continuity in offending over the life course. For example, in the matched comparison group used in the reanalysis of the Glueck and Glueck (1950) data, there was

strong evidence for homotypic continuity from childhood to adulthood among delinquents. For example, arrests in early and middle adulthood were greater for the delinquent sub-sample than for the non-delinquents, with 76% of delinquents arrested between ages 17 and 25 and only 20% of non-delinquents arrested over the same age period. These percentages remain similar when arrests for ages 32 to 45 are compared (55% and 16% for delinquents and non-delinquents respectively). Heterotypic continuity was also evident among the Glueck and Glueck delinquent sample. For example, among those who served in the military, 60% of the delinquents were charged with an offence during their term of service compared with 20% of non-delinquents. The delinquents were also found to be more likely, among other things, to have a dishonourable discharge, less likely to have finished high school, and more likely to have low job stability. This continuity has been explained in terms of both childhood propensity and cumulative disadvantage, with Sampson and Laub describing continuity as ‘cumulative, developmental model whereby delinquent behaviour has a systematic attenuating effect on the social and institutional bonds linking adults to society (for example, labor force attachment, marital cohesion) ...’ (1993, p. 138).

Despite this continuity, Sampson and Laub’s research (for example, 1993, 1997, 2003, 2005) has also shown that change in criminal behaviour occurs due to variation in the strength of adult social bonds stemming from life events, such as cohesive marriage, stable employment, and serving in the military, which is independent of criminal propensity. In their view, it is the quality of the relationship or ‘the social investment or social capital in the institutional relationship, whether it involves family, work, or community setting, that dictates the salience of informal social control at the individual level’ (Sampson & Laub, 1993, p14). In considering the impact of incarceration and its indirect influence on future crime, they propose that it facilitates crime via subsequent job instability (Sampson & Laub, 1993, 1997; Laub & Sampson, 1995).

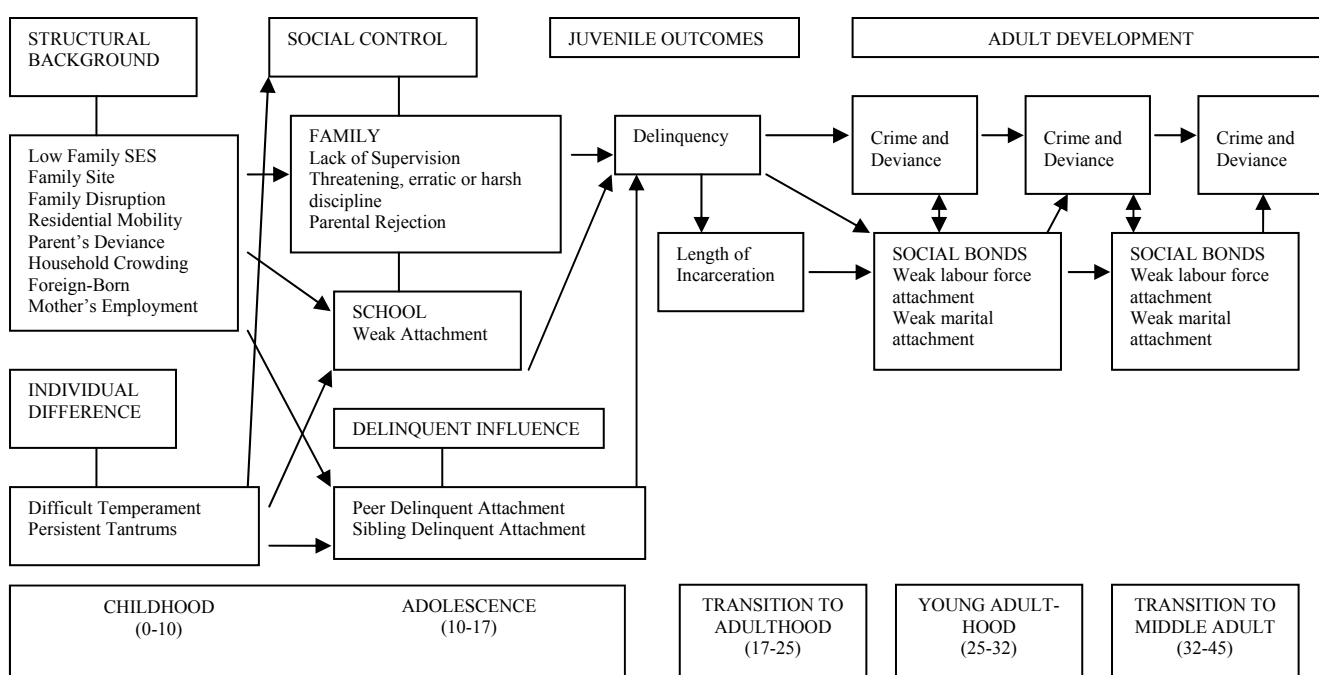


Figure 1: Sampson & Laub's age-graded theory of informal social controls

2.1.3 Farrington's Integrated Cognitive Antisocial Potential (ICAP) Theory

Farrington (2005b) has recently developed the Integrated Cognitive Antisocial Potential (ICAP) theory to explain how early risk factors for antisocial behaviour, previously identified in longitudinal research such as the Cambridge Study (for example, Farrington, 1992, 1995b, 2003), can be incorporated into a coherent developmental theory of crime. An integration of ideas from a range of other theories including strain, control, learning, labelling and rational choice approaches (see Cullen & Agnew, 2003), suggest that the key construct is antisocial potential (AP), defined as the potential to commit antisocial acts. The underlying assumption is that 'the translation from antisocial potential to antisocial behaviour depends on cognitive (thinking and decision-making) processes that consider opportunities and victims' (Farrington, 2005b, p.184). AP can be viewed as both a long- and short-term phenomenon, with long-term, persisting, between-individual differences distinguished from short-term within-individual variations. For example, long-term AP depends on impulsiveness, strain, modelling, socialisation processes, and life events, whereas short-term variations are dictated by motivating and situational factors (for example, angry, drunk). Individuals with high levels of AP are at risk for offending over the life-course, while those with low levels tend to live more conventional lives. Given that relatively few people experience high levels of AP, the distribution of chronic offenders in the population at any age is limited and highly skewed.

The model postulates a tendency for long-term AP individuals to commit many different types of antisocial acts, including different types of crime (thus offending and antisocial behaviour is seen as versatile rather than specialised). And while AP levels are fairly consistent over time, they peak in teenage years because of the effects of maturational factors, such as an increase in peer influence and decrease in family influence, that directly influence crime rates. As shown in Figure 2, the risk factors hypothesised to influence long-term AP are the desire for material goods, status among intimates, excitement and sexual satisfaction (factors which are consistent with strain theory). However, these motivations only lead to high AP if the individual habitually chooses antisocial methods of satisfying them. Thus, offending is the consequence of antisocial methods being used by those who find it difficult to satisfy their needs legitimately (for example, individuals on low incomes, the unemployed, and those who fail at school). However, the model posits that the methods an individual chooses will also depend on their physical capabilities and behavioural skills (for example, a five-year-old would find it difficult to steal a car).

Long-term AP is also said to depend on attachment and socialisation processes. For example, AP will be low if parents consistently and contingently reward good behaviour and punish that which is considered bad (although children with low anxiety are thought to be less well-socialised as they have fewer concerns about parental punishment); if children are not attached to (prosocial) parents (for example, if parents are cold and rejecting and if the individual is exposed to and influenced by antisocial models (for example, criminal parents, delinquent siblings, delinquent peers). Long-term AP is also high in impulsive individuals (as they tend to act without thinking about the consequences), and influenced by life events (for example, it decreases – at least for males - after marrying or moving out of high crime areas and increases after separation from a partner).

In terms of explaining offending behaviour and other types of antisocial acts, the ICAP theory suggests it is an interaction between the individual (and immediate level of AP) and the social environment (in particular criminal opportunities and victims). By contrast, short-term AP

varies within individuals according to short-term energising factors (for example, being bored, angry, drunk, or frustrated, or being encouraged by male peers). Criminal opportunities and the availability of victims depend on routine activities, for example, encountering an opportunity or victim may cause a short-term increase in AP; a short-term increase in AP may also motivate a person to seek out criminal opportunities and victims. However, the likelihood that a crime is committed in a particular context (for a given level of AP) is dependent upon (a) cognitive processes, including an assessment of the subjective benefits (for example, the goods to be obtained) and costs (for example, being caught by the police, parental disapproval) and (b) the individual’s stored behavioural repertoire or scripts (based on past experience). As a result of the learning process, changes may be made to long-term AP and future cognitive decision-making processes. This is more likely when the consequences are either reinforcing (for example, gaining material goods or peer approval) or punishing (for example, legal sanctions or parental disapproval). Furthermore if the consequences involve labelling or stigmatizing the offender, this may be more difficult to legally achieve one’s aim and, as a consequence, may serve to increase AP.

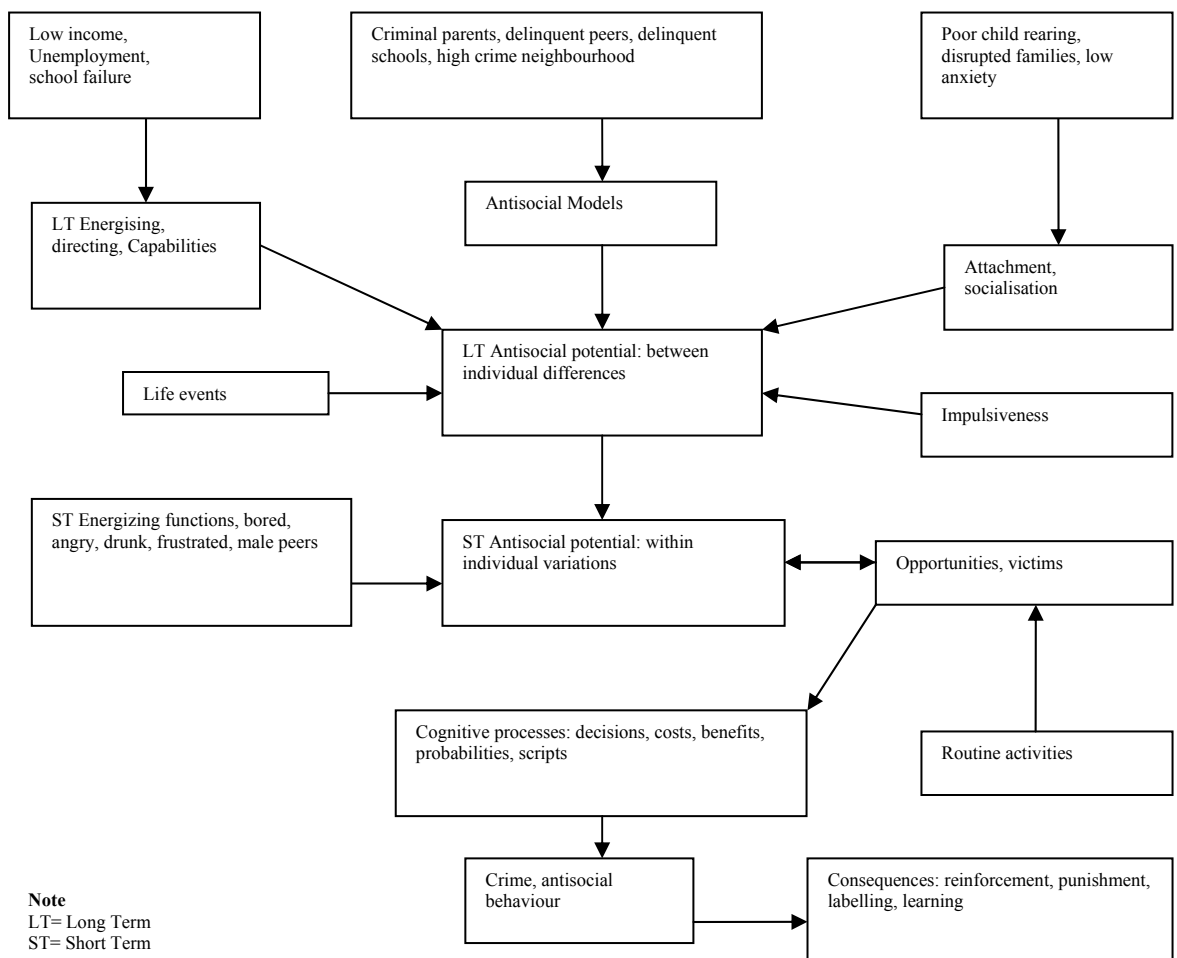


Figure 2: Farrington’s integrated cognitive antisocial potential theory (ICAP)

2.1.4 Catalano and Hawkins Social Development Model²

Catalano and Hawkins's (1996) Social Development Model is based on research that has integrated the role of risk and protective factors for behaviour such as delinquency and substance use, but may also be applied to the onset of other antisocial or risk behaviours. The authors have argued that antisocial behaviours such as delinquency and drug use are initiated in childhood or early adolescence, and because early onset predicts the seriousness and persistence of such problem behaviours a theory that seeks to explain the onset, maintenance, and desistance from such behaviours should focus on causal processes in childhood development. The model (see Figure 3) posits that an individual learns pro- or antisocial behaviour through the socialising agents of family, school, peers, and community. Four main factors are seen as necessary for socialisation to occur: there must be perceived opportunities for involvement in activities and interactions with others, followed by the level of involvement and interaction engaged in and experienced by the individual. Successful involvement will be influenced by the skills the individual possesses, and finally the outcome of the interaction will provide reinforcement for the involvement (see Ayers et al., 1999; Catalano & Hawkins, 1996; Catalano & Kosterman, 1996).

Critical in the development of pro- or antisocial behaviour is this process of socialisation, through which individuals form bonds with agents of socialisation such as parents, peers, school, and the wider community (Catalano & Hawkins, 1996). A social bond forms when the socialisation processes are consistent; that is, when reinforcement (reward) is consistent with that received for previous, similar involvements with the social unit. Each social unit has a set of norms, beliefs, and values that are common among the majority of its members. The bond an individual forms with a particular socialisation agent determines attachments to other people within that group, belief in the values of the unit, and the level of commitment or investment the individual has toward adhering to or supporting the norms and values of the unit (Catalano & Kosterman, 1996). Thus social bonds produce informal controls that influence future behaviours. In order to preserve a bond the individual must conform to the norms and values of that unit; any behaviour that does not conform to group norms and values jeopardises this bond, while conformity is rewarded with its preservation (Catalano & Hawkins, 1996). The strength of the attachment to the social unit is determined by the level of reinforcement the individual perceives as forthcoming in response to their involvement with the group. Rewards are determined by the skills and ability the person possesses that enable them to engage with the socialising unit (Catalano & Hawkins, 1996; Catalano & Kosterman, 1996).

2. From Raftery, S. (2005). Differences in adolescent risk-taking behaviour. Unpublished Honours dissertation, University of South Australia.

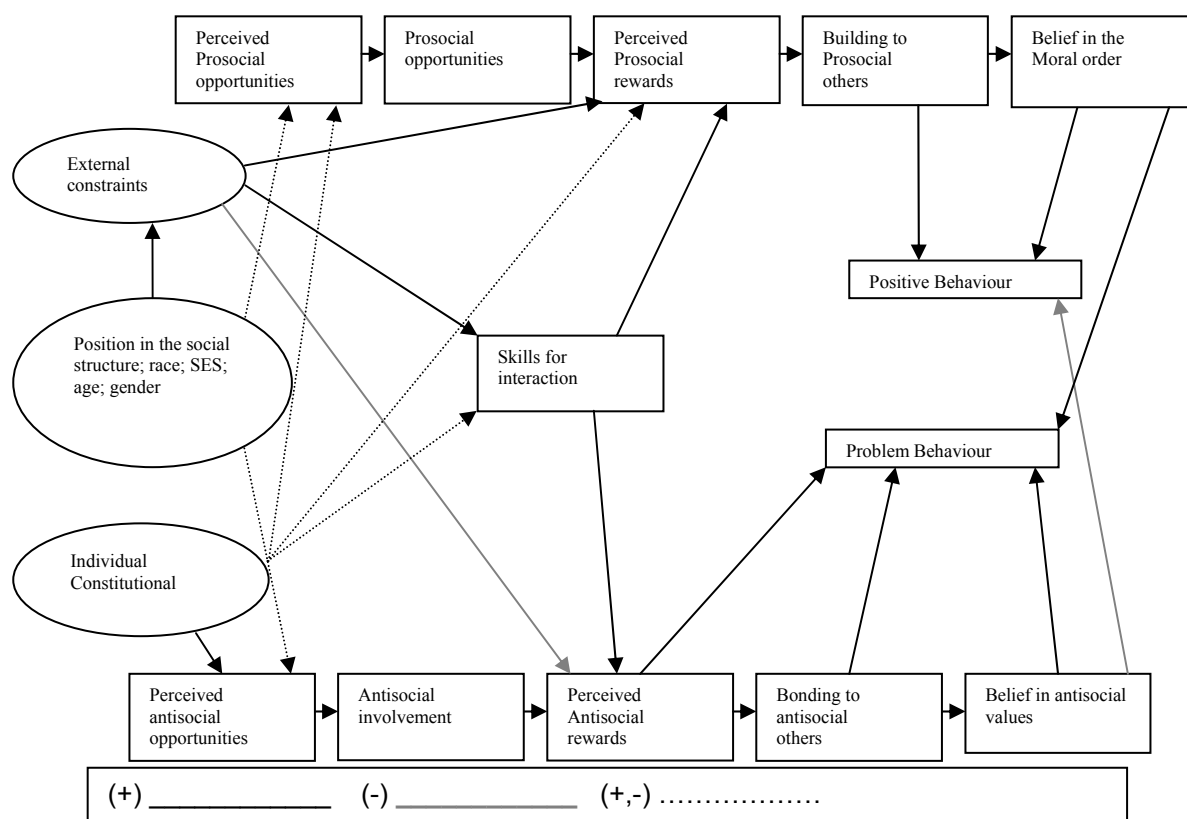


Figure 3: Catalano & Hawkins' Social Development Model

According to Catalano and Kosterman (1996), attachment outcomes depend on the socialisation pathway that the attachment produces. The antisocial path of socialisation is produced in a number of ways. First, a strong attachment to antisocial others, through the process described above, will result in the individual committing to the antisocial values of the group to which they have bonded. Second, a weak bond to pro-social units will result in diminished rewards for maintaining that bond, the consequences of which is the reduction in negative outcomes for contravening group norms and values. A third means by which antisocial behaviours are produced involves a cost-benefit analysis of the intended behaviour which indicates that there is low risk associated with the behaviour. The individual may perceive that there is little likelihood of their antisocial behaviour being discovered by others, and thus the threat to the social bond is minimal. Thus the Social Development Model assumes that factors that influence the nature, strength, and quality of social attachments in the domains of family, peers, school, and community ultimately determine the manifestation (or lack thereof) of antisocial behaviours.

2.1.5 Risk and protective factors

A view of delinquency as a developmental process has enabled DLC theorists to identify an array of risk factors that either precede or co-occur with its development. Some risk factors appear to be implicated, directly or indirectly, in the underlying causes of problem behaviour; others are symptoms or 'markers'. While it is clear that no single risk factor can be said to 'cause' delinquency, reviews and further statistical analyses have served to narrow the field

and point to those most likely to contribute to interlinked chains of causation (see, for example, Anderson et al, 2001; Farrington, 2004, 2007; Loeber et al, 2003; Mrazek & Haggerty, 1994; Rutter et al, 1998). Risk factors can relate to individual children and young people, to their families, to their schooling and to the communities in which they live (see Table 2). It is also clear that different combinations of risk factors contribute to different cumulative effects and that the overall risks of antisocial behaviour can increase exponentially depending on the number of risk factors to which children are exposed (Rutter, 1979).

In Australia, the developmental approach informed the *Pathways to Prevention* report (Hemel et al., 1999), which sought to develop a policy framework whereby early intervention and the targeting of risk factors in key developmental stages, might have an impact upon delinquency and other social problems (Day, Howells, & Rickwood, 2004). Risk has been articulated as a continuum that moves through remote risk, high risk, and imminent risk, ending with the group of young people who are ‘at-risk’, who are actively engaging in dangerous behaviours, and experiencing extreme vulnerability (DETYA, 2001). According to Withers and Russell (1998), those who are at imminent and high risk are more likely to experience *multiple* future events, which decreases their chances of developing and sustaining satisfying, fulfilling, and responsible lives. Moreover, Howard and Johnson (2000) have argued that ‘at-risk’ adolescents are much more likely to develop antisocial behaviours, to abuse alcohol and drugs, to experience unwanted teen pregnancy, to drop out of school, and to be both the perpetrators and the victims of personal violence.

Another consequence of adopting a developmental approach to explaining delinquency has been the theoretical attention paid to influences that might serve as a ‘buffer’ between risk factors and the onset of delinquency. These influences, known as protective factors, are

Table 2:

Risk factors for delinquency and other antisocial behaviour

Level	Risk Factors
Child	Poor problem solving; Beliefs about aggression; Attributions; Poor social skills; Low self-esteem; Lack of empathy; Alienation; Hyperactivity/disruptive behaviour; Impulsivity; Prematurity; Low birth weight; Disability; Prenatal brain damage; Birth injury; Low intelligence; Difficult temperament; Chronic illness; Insecure attachment.
Familial	Psychiatric disorder, especially depression; Substance abuse; Criminality; Antisocial models; Family violence and disharmony; Marital discord; Disorganised negative interaction/social isolation; Parenting style; Poor supervision and monitoring of the child; Discipline style (harsh or inconsistent); Rejection of the child; Abuse; Lack of warmth and affection; Low involvement in child’s activities; Neglect; Teenage mothers; Single parents; Large family size; Father absence; Long-term parental unemployment.
School	School failure; Normative beliefs about aggression; Deviant peer group; Bullying; Peer rejection; Poor attachment to school; Inadequate behaviour management.
Life events	Divorce and family break-up; War or natural disasters; Death of a family member.
Community and social factors	Socio-economic disadvantage; Population density and housing conditions; Urban area; Neighbourhood violence and crime; Cultural norms concerning violence as acceptable response to frustration; Media portrayal of violence; Lack of support services.

Source: adapted from Hemel et al. (1999)

thought to mediate or moderate outcomes following exposure to risk factors, often resulting in a reduced incidence of problem behaviour (Pollard, Hawkins & Arthur, 1999). In fact, a model of *cumulative protection* has been proposed by Yoshikawa (1994), which argues that the effects of early family support and education extend beyond the known short-term impact on risk factors (for example, parenting quality, child cognitive ability, parental education status, family size, family income), and could explain why chronic juvenile delinquency can be amenable to change. A list of protective factors is provided in Table 3. And while knowledge about protective factors is less extensive and well-developed than the literature concerning risk (Lösel & Bender, 2003), it is nonetheless apparent that protective factors may work by (1) preventing risk factors from occurring in a child's life, (2) by interacting with a risk factor to attenuate its effects, or (3) by breaking the mediating chain by which risk leads to negative behaviour.

Table 3:
Protective factors associated with delinquency and other antisocial behaviour

Level	Protective Factors
Child	Social competence; Social Skills; Above average intelligence; Attachment to family; Empathy; Problem solving skills; Optimism; School achievement; Easy temperament; Internal locus of control; Moral beliefs; Values; Self-relative cognitions; Good coping style.
Familial	Supportive caring parents; Family harmony; More than two years between siblings; Responsibility for chores or required helpfulness; Secure and stable family; Supportive relationship with other adult; Small family size; Strong family norms and morality.
School	Positive school climate; Pro-social peer group; Responsibility and required helpfulness; Sense of belonging/bonding; Opportunities for some success at school and recognition of achievement.
Life events	Meeting significant person; Moving to a new area; Opportunities at critical turning points or major life transitions..
Community and social factors	Access to support services; Community networking; Attachment to the community; Participation in church or other community group; Community/ cultural norms against violence; A strong cultural identity and ethnic pride.

There is still much to be learned about the salience of risk and protective factors at different stages in children's development and the direct or indirect mechanisms by which they influence behaviour. Developmental sequencing also needs to be better understood, although it would seem that some factors, such as poor parenting are significant from the start of children's lives, whereas others, like association with negative peers, assume greater importance nearer adolescence.

3 Interventions for antisocial and delinquent behaviours

A developmental and life courses (DLC) approach has much to offer in terms of identifying risk factors that may cause delinquency for particular young people at specific stages of their development. However, a developmental risk approach is not without its problems. In addition to problems associated with establishing which risk factors might be considered causal, Farrington (2000) also cites difficulties associated with ‘...choosing interventions based on identified risk and protective factors, in evaluating multiple component and area-based interventions, and in assessing the effectiveness and cost-effectiveness of components of interventions’ (p.16). An additional difficulty, particularly from the practitioner’s standpoint, is that criminological theorists offer little in terms of the types of interventions (primary, secondary, or tertiary) that serve to ameliorate risk and, where multiple risks exist, the order in which risk factors need to be addressed. The practitioner is thus left with the task of identifying not only which interventions work best in terms of changing antisocial and delinquent behaviour but also, given the developmental differences in young people who come to the attention of the juvenile justice system, how best to intervene for a particular individual with a specific set of risk factors.

The challenge for practitioners is that all interventions do not work equally well and, moreover, tend to work best when interventions respond to the specific needs of the young person (Dowden & Andrews, 1999; Hoge, 2001; Lipsey & Wilson, 1998). In the current rehabilitation climate, this difficulty has been addressed by adopting an ‘evidence-based practice’ approach that relies on research which has identified the most effective interventions. What is put forward as best practice can, however, vary considerably with respect to that which constitutes the respective practice and how well it is anchored in research evidence. According to Howell and Lipsey (2005), the link between the two can be loose with few claims of evidence-based practice supported by convincing documentation of the relevant evidence and procedures (Howell & Lipsey, 2004). A review of the published literature supports this supposition. That said, practitioners must nevertheless rely on the available research to make decisions about intervention programmes and in applying research knowledge to programme practice, typically takes one of three approaches. The most popular strategy involves the replication of ‘model programmes’ shown via research and demonstration to have achieved positive results. This requires that local programmes be well-defined and documented and implemented with a high degree of fidelity. A second strategy for applying research results to programme practice is to directly evaluate the effectiveness of existing programmes. Credible assessments of programme impact on the probability of re-offending will ensure that effective programmes are maintained and supported while ineffective programmes are eliminated or redesigned and re-evaluated. The third approach involves extracting the programme principles from the guidelines for effective interventions from the research, in particular previous evaluations of relevant programmes, and applying these to practice. This strategy does not require that each programme replicate all aspects of an effective research and development programme with consistent high fidelity or that regular outcome evaluation be undertaken to provide feedback. However, it does provide a sufficient body of evaluation research and a valid identification of the features that differentiate effective programmes and ineffective ones.

What then does research say about the most effective programmes? Meta-analytic³ reviews have been conducted to identify the effectiveness of a large number of delinquency prevention and intervention programmes. The end result has been largely encouraging. For example, the overall average effect on recidivism for evaluations that have used control group designs is positive and statistically significant, although of somewhat modest magnitude (see Lipsey, 1992, 1995; Lipsey & Wilson, 1998). Of greater interest is the large variation around the average 'effect size', a statistic which indicates that the effects of some programmes are quite sizeable while those of others negligible or even negative (Lipsey & Wilson, 1998). Lipsey's (1992, 1995) initial meta-analysis of 400 intervention programmes showed that recidivism was reduced by approximately 10% for juveniles who completed intervention programmes as compared to those who did not. This reduction increased to 40% for the best interventions, the most effective of which focussed on changing overt behaviour through structured training or cognitive-behavioural interventions designed to improve social development skills (that is, interpersonal relations, self-control, school achievement, and specific job skills). These programme effects for structured, behavioural, and/or skill-building interventions were shown to be consistently higher than for insight-oriented approaches, such as casework, counselling, and group therapy. This work suggests the types of method that are likely to be most effective for use with young offenders.

A second meta-analysis undertaken by Lipsey and Wilson (1998) focussed on 200 programme interventions for serious and violent offenders delivered to young offenders in both institutional and non-institutional settings. The analyses examined the relationship between effect sizes and four categories of variables: (a) characteristics of the individual (for example, proportion with prior offences, prior indications of aggressive behaviour, mean age, gender, ethnic mix), (b) general programme characteristics (for example, age of programme, programme provider), (c) treatment type (for example, counselling, behavioural programmes, multiple services), and (d) the amount of treatment (for example, average number of weeks from first to last treatment, ratings of treatment integrity). While interpersonal skills training was found to be effective in either setting, there were important differences in the kinds of interventions found to be effective in the two settings. For non-institutionalised offenders, three other types of treatment showed the most positive effects: individual counselling, behavioural interventions, and multiple services. By comparison, the four most effective treatments for institutionalised offenders were teaching family homes (that is, behaviour modification in community-based homes), behavioural programmes, community-residential interventions (that is, therapeutic communities), and multiple services. As was the case with the earlier meta-analysis, the average effective size was small (.12) but with considerable variation around the mean. The most effective treatments for institutionalised offenders showed a 30-35% reduction in recidivism, with a 30% reduction for non-institutionalised offenders. And contrary to the commonly expressed view that more serious offenders are the least amenable to treatment, the biggest treatment gains were found for those at the upper end of the seriousness scale.

3. Meta-analysis is a quantitative technique for coding, analysing, and summarizing research evidence. The magnitude of the intervention effects of the studies under review is represented with statistics known as 'effect sizes,' for example, the magnitude of the difference between the mean values on the outcome variable like recidivism for the individuals receiving intervention and those in the control group (Lipsey & Wilson, 2001). Effect sizes are then analysed in various ways, for example, summarized as overall means or compared for different groups of studies. This method of synthesising research enables a researcher to examine a wide range of programme evaluations, and a great deal of coded detail about each, in a systematic and relatively objective manner.

Howell and Lipsey (2004) concluded that the concept of 'best practice' is not necessarily a 'set of programme models to be emulated' (p.42). Based on findings from Lipsey's (1992, 1995; Lipsey & Wilson, 1998, 2000) meta-analytic reviews, they argue that best practice refers to 'a differentiated set of programme elements, many combinations of which are associated with positive outcomes' (p.42). They cite the four major features of effective juvenile programmes to emerge from Lipsey's meta-analytic work as follows:

- Primary services: the effectiveness of the main service focus of a programme, independent of its use with another intervention;
- Supplemental services: adding another service component to the primary service may, but often does not, increase its effectiveness;
- Service delivery: the amount and quality of service provided, as indicated in service frequency, programme duration, and extent of implementation; and
- Characteristics of juvenile clients: some programmes are more effective for high-risk juveniles than for low risk, and vice versa; others are more effective for older or younger offenders.

To summarise, the major features of effective programmes are the primary intervention used within the programme, the provision of supplementary services that will enhance the effectiveness of the primary intervention, the sum total of services received by the client, and the characteristics of the client receiving those services (Howell & Lipsey, 2004). The Center for Evaluation Research and Methodology (CERM 2002) lists the most effective primary services for juvenile prevention and intervention programmes (in descending order) as follows:

1. Interpersonal skills training
2. Behavioural management
3. Cognitive-behavioural
4. Parent/family training or counselling
5. Mentoring
6. Drug/health education
7. Individual counselling
8. Group counselling
9. Restitution
10. Academic enhancement
11. Intensive supervision
12. Multi-modal (for example, service brokerage, case management)
13. Employment training.

3.1 Principles of effective rehabilitation: what works?

The preceding discussion illustrates a shift over the past three decades from a strongly held belief that ‘nothing works’ (Martinson, 1974), to one where it is ‘no longer constructive for researchers, practitioners, and policymakers to argue about whether delinquency treatment and related rehabilitative approaches “work”, as if that were a question that could be answered with a simple “yes” or “no”. As a generality, treatment clearly works. We must get on with the business of developing and identifying treatment models that will be most effective and providing them to the juveniles they will benefit’ (Lipsey, 1995, p.78). Research evidence has shown that, when appropriately designed and delivered, offender rehabilitation programmes can have a significant impact on recidivism (see Hollin, 1999; Howells & Day, 1999; McGuire, 1995). This body of work has also enabled researchers to identify a number of principles of programme delivery related to programme effectiveness; principles that have since been articulated as the ‘what works’ approach to offender rehabilitation. Andrews and Bonta (1998) proposed five principles for offender rehabilitation – risk, need, responsivity, professional discretion, and programme integrity - which currently underpin the majority of intervention programmes delivered in correctional facilities throughout the Western world. These principles can be developed into basic guidelines for matching offenders to programmes (Bonta, 1997), with the most effective programmes matching intervention to the needs, circumstances, and learning styles of individuals (Andrews, 1996; Hoge & Andrews, 1995). The main elements of each principle are outlined below.

3.1.1 The risk principle

According to the risk principle, offenders who are most likely to re-offend should be those targeted for participation in rehabilitation programmes. The starting point is to identify which *risk factors* are associated with offending and then determine whether it is possible to change those factors via intervention. Once an assessment of risk is made, it is (theoretically) possible to determine the type and intensity of programme that should be offered; the Risk principle states that offenders identified as medium to high risk should receive the most intensive treatment. Risk assessment is generally used for two broad purposes: the prediction of recidivism and for the purposes of case management. In both respects, this assessment is based upon evidence of static and dynamic risk factors. *Static risk factors* are those not subject to change and include the offender’s sex and history of offending; these are potentially useful in the *a priori* identification of risk. In the juvenile population, relevant static risk factors include being male, of a low socioeconomic status, having an unstable family environment, a history of school problems, a history of crime and violence (exposure to and victimization by as well as perpetration of), younger age of onset of antisocial behaviors, and certain kinds of disorders or deficits (for example, psychopathy, mental retardation; see Cottle, Lee, & Heilbrun, 2001). *Dynamic risk factors* are those with the potential to change as a result of planned intervention, rehabilitation, or other influences. This change can occur within the individual (for example, treatment, rehabilitation) or within the situation (for example, living setting, access to weapons). In terms of the broad purposes of risk assessment, knowing the relevant dynamic risk factors associated with juvenile offending allows for the introduction of risk-reducing intervention planning (that is, the management-oriented approach to risk assessment). Dynamic risk factors that are also criminogenic (that is, are directly related to the individual’s criminal behaviour) include the offender’s attitudes, cognitions, and behavior regarding employment, education, peers, authority, substance abuse and interpersonal relationships (Cottle et al., 2001).

To some extent, an offender's level of disposition can serve as a proxy for re-offending risk, with lower tariff orders for lower risk offenders. Although reconviction rates for young people sentenced to custody are high, this principle still holds. Hagell (2002) reported British Home Office figures that showed some 88% of males aged 14 to 16 years re-offended within two years of being discharged from custody. While re-offending rates tend to be lower following community orders, the majority still re-offend (56% in one study cited by Hagell). A Victorian Department of Human Services (2001) report indicated that nearly half (48.6%) of the 1500 juvenile justice clients involved in the survey had re-offended (41.1% recidivism for first-time clients and 60.7% for previous clients on supervised orders). In another Australian study, Lynch, Buckman & Krenske (2003) found that whereas the number of Queensland juveniles⁴ placed on supervised orders decreased by 20% during the 1998-2002 period, 79% of those who had been on such an order in 1994-1995 had progressed to the adult system. Of these, 49% had been subject to at least one term of imprisonment. By 2002, 91% of young people who had been subject to a care and protection order in addition to a supervised order had progressed to the adult system (with 67% serving at least one term of imprisonment). In a more recent study conducted in New South Wales, Chen, Matruglio, Weatherburn and Hua (2005) found that 68% of young people who first appear in the Children's Court in 1995 had reappeared at least once in a criminal court (juvenile or adult) by the end of 2003. More than half of the total sample (3,142 or 57%) had at least one subsequent appearance in an adult criminal court during this period, of which 23% (N = 714) received a custodial sentence in the adult court. This translates to 13% of juveniles who appeared for the first time in a children's court in 1995 were imprisoned by an adult court within the next eight years.

A meta-analysis conducted by Cottle et al. (2001) identified a number of risk factors that show a strong empirical relationship to the risk of recidivism in juvenile offenders (see Table 4). Of these, certain criminal history variables (that is, younger age at first arrest, younger age at first commitment) are most strongly associated with high risk juvenile offenders. In addition, a history of non-severe pathology (for example, the presence of stress, symptoms of anxiety) was also found to be a significant predictor of recidivism. The meta-analysis also revealed that some variables that are typically included in a risk/needs assessment were not significantly related to recidivism including frequency of school attendance, the presence of pathology in the juvenile's parents, Performance Scale IQ score, school report of achievement, a history of psychological treatment, and substance use (as differentiated from substance abuse). In the Lynch et al. (2003) study, young people sentenced to supervised juvenile justice orders were characterised by high levels of instability in their lives, generally had low literacy levels, and poor prospects of employment, while Benda, Corwyn, and Toombs (2001) concluded that the four strongest predictors of entry into the adult correctional system among 'serious' adolescent offenders were prior incarceration, gender, age of onset of crime, and age of onset of drug use, followed by race and family structure (see also Seifert, Philips & Parker, 2002).

4. By way of context, approximately 1% of all young people in Queensland aged 10 to 16 years are charged with offences and appear in court each year. In 1994-95, less than half of the finalised court appearances (41%), resulted in the young person being sentenced to a supervised juvenile justice order. This means that less than half of 1% of young people aged 10 to 16 years in 1994-95 were sentenced to supervised juvenile justice orders in that year (Lynch et al., 2003, p.1).

Table 4:

Risk Factors for Juvenile Offending (adapted from Cottle et al., 2001).

Demographic	Male; Minority race (but this effect not significant when SES controlled for); Low socio-economic background.
Offence history	Early age of contact with the law; Earlier age at prior commitment; More prior arrests; More previous commitments; Longer incarcerations; More serious crimes.
Family and social factors	Physical or sexual abuse; Single parent home; Greater number of out of home placements; Significant family problems; Ineffective use of leisure time; Delinquent peers.
Educational factors	History of special education; Lower S.A.T. scores; Lower full scale IQ; Lower verbal IQ; Non-severe pathology.
Substance use history	Substance abuse (but not substance use).
Clinical factors	History of conduct problems; Non-severe pathology.

In a very recent Australian study, Weatherburn, Cush and Saunders (2007) attempted to identify juveniles likely to re-offend from information collected using an Australian adaptation of the Youth Level of Service/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002), the YLS/CMI-AA (Thomson & Pope, 2005). The study involved 392 young offenders who had been placed on a supervised (community-based) supervision order for the first time in the 2000-2001 financial year, with re-offending defined as a further proven offence committed within four years of the index court appearance. Background characteristics of the sample revealed that one in five were less than 14 years of age; there was a gross over-representation of Indigenous juveniles; around one in ten had a deceased parent; only 30% were living with both parents; almost the entire sample were known to associate with delinquent peers; only one third were in formal schooling at the time of committing their index offence; 35% had been expelled from school; 13% were known to use drugs; and two thirds of the sample had changed address three times or more in the preceding five years, while one in seven had been placed in out-of-home care. Consistent with previous research, risk factors of re-offending were found to be significantly higher for juvenile offenders who were:

- younger at their index court appearance;
- of Aboriginal or Torres Strait Island descent;
- not living with both natural parents;
- had experienced some form of trauma;
- had been placed in out-of-home care;
- had been the subject of a confirmed report of abuse or neglect;
- had one or both parents deceased;
- were not attending school at the time of the index court appearance;
- had been suspended or expelled;
- associated with delinquent peers;
- had committed a theft or deception offence; and
- had more past contacts with the criminal justice system.

Using ROC analysis⁵, Weatherburn et al. (2007) illustrated the cumulative effect of different factors on the risk of re-offending (the significant predictors in the model, based on logistic regression, were being aged 14 or less at the time of first index offence; not being at school at the time of first index offence; being suspended or expelled from school; and various levels of prior contact with the criminal justice system). This analysis showed that the risk of re-offending within four years for a young person with only one risk factor was .56 (56%). With two risk factors, the risk of re-offending within four years increased to .71, with three risk factors to .83, with four risk factors to .92, and with five risk factors to .96.

The assessment of risk is generally undertaken using a structured, standardised, formal instrument, such as that YLS/CMI (Hoge & Andrews, 2002). Measures of this type can help to ensure that the broad range of factors associated with future offending are properly addressed in the assessment process and, furthermore, such measures provide a consistent approach to assessment with the elimination of potential biases of individual professionals.

3.1.2 The needs principle

Effective risk assessment allows for the accurate matching of a client group with the consequent level of delivery of the programme but, as Ward and Brown (2002) have pointed out, the identification of risk factors does little to help plan interventions but '...merely signals that there is a problem but does not tell you what to do other than to attempt to remove it or weaken its effects' (p.16). Many of the most robust predictors of recidivism can be considered as static risk factors and given these are, by definition, stable over time, they have little utility in assessing changes in risk as a consequence of intervention⁶. Andrews, Bonta, and Hoge (1990) have argued that the focus of rehabilitation efforts should be, therefore, on dynamic risk factors, the most important of which have been termed *criminogenic needs*. This has become known as the Needs principle. *Dynamic factors* are those that can be changed at the individual level and can be best understood as individual needs that require intervention.

While some static risk factors might form appropriate targets for primary prevention initiatives (for example, unstable family environments), it is the dynamic factors that are of particular interest in the development of rehabilitation programmes. Based on the Cottle et al. (2001) review of factors, criminogenic needs for young people who have already committed crime includes: current physical or sexual abuse; significant family problems; frequent changes in out-of-home placements; ineffective use of leisure time and delinquent peers; poor educational performance; substance abuse (not use), conduct problems; and non-severe pathology. In addition, a number of individual factors might also be considered as criminogenic, given their role in the onset of delinquency and their identification as needs in the broader offending literature. These include: poor problem solving; beliefs about aggression; poor social

5. A receiver operating characteristics (ROC) graph is a technique for visualizing, organizing and selecting classifiers based on their performance. A graph is used to plot the fraction of true positives (TPR = true positive rate; that is, offenders who were identified as likely to re-offend and who did re-offend) versus the fraction of false positives (FPR = false positive rate; offenders who were identified as likely to re-offend and who did not re-offend). In an ROC curve, the true positive rate (Sensitivity) is plotted as a function of the false positive rate (100-Specificity) for different cut-off points. Each point on the ROC plot represents a sensitivity/specificity pair corresponding to a particular decision threshold. A test with perfect discrimination (no overlap in the two distributions) has a ROC plot that passes through the upper left corner (100% sensitivity, 100% specificity). Therefore the closer the ROC plot is to the upper left corner, the higher the overall accuracy of the test.

6. While this is generally accepted as true, in reality, many static risk factors can change over time (particularly when considering juvenile offenders). For example, age, offence history, time at risk, marital status, type of and relationship to victim can all be change over time.

skills; low self-esteem; lack of empathy; alienation; and impulsivity. School factors such as poor attachment to school, school failure, bullying, and deviant peer group may also be considered criminogenic. These needs are summarised in Table 5.

Table 5:

Potential Criminogenic Needs of Young Offenders (adapted from Cottle et al., 2001)

Individual	Poor problem solving	Beliefs about aggression	Poor social skills	Low self-esteem
	Lack of empathy	Alienation	Impulsivity	Ineffective use of leisure time
	Substance abuse	Conduct problems	Non-severe pathology	
Familial	Current physical or sexual abuse	Significant family problems	Frequent changes in out-of-home placements	
Educational	Poor attachment to school	School failure	Bullying	Deviant peer group

3.1.3 The responsivity principle

Responsivity is the third main principle identified in the ‘*what works*’ approach, which focuses attention on client and programme characteristics that influence the offender’s ability to learn within a therapeutic situation. As treatment is a learning experience, individual factors with the potential to interfere with, or facilitate, learning can be termed responsivity factors. Responsivity factors can therefore be understood as contextual variables, which may influence treatment outcome by making a difference in terms of (a) the skills, strategies, or identities that individuals develop and (b) to the support available when transitions are made. Key responsivity factors include age, ethnicity, gender, disability, and socio-economic status and, for the most part, these might be considered non-criminogenic. And while some responsivity factors (for example, gender, ethnicity) can be found in the general population, others are more common in offender populations (for example, concrete thinking styles, poor verbal skills; see Bonta, 1995).

The failure to address certain responsivity factors may explain why some treatment modalities appear to produce better outcomes than others. For example, research has shown that programmes delivered to minority groups should be designed in a culturally appropriate manner (Day, Howells, & Casey, 2003). The level of an offender’s motivation to change (see McMurrin, Tyler, Hogue, Cooper, Dunseath, & McDaid, 1998) or readiness to engage in treatment (Casey, Day, Howells, & Ward) are also important responsivity factors. For many offenders, the decision to enter treatment is influenced by the degree of coercion they feel to attend, the possibility that treatment will influence parole, home detention or release decisions,

and their confidence in the particular programme being offered (see Howells & Day 2002). While many practitioners report being uncomfortable with the idea of coercing people into treatment (Goldsmith & Latessa, 2002), research with adult populations has shown positive outcomes for offenders attending court-mandated treatment (see Day, Tucker, & Howells, 2004). With respect to young offenders, developmental issues may be an important factor when considering the impact of coerced treatment. For example, the need for independence and autonomy that characterise adolescence may affect how the individual perceives and reacts to coercion. There may also be groups for whom coercion into treatment is potentially counter-productive (for example, offenders for whom issues of control are particularly important). For these offenders, interventions to improve motivation might be warranted (for example, McMurrin, 2002).

A related body of research relevant to the application of the responsivity principle to young offenders has investigated those factors that influence a young person to seek help. Finding ways of encouraging young people to talk to staff about problems or identifying barriers to help-seeking from services is an important task (Kalafat, 1997). There are unique issues related to help-seeking for young people, particularly when they are separated from their families and their usual methods of coping with problems are not available. Generally, and despite high levels of need, this research has shown that young people are unlikely to seek help from professional services. Lader, Singleton, & Meltzer (2000) reported that one in ten young men and one in six young women in prison had been offered help in the last year, but refused it, while Dolan and colleagues (Dolan, Holloway, & Bailey, 1999) suggested that juvenile offenders were particularly unlikely to use health services:

It would seem that juvenile offenders are not availing of primary care services and their health needs are addressed only on a crises basis. Although efforts should be made to redirect these children towards the more usual pathways of health care, their problems are complex and this may prove difficult as they are often poorly compliant, distrusting of authority and have disorganized/absent family support (p.143).

3.1.4 The programme integrity principle

While the responsivity principle dictates the importance of meeting the needs of the individual, an important component of quality assurance is the issue of programme integrity issues. Programme integrity refers to the extent to which an intervention programme is delivered in practice as intended in theory and design (Hollin, 1995), and involves two primary components: therapist adherence to the treatment protocol and therapist competence in delivering the treatment. Programme integrity can be assessed by using checklists of treatment adherence, which are completed by programme facilitator(s) and/or clients. Assessing competence is, however, much more problematic. While facilitators are likely to have some biases in their perceptions of sessions, and clients may not have the level of knowledge required to accurately assess integrity, these sources of data are commonly utilised in checking for integrity (Moncher & Prinz, 1991). According to Gendreau and Goggin (1997), therapeutic integrity is essential for prison programmes to produce reasonably large effects on recidivism (for example, 20-35 per cent reductions). In their view, intervention programmes with therapeutic integrity are designed and evaluated by well-qualified individuals, are delivered by staff with a degree in a helping profession, provide ongoing training and development to programme staff, and offer a very intensive service.

3.1.5 The professional discretion principle

The final principle, professional discretion, allows the professional to make decisions on the basis of characteristics and situations not covered by the other four principles. It makes sense to build scope for some professional judgement into any rehabilitation system, rather than to rely upon the administration of relatively static principles. For example, in working with a child sexual offender, who in other respects may not be identified as high priority for treatment (low risk, low need, low responsivity), a professional may have access to knowledge (for example, the offender is entering high-risk situations) that would be of concern and indicate further intervention. It should be noted that a number of other principles have also been described by Andrews and Bonta (1998), including the principle of targeting weak motivation for service, the principle of social support for the delivery of quality treatment services, and the principle of structured follow-up. These principles reveal the imperative for effective case management to ensure an holistic approach to programme delivery. Particularly important is encouraging motivation to engage with programmes. Training in motivational interviewing and in an understanding of progress through stages of change would be helpful for case managers in this regard. This principle also recognises the essential role of follow-up and aftercare following participation in a rehabilitation programme.

3.2 Rehabilitation programmes

Research findings on programmes for juvenile offenders are rarely placed within a developmental context. In this respect, the offender rehabilitation research differs little from other areas of study. Research on the outcomes of psycho-social interventions for adolescents with mental health problems, for example, has also been criticised for being 'adevelopmental', and in mental health there is a dearth of available treatment programs designed to specifically meet the developmental needs of adolescents. In their review, Weiss and Hawley (2002) found that of the 25 treatments for children and adolescents that met the American Psychological Association's criteria for being 'empirically supported', only 14 had been evaluated for use with adolescents. Of these, seven were adaptations of treatments developed for adults, six were interventions developed primarily for younger children, and only one had been developed specifically for use with adolescents (multi-systemic therapy).

The extent to which developmental issues are related to any understanding of juvenile offending is important in so far as it is likely to determine views about the appropriateness of different types of intervention, the intensity of interventions, and the extent to which any interventions might be mandated. It has been suggested that adolescent development can be characterised in terms of three broad dimensions, biological, psychological, and social development, each of which has implications for the way services are delivered (Weiss & Hawley, 2002). Biological development refers to the profound physical changes that are caused by the onset of puberty. While there is some evidence to suggest that these physical changes (such as changes in hormonal levels and the functioning of the endocrine system) are associated with behavioural problems such as violence and aggression, the amount of variance explained by these changes is thought to be small when compared to the impact of social influences. Furthermore, it makes little sense to treat biological development separately from the other two dimensions of adolescence, psychological and social development. For example, while there is some evidence linking the early onset of puberty to a number of risk factors, including delinquency for both boys and girls (Finkelstein et al., 1997), and early maturation is considered a risk factor for offending in young women (Stattin & Magnusson, 1990), this is only apparent when it leads to the young woman associating with older peers.

Weiss and Hawley (2002) have highlighted two aspects of psychological development, motivation and cognition, as particularly relevant to the delivery of psycho-social interventions to adolescents. Young people are generally reluctant to engage with services, and issues of low motivation are likely to be more pronounced where services are not received voluntarily, but under some legal mandate. It is important to note here that some acknowledgment of offending as a problem and some degree of motivation for treatment are generally regarded as critical to the success of an intervention. Problem recognition and motivation for change are developmental in nature. Low motivation for treatment is thought to be more of a problem for boys, but may be an issue for both genders when a young person is more peer than adult oriented (Weiss & Hawley, 2002). Cognitive development is also likely to be a factor that moderates treatment outcomes. Holmbeck et al. (2000) identify three cognitive skills that develop over adolescence, each of which is potentially important to effective interventions - abstraction, consequential thinking and hypothetical reasoning. These skills are especially relevant to cognitive behavioural treatment approaches, and according to cognitive developmental theories (such as Piaget's), are likely to be linked to stages of maturation. Wasserman and Miller (1998, cited by Youth Justice Board, 2001) suggest that as pre-adolescents are unlikely to be able to consider the effects of their behaviour on others, they are more likely to benefit from social and conflict resolution skills training than victim awareness. They suggest that adolescents are able to understand moral arguments and therefore potentially benefit from interventions that involve perspective-taking. Social development is the third broad dimension of adolescent development that appears relevant to the delivery of rehabilitation programs. It has been suggested that the social context in which adolescence occurs (peer group, family, school) will moderate treatment outcome, with each area acting potentially as either a risk or a protective factor. For example, whereas a developmentally appropriate intervention might seek to improve peer relationships, group based interventions that increase contact among 'deviant' adolescents may have harmful effects (Dishion, Andrews, & Crosby, 1995). In short, rehabilitative interventions that under-emphasise the social context in which offending takes place, may also overlook important developmental events.

Clearly any boundaries placed on service provision on the basis of age are likely to be arbitrary, given the marked variations of individuals in their level of functioning according to their level of maturity. There has been some discussion in the UK about the possibility of targeting services towards a 'young adult' age group, age 18-24 (NACRO, 2001), prompted largely by concerns about the immaturity or vulnerability of young adult offenders in mainstream adult prisons. Although this concern is probably warranted, there appears to be little empirical evidence to support this opinion. Indeed, one recent study found that juvenile offenders in the UK (aged 10-17 years) were more likely to report physical, psychological or verbal forms of bullying than a sample of young offenders (aged 18-21 years) (Ireland, 2002). A second argument for the separation of a young adult group of offenders is that the 'contamination' of younger offenders through exposure to more criminally entrenched and sophisticated peers may occur. The only paper that directly addresses this issue is a review paper by Bishop (2002) talking about the transfer of juvenile offenders into adult systems. Bishop concludes that:

Expansive transfer policies send many minor and non-threatening offenders to the adult system, exacerbate racial disparities, and move adolescents with special needs into correctional systems ill prepared to handle them. Transfer results in more severe penalties for some offenders, but there is no evidence that it achieves either general or specific deterrent effects. There is credible evidence that prosecution and punishment in

the adult system increase the likelihood of recidivism, offsetting incapacitative gains. Transfer also exposes young people to heightened vulnerability to a host of unfortunate experiences and outcomes (p. 81).

Whether or not young people in adult services are more vulnerable, it is likely that the older adolescent/young adult group will have different needs, and therefore require different services, from both their older and younger counterparts. First, as discussed above, given the developmental course of offending careers, many are likely to be regarded as at the peak of their offending and therefore may require more intensive interventions. Second, they may have different needs. Silverman and Creechan (1995) suggest that two major life transitions, forming a long-term relationship and finding employment, are the major factors that influence whether an older adolescent is likely to progress to adult criminality. Clearly these are developmentally specific tasks that are likely to require specialist interventions. It has also been suggested that these transitions are best facilitated in community rather than custodial settings (Krisberg & Jones, 1994 cited by Silverman & Creechan, 1995).

What follows is a brief review of young offender programmes that target needs in the individual, familial, and educational domains as described by Cottle et al. (2001; see Table 5 above). It is important to keep in mind, however, that the distinction made between these three domains is, to a large degree, an artifact of the need to distinguish between different treatment foci. There is, in fact, a high degree of reciprocal interplay between the domains described below. Developmental theories stress the importance of social bonding in terms of normative development and the failure to establish these bonds impacts across all three domains. Poor or low social bonding to conventional socializing agents (that is, family, school) can increase the likelihood that a young person will associate with deviant peers, and this association can be a strong determinant of delinquent behaviour (Ronis & Borduin, 2007). It is also the case that many young offenders do not specialise in particular types of offence, rather they have a tendency to act in antisocial ways across a variety of situations and factors relating to the environment or opportunity for offending play a significant role in their offending. However, it is also true that those offenders who are the cause of most community concern commit particular types of crime, notably crimes against the person and substance use, and as such interventions for specific offender groups are reviewed first. Following this, more general interventions are discussed, including cognitive skills and social skills programmes, and interventions with families and through education and vocational training.

3.2.1 Programmes for specific offender groups

3.2.1.1 Violent offenders

Not surprisingly, the risk factors associated with chronic violent offending can be grouped in terms of family factors (for example, low attachment to parents; poor parental monitoring), educational factors (for example, low commitment to school and attachment to teachers), individual factors (for example, high delinquency in peers), and environmental factors (for example, residence in high crime areas). While the number of serious, violent juvenile offenders is relatively small (Lipsey & Derzon, 1998), this group have the potential to cause significant social problems, both in the short and long-term. Moreover, given the long-term social consequences of serious violent offending, the failure to implement effective treatment programmes has the potential to add support to arguments for more retributive policies for this group of offenders.

There are important parallels between adult perpetrators of violent crimes and their juvenile counterparts. For example, as with adults there is considerable heterogeneity in violent juvenile offenders (see Thornberry, Huizinga & Loeber, 1995); a small number of individuals account for a large proportion of violent offences (Snyder, Sickmund, & Poe-Yamagata, 1996); and like adults, violent juvenile offenders also engage in a greater diversity of offence types (apart from violence); and have a wider range of, and more serious, social, and psychological problems (Thornberry et al., 1995). And despite the meta-analyses reported by Lipsey and colleagues (Lipsey, 1998; Lipsey & Derzon, 1998), many evaluations of treatment efficacy suffer the same methodological flaws identified by Polascheck and Collie (2004) with respect to the evaluation of adult treatment programmes (for example, lack of control groups; failure to describe population demographics, particularly pre-treatment risk levels; inadequate descriptions of treatment; poor operationalisation of outcome variables).

Despite the necessary caveats that accompany poorly designed outcome evaluations, there is a sufficient body of published research that is useful in terms of identifying dynamic risk factors (criminogenic needs) that serve as intervention targets. According to Serin and Preston (2001b), the following are important: hostility; impulsivity; substance abuse; major mental disorders with acute symptoms; antisocial or psychopathic personality; and social information-processing deficits. Furthermore, they note that the persistently violent offender has a greater level of need than either the non-persistent violent offender or non-violent offender, particularly in the areas of employment, marital/family relationships, associations, substance abuse, community functioning, personal/emotional stability, and criminal attitudes. In addition to assessing these individual factors, it is also important to acknowledge and assess the social context in which violence occurs, including the peer group and the broader community (Henry, Tolan & Gorman-Smith, 2001; Beck, 2000).

In terms of the rehabilitation programmes for chronically violent juvenile offenders, Thornberry et al. (1995) have recommended that treatment be sufficiently comprehensive to (a) reflect the wide range of criminogenic needs and (b) co-occurring problem behaviors. They also propose long-term treatment, claiming that intervention programmes of less than one year's duration are 'inadequate to reverse the devastating consequences of multiple risk factors, co-occurring problem behaviours, and stable behavioral repertoires that serious violent delinquents present' (p.235). Others concur with these recommendations. For example, Serin and Preston (2001a) proposed that '[t]he delivery of treatment services ... must be multifaceted, multi-modal and intensive to address the multiple risk factors. These risk factors also imply multiple pathways to an individual's use of violence that yield different entry points for intervention and diverse prognoses' (p.6).

Cognitive-behavioural models of intervention (CBT) have been shown to have positive outcomes with violent juvenile offenders (Tate, Reppucci, & Mulvey, 1995). The aims of CBT are to address the cognitive deficiencies (for example, poor problem-solving skills) and cognitive distortions (dysfunctional thinking processes) that lead to aggressive behaviour (see Lochman & Dodge, 1994). Problem solving skills training is another CBT therapy with some demonstrated success with violent juvenile offenders (Tate et al., 1995). The treatment goal is to develop cognitive strategies that will increase the young person's self-control and social responsibility. Guerra and Slaby (1990) evaluated 12-session intervention programme (Viewpoints Training Programme), the focus of which is to (a) effect change in the individual's

beliefs and attitudes regarding the legitimacy of violence as a response to conflict and (b) emphasize particular social problem-solving skills. The evaluation compared the treatment group to non-treatment and attention-treatment controls, and found treatment group participants showed increased problem-solving skills, decreased endorsement of beliefs supporting aggression, and a decrease in staff-rated aggressive, impulsive, and inflexible behaviours.

Another treatment approach is social skills training, the most well-studied example of which is Aggression Replacement Training (ART). ART is a multimodal, psycho-educational intervention that incorporates 'skillstreaming' (designed to teach a broad range of pro-social behaviours), anger control training (to modify anger responses), and moral reasoning training (see Goldstein & Glick, 1994). A series of controlled evaluations, using a range of treatment outcome measures, have provided evidence that ART is more effective than no treatment and other control conditions (for example, institutionalised violent youths who received ART showed significant increases in constructive, pro-social behaviours and decreases in impulsivity as compared to controls). According to Goldstein and Glick (1996), ART 'appears to promote skills acquisition and performance, improve anger control, decrease the frequency of acting-out behaviours and increase the frequency of constructive, pro-social behaviors. Beyond institutional walls, its effects persist, less fully perhaps than when the youth is in the controlled institutional environment, but persist nonetheless, especially when significant others in the youth's real world environment are simultaneously also recipients of ART. In general, its potency appears to be sufficiently adequate that its continued implementation and evaluation with chronically aggressive youngsters is clearly warranted' (p.164). More recent work has also lent support to the effectiveness of ART (Goldstein & Glick, 2001). Aol et al. (1999) reviewed the effectiveness of ART, identifying four studies relating to its impact upon criminal behaviour, and calculated the average effect size of to be at .26 for basic recidivism.

While there is a dearth of specific meta-analytic studies for juvenile violence programmes conducted in either the community or while in secure care, analogies can be drawn from Wilson, Lipsey and Derzon's (2003) meta-analysis of school-based intervention programmes for aggressive behaviour. An important observation noted by Wilson and her colleagues was that many of the programmes evaluations that constituted the meta-analysis were demonstration programmes set up by researchers and conducted largely for research purposes. There is evidence that interventions designed and delivered by researchers tend to have more positive outcomes (Lipsey, 1998), a finding that needs to be borne in mind whenever practitioners consider programme efficacy more generally and how this might translate to their population base. The meta-analysis involved 221 studies, the majority of which evaluated interventions with disproportionate numbers of male participants. Most programmes ran for less than 20 weeks, with around 20% being shorter than seven weeks (although a small number ran the 38 weeks of the school year). Format delivery was mainly in groups (67%), although 14% had one-on-one treatment, while treatment modalities ranged from social competence training (with no cognitive-behavioural or behavioural component) through to multimodal inventions (see Table 7). Effect sizes were calculated for treatment and control groups at pre- and post-test, including changes at different age levels (which roughly corresponded to the pre-school, elementary, middle and high school stages). The results indicated that at all age levels, intervention groups showed significantly larger pre-post test changes, with a curvilinear relationship noted between age and effect size (that is, pre-school

Table 7:

School-based Intervention Approaches (from Wilson et al., 2003, p.139)

Approach	Description
Social competence training, no cognitive-behavioural or behavioural component	Interventions are designed to help youths better understand and resolve interpersonal conflicts, resolution, and so forth.
Social competence training, with cognitive-behavioural or behavioural component(s)	Interventions are designed to help youths develop social competence, understand and control their own anger, resolve conflict and so forth using cognitive-behavioural approaches, including rehearsal, relaxation techniques, self-statements and the like
Behavioural and classroom management techniques	Interventions involve the use of various behavioural techniques, such as rewards, token economies, contingency contracts, and the like to modify or reduce disruptive and aggressive behaviour.
Therapy or counselling services	Includes a variety of therapy-like services, such as group or individual counselling, case management and so forth
Separate schooling/schools within schools	Students are placed in separate classrooms for all or part of their regular instructions and receive other therapeutic components that may include social competence training, behavioural techniques, and counselling. Teacher-student ratios are usually smaller than usual classrooms.
Peer mediation	Selected students receive training in conflict resolution skills and serve as mediators for other students experiencing peer conflict
Academic and educational serves	Interventions involve various academic or education services, such as Head Start-like preschools, academic tutoring, reading programmes, and the like.
Multimodal	Interventions include at least three components, such as social competence training or counselling for children, training in classroom management for teachers, school-wide reviews of disciplinary policies, parent training, peer mediation programmes, and the like.

[.33] and high schools [.37] showing the largest effects). Between age group differences could not be statistically compared due to the confounding influence of treatment modalities. The most important age-related finding was that control groups show little change in aggressive behaviour. An examination of the predictors of effect size revealed the strongest was risk; that is, the higher the level of risk, the greater the change in aggressive behaviour. Strength and

7. Implementation quality was defined in terms of reported difficulties in fully delivering the intended intervention to the targeted sample.

dose-related characteristics showed that implementation quality⁷ and higher programme intensity were associated with greater pre-post test changes. An examination of the different intervention strategies revealed the most effective strategies were behavioural programmes and social competence programmes (with or without a cognitive-behavioural component) and while a strong association as found for academic programmes, the authors noted there were too few studies included in the analysis to draw any firm conclusions (which also applied for multi-modal programmes and peer mediation). Finally, a comparison of routine practice (that is, non-research) and research-oriented programmes revealed the former were much less effective, although there were only sufficient numbers to compare this for social competence programmes with no cognitive-behavioural component and therapy/counselling programmes.

One of the most alarming issues – particularly given the potential for serious harm that accompanies violent offending – is the dearth of published papers relevant to evidence-based practice. The paucity of programme evaluations in the literature highlights the difficulty faced by practitioners working with violent juvenile offenders in terms of identifying which treatments modalities work for this particular group. Moreover, while there is a substantial body of research that describes the risk factors associated with this type of crime, these risk factors are relevant to other criminogenic needs. There is a similar need for outcome studies with respect to anger management interventions with juvenile offenders (that is, programmes that are methodologically sound and use untreated control groups for the purposes of comparison). Studies have shown that anger management interventions can reduce the experience and expression of anger in treated juvenile offenders (for example, McCarthy-Tucker, Gold & Garcia, 1999), but the without untreated comparison groups it is difficult to determine whether apparent improvements are greater than any spontaneous improvement without treatment (Howells et al., 2002). The first task for practitioners, therefore, is to find some way to distinguish between those young people whose violent behaviour will continue (or, indeed, escalate) into adulthood and those for whom this type of behaviour is adolescent-limited. The second task is to provide treatment that is evidence-based treatment and shown to reduce re-offending. This highlights, of course, the need to properly evaluate any programme implemented, both in terms of pre- and post-treatment changes as well as assessing whether the programme has an impact on the likelihood of future offending.

3.2.1.2 *Sexual offenders*

While many of the risk factors described in the developmental theories of crime outlined above are evident in explanations of the aetiology for sexual offending, the degree of heterogeneity found in this type of crime serves to complicate the identification of specific risk factors (Bourke & Donohoe, 1996; Knight & Prentky, 1993). That said, empirical research has established a number of risk factors at the individual, family and educational levels that can serve as the focus for intervention (that is, are dynamic in nature). At the individual level these include: substance abuse (Monson, Jones, Rivers, & Blum, 1998), poor interpersonal and social skills (Scott & Bordiun, 2007; Kazdin, 1994), maladaptive cognitions (Marshall, Hudson & Hodgkinson, 1993; Schram, Milloy, & Rowe, 1991), mental health issues (Prentky, Harris, Frizzell, & Righthand, 2000), a lack of empathy (Knight & Prentky, 1993; Vizard, Monck, & Misch, 1995), emotional and behavioural problems (Awad & Saunders, 1991; Ford & Linney, 1995; Katz, 1990), and difficulty establishing peer relationships (Becker, 1998; Bordiun & Schaeffer, 2001). At the family level, juvenile sex offenders have been shown to come from

dysfunctional families (Araji, 1997; Baker, Tabacoff, Tornusciolo & Eisenstadt, 2003; McMackin, Leisen, Cucask, LaFratta & Litwin, 2002), experience high rates of conflict and low rates of positive communication within their families (Fagan & Wexler, 1988; Hudson & Ward, 1997), and grow up in family environments that lack nurturance and guidance (Knight & Sims-Knight, 2003; Malamuth, 2003; Ward & Siegert, 2002). Finally, it has been reported that juvenile sexual offenders display poor academic achievement and high rates of truancy from school (Fehrenbach, Smith, Monastersky, & Deisher, 1986; Ford & Linney, 1995).

Left untreated, sexual offending behaviour is both pervasive and chronic (Calley, 2007a, 2007b), with projective studies revealing that untreated adult offenders may go on to commit around 380 sexual offences throughout their lives if left untreated (Barbaree, Hudson & Seto, 1993). Early intervention with juvenile sex offenders is therefore proposed to be one of the most powerful ways of reducing the number of offences committed (Abel, Osborn & Twiggy, 1993; Prentky & Burgess, 1990). Recidivism rates for treated sex offenders are in the range of 8 to 14% (Kahn & Chambers, 1991; Rasmussen, 1999; Sipe, Jensen & Everett, 1998). However, while statistics such as these are promising, the recidivism rate for non-sexual offences following juvenile sex offender treatment is much higher, ranging between 16 and 54% (see Righthand & Welch, 2001). These figures suggest that whereas treatment may successfully ameliorate sex-related crime, it seems much less successful in reducing non-sex related offences. This, in turn, highlights the importance of using assessment protocols that have the capacity to detect comorbid issues (for example, substance use, family dysfunction, mental health disorders), rather than relying on offence-specific measures. It is also important to comprehensively assess the risk that a young person presents with, before making decisions about appropriate programming (see Righthand & Welch, 2001). Examples of actuarial risk assessment measures developed for use with adolescents are the Juvenile Sex Offender Assessment Protocol (J-SOAP; Prentky et al., 2000) and the Estimate of Risk of Adolescent Sex Offence Recidivism (ERASOR; Worling & Curwen, 2001). Unfortunately, there are no published reports on the psychometric properties of either instrument.

While many different treatment approaches have been used with this population, cognitive-behavioural programmes have become the treatment of choice. Cognitive-behavioural therapies and relapse prevention strategies are used in over 90% of all sexual offending treatment programmes (Pithers et al., 1995), and seek to remedy skill deficits, alter cognitions that are believed to be related to sexual offending, and alter deviant patterns of sexual arousal or preference (Quinsey, 1995). Many intervention programmes also follow up treatment with a relapse prevention programme in which the focus is to help the individual avoid triggers or situations that are likely to lead to re-offending and improve self-management skills when such situations arise that are unavoidable (Pithers et al., 1995). To illustrate, a New Zealand programme for child sexual offenders has been described by Bakker, Hudson, Wales and Riley (1998). The programme begins with a two week assessment leading to a clinical formulation of the offending behaviour. The assessment includes: interviews; written reports from the offenders; and a series of self-report scales including assessment of sexual attitudes, beliefs and behaviours, emotional functioning, interpersonal competence, and personality. Treatment is entirely group based, with groups of eight offenders attending three two and a half hour sessions per week over 31 weeks. Treatment modules are listed in the following order: norm building; understanding offending; arousal conditioning; victim impact and empathy; mood

management; relationship skills; relapse prevention; relapse planning; and aftercare (Bakker et al., 1997, p.8). Donato, Shanahan and Higgins (1998, 1999) have suggested that cognitive-behavioural treatment for sexual offenders typically involve several weekly sessions over a period of up to 12 months, while the US National Adolescent Perpetrator Network (NAPH; 1993) suggest treatment requires a minimum of 12 to 24 months.

The US National Task Force on Juvenile Sexual Offending (NTFJSO; NAPN, 1993) has recommended specific treatment components for juvenile sex offender treatment programmes (see Table 6). Using these guidelines in conjunction with the current body of knowledge in the field of juvenile sex offender treatment, Calley (2007a) has developed a treatment model that has CBT as its primary base, but also incorporates aspects of the transtheoretical model of change. The programme consists of seven sequential treatment modules that seek to address the NTFJSO treatment components, with activities in each module building on the changes accomplished in preceding one. Calley recommends that the programme is best suited for residential treatment because this context provides the level of intensity needed and the necessary environmental controls (for example, control of sexual stimuli). The programme includes three distinct therapeutic modalities to facilitate the treatment process (that is, group, individual, and family counselling) with group work the core modality wherein the treatment modules are implemented. The individual and family components are seen as critical adjuncts at particular junctures during the treatment process. Calley makes the point that some overlap exists in several treatment issues given (a) the interdependent nature of the model and (b) treatment is a fluid process.

One of the biggest difficulties in choosing appropriate programmes for this group of offenders is the lack of published research in the area. As Becker and Johnson (2001) note in their overview of assessment and treatment of juvenile sexual offenders, most published reports are descriptive in nature and involve small sample sizes. Published studies include: Johnson and Berry (1989) of a programme for the under 13s; Pithers et al. (1995) programme for 6-12 year olds; and Bonner, Walker and Berliner (1997) programme for children younger than 12 years. Methods employed included cognitive-behavioural therapy, dynamic play therapy, parent and child group work, and skills training. While these studies suggest that intervention for the younger age group is likely to be effective, not many of these studies involve an assessment of recidivism. For the older age group, more follow-up data are available. Kahn and Lafond (1988) reported preliminary data suggesting that 9% of offenders released from a secure care treatment centre re-offended (although these findings are probably unreliable due to methodological problems with how they measured recidivism). Becker, Kaplan and Kavoussi (1988) reported reductions in arousal to deviant stimuli amongst those with male victims, following a multimodal intervention programme.

One of the largest studies of 300 adolescents in a community-based programme, described by Becker and Kaplan (1993), also reported a 9% recidivism rate at two-year follow-up, although attendance was an issue for many of their sample, with only just over one quarter attending over 70% of sessions. Hagan and Cho (1996) reported that both adolescent child molesters and rapists had similar reconviction rates for sexual offences (again between 8 and 10%). The longest follow-up study described by Beck and Johnson was that by Schram, Milloy and Rowe (1991), who followed offenders for over five years. It was reported that offenders presented most danger to the community in the first year following release from an institution or completion of treatment programme.

Marques, Day, Nelson and West (1994) found that juvenile sex offenders receiving CBT-based treatment had lower re-offence rates for both sexual and non-sexual crimes as compared to a comparable control group who did not receive treatment. Similarly, Bingham, Turner and Piotrowski (1995) reported that CBT was one of the three factors to have an impact on successful outcomes for their treatment programme.

Table 6:

Juvenile Sex Offender Treatment Modules and Treatment Issues (from Calley, 2007, p.134)

Treatment Module	Treatment Issue (NTFJSO, 1993)
1. Disclosure of the committing offence and taking responsibility for actions	Identification of the pattern and cycle of abuse Understanding the consequences of offending and self, victim, and community
2. Cognitive autobiography	Identification and remediation of family issues and dysfunctions
3. Affective autobiography and trauma history	Resolution of victimisation in the history of the offender Identification and expression of feeling Understanding the role of sexual arousal
4. History of delinquency, sexuality, and substance abuse	Resolution of victimisation in the history of the offender Understanding the role of sexual arousal Identification of the abuse pattern Identification of the pattern and cycle of abuse
5. Offence cycle	Identification of thinking errors and cognitive distortions that support or trigger offending behaviours Understanding the role of sexual arousal Management of addictive qualities Identification and interruption of cycle Development of internal mastery and control
6. Empathy and restorative justice	Understanding the consequences of offending and self, victim, and community Identification and expression of feeling Development of prosocial relationship skills Development of empathy
7. Relapse prevention and reintegration	Management of addictive qualities Identification and interruption of cycle Development of internal mastery and control Development of relapse prevention strategies

Sexuality (MAPPS; DHS, 1998a,b) reported a 5% sexual re-offending rate in a group of 138 clients, although this figure is the percentage of the group who re-offended over the five years of the programme's operation, rather than relating to a fixed time period following up individuals (that is, length of time since programme completion). The report noted that length of time in treatment appeared to be related to the risk of re-offending, and identified a number of features of best practice interventions in this area.

3.2.1.3 Substance abuse

Substance abuse is endemic within both adult and juvenile offender populations. While theories of crime, including developmental theories, closely align the pathway into substance use and abuse with negative peer association, there is another body of research involving predominantly young adults that suggests that substance use can serve a range of functions (for example, self-mediation, to enhance activity, to feel elated or euphoric; see Boys & Marsden, 2003; Boys, Marsden, & Strang, 2001, 2002). According to this functional perspective, the pathway into substance use (and for some, substance abuse) is much less obvious – and much more self-motivated – than some criminologists have proposed. The service needs of substance using juvenile offenders support this contention. This group of offenders frequently present with a range of co-morbid psychiatric disorders (see McClelland, Elkington, Teplin, & Abram, 2004; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002). Consistent with the developmental theories of crime, however, these offenders also present with a range of problems within the personal, family, and educational domains (Henderson, Young, Jainchill, Hawke, Farkas, & Davis, 2007; Young, Dembo, & Henderson, 2007). If left untreated, the substance using juvenile is at risk of escalating criminal activity (Lipsey & Derzon, 1998) and a lifelong cycle of school failure and lack of economic opportunities (Sealock, Gottredson, & Gallagher, 1997).

Despite the recognition that substance use is an important criminogenic need and, as such, should be the focus of treatment services, the diversity of alcohol and drug programmes offered to offenders makes it difficult to describe typical intervention programmes. In their recent survey of programmes offered in 141 juvenile institutional and community corrections facilities in the US, Young et al. (2007) assessed the prevalence (number of facilities providing programmes), access (percentage of respondents who had access to services on a given day), and duration (percentage of programmes providing services of 90 days or more, the suggested length of adult programmes). The survey (which assessed these components for juvenile residential facilities, local jails/detention centres, and community corrections facilities) looked first at the distribution of treatment types more generally and found that educational programmes (delivered in 73.8% of facilities) were most common, followed by intensive supervision programmes (47.9%), and vocational training (36.5%). While access figures were generally high for residential facilities and local jails/detention centres, the same could not be said for community corrections. For example, whereas the median percentage access for educational programmes within residential facilities was 100%, it was only 22.9% in community corrections. In fact, fewer than 7.5% of community corrections clients had access to any programmes other than educational (73%).

Next, Young et al. (2007) looked at specific substance abuse treatment and related services. Although findings from Lipsey and Wilson's (1998) meta-analysis highlighted the importance of

behavioural and cognitive-behavioural treatment modalities for reducing re-offending, the vast majority of services (75.2%) available to young people in all three institutional domains were the least intensive: drug and alcohol education⁸. The most common *treatment* modality was brief (1-4 hours per week) weekly substance abuse group counselling, which was provided by 39.8% of facilities; only 21.3% provided the equivalent of intensive outpatient treatment (5-25 hours per week). More importantly, both treatment types were available to a very small number of offenders (13.6% across all facilities). Residential facilities had the highest proportion of programmes that met the 90-day duration criteria (around two thirds of programmes). Looking at assessment procedures, just under half (47.6%) of the facilities reported using a standardized substance abuse screening tool. The most common was the Substance Abuse Subtle Screen Inventory (SASSI-A or SASSI-A2), which was used in about half the residential facilities (50.5%), 44.6% of local jails/detention centres, and 38.1% of community correction facilities; the more comprehensive Addiction Severity Index (which is a companion tool for adolescents), was used in only 16.5% of all facilities. In the current best-practice climate, it is particularly alarming that only 15.1% of all residential facilities conducted a risk assessment to determine levels of supervision. Use was much higher in community corrections at 36%, although this still indicates that some two-thirds of facilities did not report using a standardized risk assessment instrument.

The figures described above do not look promising for the implementation of effective substance programmes that will serve to reduce recidivism. For example, Lipsey and Wilson's (1998) meta-analysis revealed that among non-institutionalised offenders, treatment duration was associated with larger effect sizes (although treatment intensity was associated with smaller effect sizes). Moreover, the strongest effect sizes were found for programmes with a focus on strengthening interpersonal skills, individual counselling and behavioural interventions. For institutionalised offenders, the integrity of treatment implementation and treatment duration were most strongly associated with large effect sizes, while treatments focussed on the strengthening of interpersonal skills and the teaching family home programmes were strongest. Subsequent work undertaken by Lipsey (2005) has also shown that family therapy is associated with larger effect sizes. Programmes meeting these criteria were not present in the Young et al. (2007) review.

There are several problems faced by those attempting to implement substance abuse programmes for juvenile offenders. First, in order to adopt evidence-based practice, there needs to be an evidence base and a review of the literature reveals a paucity of controlled, outcomes studies. Moreover, based on what has been published, it would seem that many programmes being delivered do not adequately address critical treatment elements (Brannigan, Schackman, Falco, & Millman, 2004). Second, many services appear to be fragmented (Henderson et al., 2007), with most juvenile offenders often involved with multiple treatment providers. With the exception of those agencies which adopt a multimodal approach such as Multisystemic Therapy (see below), coordinated treatment options are scarce. Third,

8. Education typically focuses on the physiological effects of drug use, high-risk behaviours for HIV, hepatitis, tuberculosis and other diseases, and discuss the benefits of drug treatment and behaviour change. Through a group process, education programmes aim to increase motivation to continue treatment. For example, an alcohol education programme offered by the Ministry of Justice in Western Australia (see Papandreou, 1999), comprises three sections: knowledge of alcohol and its contribution to offending, including information on alcohol, the law and problem drinking; identifying problem drinking; and education about the physical and psycho-social effects of alcohol.

and perhaps most importantly, irrespective of the jurisdiction, juvenile justice systems lack the resources to adopt and implement evidence-based practices (Garland, Hough, Lansverk & Brown, 2001), the net result of which is that very few do so (Branningham et al., 2004). Henderson et al. (2007) make the point, however, that while this ‘research-practice disconnect’ is, to some extent at least, the result of poor coordination between juvenile justice agencies and other services (for example, legal, mental health), greater attention needs to be focussed on how such programmes can be implemented with the parameters that guide ‘real life’ service as distinct from research settings. The authors note, for example, that ‘...practitioners typically handle large caseloads, lack incentives and/or opportunities for additional training, and may lack the necessary professional background to prepare them to learn new therapies ...’ (p.280). An added burden for those working in residential (secure care) settings is the influence of context or setting on treatment outcomes. Practices adopted in community-based settings do not always translate easily to residential environments and, unfortunately, the majority of programmes related to juvenile offenders in the published literature focus almost exclusively on the implementation of community-based treatment settings (Belanko, 2000).

The Drug Strategies (2005, cited in Henderson et al., 2007) has recently identified what it sees (based on the research literature) are eleven key elements of effective treatment practices:

1. System integration
2. Assessment and treatment matching
3. Recognition of co-occurring disorders
4. Comprehensive treatment approaches
5. Qualified staff
6. Developmentally appropriate programmes
7. Family involvement in treatment
8. Engagement and retention of young people in treatment
9. Continuing care
10. Assessment of treatment outcomes
11. Cultural competence and consideration of gender-specific treatment needs.

3.2.2 Programmes for general offending

3.2.2.1 Cognitive skills training

According to Porporino and Fabiano (2000), antisocial (offending) behaviour can be explained in terms of various socio-cognitive deficits that significantly impair not only the capacity to reason, but also how the individual sees and understands the self, other people, and the world more generally. These deficits are also thought to impact negatively on the values that an individual holds and how they react to problems. Offenders are said to enter into and maintain antisocial lifestyles because they are ‘unaware of how their thinking is propelling them into difficulties and ... are unable to extricate themselves since they lack the skills to do so’ (Porporino & Fabiano, 2000, p.13). In other words, offenders lack the social problem solving skills necessary to identify and deal with the ill-structured problems typically associated with everyday living (Biggam & Power, 2002; McMurrin, Fyffe, McCarthy, Duggan, & Latham, 2001). This is not to say that the presence or absence of such skills differentiates between offenders and non-offenders; nor that all offenders lack these skills either wholly or in part

(McGuire, 2001). The more likely explanation is that persistent offenders fail to apply social problem-solving skills due to difficulties with such things as problem recognition, selecting and generating solutions, and understanding the likely outcomes of particular behaviour (Blud & Travers, 2001). The primary goal in cognitive skills training is to teach offenders those socio-cognitive skills that will promote pro-social behavioural choices (Blud & Travers, 2001).

Cognitive skills training is premised on strong empirical evidence for such cognitive correlates of crime as impulsivity and deficiencies in problem-solving, self-control, anger management, and decision making (see Gendreau, Little, & Goggin, 1996; Ross & Fabiano, 1985). Its introduction has received considerable support in the form of meta-analytic studies (for example, Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990; Losel, 1995) that reveal greater reductions in recidivism with cognitive-behavioural programmes as compared to other treatment modalities. There is, however, a dearth of empirical evidence to support the argument that cognitive skills training has a direct influence on reducing offending behaviour. While early indications suggested that programme completers had lower reconviction rates (for example, Robinson, 1995; Robinson, Grossman, & Porporino, 1991), findings from more recent evaluations are somewhat equivocal (McGuire, 2001). What does emerge from this body of work is that the impact of cognitive skills training may, in fact, be more indirect (that is, serve a moderating function). That is, rather than serving to reduce recidivism per se, enhanced problem solving skills may improve treatment outcomes with respect to offence-specific programmes (that is, those programmes that target criminogenic need) that the individual may undertake.

Since the introduction of Ross and Fabiano's (1985) *Reasoning and Rehabilitation*, a range of offender-specific programmes have emerged that focus on either cognitive skills training or cognitive restructuring (Van Voorhis et al., 2004). Cognitive skills training with offender populations has specific treatment targets that include social skills, problem solving, cognitive style, critical reasoning, foreseeing the consequences of actions, self-control (particularly anger control), social perspective taking, impulse control, and self-efficacy. By comparison, the focus of programmes that incorporate cognitive restructuring is the offender's negative attitudes and beliefs with particular attention paid to various criminal orientations including blaming the victim, asserting entitlement to the property and personal safety of others, minimising the harm done to others, lack of empathy, insufficient effort, refusal to accept responsibility, and grandiosity. However, as Van Voorhis et al. point out, the distinction between cognitive skills and cognitive restructuring occurs more in theory than practice. In the *Reasoning and Rehabilitation* programme, attention is paid to both cognitive processes and pro-criminal thinking errors. The major goal of the various programmes, irrespective of theoretical orientation, is to address the cognitive deficits implicated in persistent antisocial/offending behaviour by teaching new ways of thinking through skills practice (Falshaw, Friendship, Travers & Nugent, 2003).

Despite the widespread adoption of cognitive skills training by correctional agencies, there have been few critical evaluations of its effectiveness in terms of reducing recidivism. While early studies suggested that such programmes showed promise, more recent research has produced mixed findings. Robinson's (1995) study is perhaps the largest evaluation of the effects of cognitive skills training on post-release outcomes. The study, which involved a total of 4,072 offenders in the Canadian Correctional system, compared the readmission and reconviction rates for those who undertook a cognitive skills training programme (N = 3,031) to those of offenders randomly assigned to a waiting list (N = 541). While Robinson found no reduction in the rate of readmission for technical violations (for example, breach of parole),

there was a 20% reduction in official reconviction rates for programme completers. Contrary to what one might expect given the risk/needs paradigm (see Andrews & Bonta, 1998), greater rehabilitation gains were found for low risk rather than high risk offenders. Robinson makes the point, however, that compared to offenders in general, the low risk group in this study were relatively high in terms of risk.

Initial evaluations of cognitive programmes delivered in UK prisons (*Reasoning and Rehabilitation* and *Enhanced Thinking Skills*) were initially consistent with Robinson's (1995), although later evaluations were less supportive. In the first of several outcome studies, Friendship, Blud, Erikson and Travers (2002) examined the influence of cognitive skills training on two-year reconviction rates for a sample of 670 adult male offenders across 30 prisons. The findings revealed that reconviction rates for the treatment group was up to 14 percentage points lower than for the matched comparison group for medium to low risk offenders, and 11 percentage points lower for medium to high risk offenders. By comparison, a second investigation by Falshaw et al. (2003) found no difference in the two-year reconviction rates for prisoners who participated in cognitive skills training. One explanation put forward for the failure to support Friendship et al.'s findings was the failure to control for or assess differences between the treatment and comparison group on dynamic risk factors (for example, attitudes to offending, motivation to change, circumstances on release from prison; see Debidin & Lovbakke, 2005). A third evaluation by Cann et al. (2003; see also Cann, Falshaw & Friendship, 2005) also showed no significant differences in two-year reconviction rates for offenders who started the programme and matched comparison groups. This study differs from the previous two evaluations in that it involved 2,195 adult male offenders and 1,535 young offenders (aged 21 at sentencing) who commenced one of the two programmes. While no difference was noted at the two-year point, the exclusion of programme dropouts from the analysis (9% of the treatment group) resulted in significant differences between the one-year reconviction rates for programme completers and their matched comparison groups (that is, for both adult and young offenders). This represented a 2.5 percentage point difference in reconviction for adult male completers and 4.1 percentage point difference for young offender programme completers. Debidin and Lovbakke (2005) have pointed out that although the differences between these findings and those in the earlier evaluations may simply reflect expected variation, it might also be explained in terms of differences in programme delivery and implementation. For example, staff and prisoners in the first study may have been more motivated or the quality of delivery may have been compromised for programmes in the second and third studies (due to rapid expansion in the number of programmes being delivered). As a result, the findings may be the product of 'evaluation failure, implantation failure, programme failure, or a combination of all three' (Debidin & Lovbakke, 2005, p.39).

The most recent UK evaluation of the *Reasoning and Rehabilitation* programme for young offenders conducted by Mitchell and Palmer (2004) also showed little difference in recidivism rates for treatment participants and matched waiting list controls. Participants were aged between 15 and 18 years; the mean sentence length 29.9 months for the treatment group and 24.2 months for the controls; and mean number of previous convictions was 14.8 (treatment) and 16.8 (control). The 18 month reconviction rate, while slightly higher for the control group (83.9%) than for the treatment group (80.6%), but was not significantly different. Similarly, differences in reimprisonment rates at 18 months were non-significant: 58.1% (treatment) and 64.5% (control). In fact, survival analysis revealed that offenders who had completed the programme had a similar survival curve to the control group. Although the authors did not cite risk assessment scores (although sentence length and previous convictions can serve as a

proxy), they did offer risk as an explanation for the low success rate of the programme. In studies with adult offenders, the best treatment outcomes have been found with moderate-high risk offenders; little impact has been shown for recidivism rates with high risk offenders. Given the base rates for juvenile reconviction are high (Cooke & Michie, 1998), which in their sample was 82%, Mitchell and Palmer suggest that programmes of this type may not be suitable for high risk juveniles.

Finally, there is evidence that problem solving skills can help improve the psychological health of young offenders, particularly those at risk of suicidal behaviour or those who have greater difficulty in adjusting to the prison environment. A study by Biggam and Power (2002) examined whether participation in a brief problem-solving programme could effectively reduce psychological distress and enhance self-perceived problem-solving abilities in a sample of vulnerable offenders aged between 16 and 21. The programme, delivered to the 23 members of the treatment group in groups of four to six, consisted of five 90-minute sessions (one session per week). Participants who received the intervention were found to have experienced significant reductions in their levels of anxiety, depression, and hopelessness and improvement in their self-assessed social problem-solving abilities as compared to the control group. Gains in aspects of self-assessed problem-solving ability and mental health were shown to be evident at three-month follow-up.

3.2.2.2 Social skills training

The acquisition and performance of pro-social behaviour is considered part of normative development (Alexander & Entwisle, 1988). Failure to develop social competencies can put the young person at risk for many difficulties, including aggressive and delinquent behaviours (which may lead to contact with the legal system; Coie & Dodge, 1998; Farrington & Loeber, 2001; Maag, 2005). Evidence of poor social competence can be found in problematic models of social information processing (Crick & Dodge, 1994), deficiencies in social problem solving abilities (Matthys & Lochman, 2005), and problematic peer relationships (Bagwell, 2004; Thornberry, 1998) – all of which play a significant role in the development and maintenance of antisocial behaviour. Not to be confused with intensive, multi-modal family-oriented programmes, social skills training is relatively short and child-focussed and is used to promote behavioural competencies (for example, asking for assistance) and social-cognitive skills (for example, non-aggressive modes of perception and attribution in ambivalent social settings; dealing with problematic interpersonal interactions; controlling aggressive and violent behavioural impulses). The effectiveness of these social skills training programmes has been examined via meta-analytic studies (for example, Ang & Hughes, 2002; Wilson, Lipsey, & Derzon, 2003), which have revealed such programmes are effective for the prevention and treatment of behavioural problems in childhood and adolescence (Beelmann & Losel, 2006). The efficacy of this type of intervention is borne out by Lipsey and Wilson's (1998) meta-analysis, which showed that improving interpersonal skills can reduce recidivism.

One aspect of social competency, the ability to take another's perspective, is thought to play a particularly important role in offending. There is some evidence to show that deficiencies in perspective taking abilities characterise juvenile offenders. Developmental theory suggests that delinquent acts are committed by young people with an inadequate capacity to reflect on the relationship between the self and others (Fonagy, 1993). As noted by Hudson and Ward (2000), perspective-taking is thought to facilitate empathy towards others. In fact, perspective taking has been linked by some to aetiology of sexual offending (see Marshall, Laws & Barbaree, 1990), and may be related to cognitive processing styles that facilitate such

offending. For example, Murphy (1990) described the way in which (sexual) offenders minimise the harm caused and devalue their victims as part of a cognitive process of moving responsibility away from themselves. Another study by Eisenberg, Zhou and Koller (2001) found that adolescents who were high in perspective-taking scored high in pro-social moral reasoning.

The targeting of perspective-taking as a criminogenic need has more recently gained some currency with the interest in concepts of psychopathy (Chandler & Moran, 1991) and the advent of victim awareness programmes and victim-offender reconciliation programmes, which are delivered as core rehabilitation programmes in some jurisdictions (for example, Mulloy, Smiley & Mawson, 1999; Thompson, 1999). One programme that has been used with juveniles in Australia focuses on introducing young offenders to representatives from different agencies that deal with the victims of offences, and discussing the consequences of crime (Putnins, 1995). This programme was shown to demonstrate significant levels of change in knowledge and attitudes towards offending behaviour amongst those who participated (Putnins, 1995; Putnins, 1997).

Based on a review of the published meta-analyses and reviews, Maag (2005) has identified three important findings that, in his view, should direct the focus of social skills training. The first is whether the behaviours targeted are socially valid. That is, does the new behaviour being taught enhance the quality of the young person's life? Second, there is a need to ensure that the training techniques used are matched to the reasons why the young person may have failed to perform social skills. For example, they may lack the necessary behavioural skills, selecting behaviours automatically rather than consciously, or incorrectly interpreting social cues). Finally, the social skills acquired need to help the young person gain acceptance by pro-social peers. Although the research upon which these conclusions were drawn relate primarily to non-offending population (that is, young people with behavioural and/or emotional disorders and those with learning disabilities), the sentiments expressed are nonetheless relevant to young offenders given these problems are risk factors for antisocial behaviour. This is particularly so with respect to the issue of social validity (that is, whether targeted skills will enhance the young person's life). The identification of which skills to teach becomes vitally important: the success of social skills training rests, to a large degree, on whether the social skill targeted for intervention serves the same function as that served by the socially inappropriate behaviour. According to Maag and Katsiyannis (1998), this highlights the importance of undertaking a functional assessment prior to entry into a programme to first determine the purpose of the socially inappropriate behaviours. The failure to provide an appropriate behaviour that serves the same function as that which is inappropriate may increase the likelihood that any gains will not be transferred to environments beyond the teaching domain (see Maag & Kemp, 2003; Neel & Cessna, 1993).

3.2.3 Family level interventions

3.2.3.1 Family functioning

Given the primary socialising role played by the family, and the centrality of this experience in the development of antisocial behaviours, the importance of improved family functioning as a means of preventing delinquency and reducing recidivism is self-evident. The development theories described above highlight specific features of family dysfunction that serve as risk factors for antisocial behaviours including lack of parental supervision; threatening, erratic or harsh discipline; and parental rejection (Sampson & Laub, 1993, 1997, 2002, 2005); poor child-rearing practices; disrupted families; and poor attachment (Farrington, 2005); inconsistent

parental rewards for pro-social behaviours; and antisocial beliefs and values within the family unit (Catalano & Hawkins, 1996). There is, for example, empirical evidence that links physical abuse to adolescent delinquency and violent offending (Fergusson & Lynskey, 1997). The experience of sexual abuse as a child has also been strongly associated with a wide range of psychological and medical difficulties in later life. For example, a meta-analysis conducted by Neumann et al. (1996) which aggregated the results of 38 separate studies linking childhood sexual abuse and adult psychological problems, reported an association between anxiety, anger, depression, re-victimisation, self-mutilation/self-harm, sexual problems, substance abuse, suicidality, impairment of self-concept, interpersonal problems, obsessions and compulsions, dissociation, post-traumatic stress responses, and somatisation.

Consistent with the developmental theorists described herein, the UK's Youth Justice Board (2001) report identified the following as family risk factors for offending:

- Poor parental supervision and discipline: children whose parents are harsh, cruel, highly inconsistent, passive or neglecting are at increased risk of criminality;
- Family conflict: including the conflict that results from familial relationship breakdowns, the quality of parent/child relationships and the stress/strains created by familial poverty;
- A family history of criminal activity: youth are far more likely to behave in a criminal way if their parents or siblings have offending histories themselves;
- Parental attitudes that condone antisocial and criminal behaviour: parents who are violent within the home and/or have favourable attitudes towards alcohol, tobacco and drugs will enhance the probability of their children becoming deviant; and
- Low income: youth from low-income families are more likely to engage in criminal activity than those from more affluent backgrounds.

Nicol et al.'s (2000) study of young people involved with the criminal justice system in the UK reported what they called a 'disturbing picture of discord and unsettled behaviour' (p. 250). Less than one third of the early teenagers in their sample had parents who still lived together, and half had a history of running away from home without their parent's knowledge or consent. Many also experienced a constant change of placement, after the initial separation from home. In research conducted with an older group of Scottish young offenders (mean age 18.6 years), high levels of distress were linked with low parental care (from both parents). In addition, almost half reported having a close family member sentenced for a criminal offence, while approximately one third reported a family history of drug abuse and/or alcohol abuse. There were 16% who reported a history of physical abuse within the family, and 2.5% reported a history of sexual abuse (Chambers et al., 2001).

Given the association between family function and youth crime, it appears plausible that interventions aimed at improving family functioning could help to reduce recidivism and/or improve young offenders' life chances. Latimer (2001) conducted a meta-analysis of 35 studies that looked at the effect of involving families in treatment programmes for delinquents and found that family involvement tended to reduce the recidivism of young offenders. However, Latimer (2001) noted that, in general, effect sizes appeared to be related to the quality of the research design, with studies employing poorer experimental designs producing better results than those with stronger designs, pointing to the need for higher quality evaluation designs. Aol et al. (1999) reviewed Functional Family Therapy (FFT), an intervention offered in the home that specifically targets family communication. From the seven outcome studies identified, they calculated an average effect size of $r = -.34$ on basic recidivism, with a financial saving of \$14,167 for each programme participant.

3.2.3.2 *Fostering programmes*

Fostering schemes for young offenders have been developed to combat 'poor' parenting in offenders' families of origin. Typically, the rationale behind the youth placement in foster care is that they will benefit from being exposed to adults who will use positive reinforcement and consistent sanctions with them. Some research evidence does suggest youth who are cared for by 'specially trained and supported foster parents' may have reduced rates of recidivism (see Youth Justice Board, 2001, p.107-108). A variant of foster care reviewed by Aol et al. (1999) is Multi-dimensional Treatment Foster Care (MTFC). In this programme, high risk and persistent juvenile offenders are placed in foster care for 6 to 12 months. Foster carers are trained and supervised to deliver family therapy. Aol et al. (1999) reported an effect size of $-.63$ for this intervention, with an average saving of \$16,459 for each programme participant.

3.2.3.3 *Multi-systemic therapy*

Multi-systemic Therapy (MST) is an intensive intervention that combines family and cognitive-behavioural therapy strategies with a range of other family support services. As the name implies, it views school, work, peers and the wider community as inter-connected systems that can influence the behaviour of individual young people and their families. Based on Bronfenbrenner's (1979) social ecological model of behaviour, the success of MST appears to be related to its unique features: (1) being both comprehensive and individualised, MST assesses the known determinants of clinical problems (that is, individual, family, peer, school, community); (2) MST services have high ecological validity as interventions are delivered in the environments in which problems occur; (3) MST typically uses ongoing quality assurance mechanisms; and (4) MST integrates empirically based treatment models within a social ecological framework (Randall & Cunningham, 2003). Thus MST can be used to identify and target the factors that typically contribute to problem behaviour and thereby reduce criminal activity, reduce other types of antisocial behaviour such as drug misuse, and achieve better, cost-effective outcomes by reducing the need for custody and residential placements. (Henggeler, 1998, 2001).

In terms of delivery, MST practitioners usually work with four to six families at any one time, and can be on call 24 hours per day, with services often provided on weekends or during the evening to promote family attendance (Henggeler, 1998). Treatment duration is, on average, approximately 60 hours of contact time which is spread over four months. The initial assessment sessions investigate strengths and weaknesses of young person, his/her immediate family, and their connections with outside 'systems' including peers, school and the parental workplace. Friends, teachers, neighbours and extended families may be interviewed to obtain 'multiple and independent views'. The family and therapist about the problems to be targeted and how positive changes can be achieved. Interventions typically include a parenting component (including monitoring, rewards, sanctions and discipline), communications and shared problem-solving. There is also a focus on establishing communication with, and collaborative relationship between, parents and the young person's school (Henggeler, 1998; 2001). Session length is determined by the family's needs; individual sessions can be as short as 15 minutes, but may run up to 1.5 hours if necessity dictates. In the early stages of treatment, sessions may be held daily, but by mid-treatment this is generally reduced to two or three sessions per week (and may include telephone contact with the therapist), and decline to one session per week in the final treatment phase. As a core principle of MST, all interventions are designed to require daily or weekly effort from the young person and other family members, with the performance of previously agreed 'tasks' serving as the first agenda item for any session.

Reviews of MST have shown promising treatment outcomes for violent and substance-abusing juveniles (see Randall & Cunningham, 2003). One of the earliest evaluations was that conducted by Henggeler, Melton and Smith (1992), which involved 84 violent and chronic young offenders (average age 15.2 years), all of whom had an imminent risk of out-of-home placement; all families had multiple needs. Participants in the study were randomly assigned to either MST or the usual services provide by the juvenile justice system in the area, with the treatment group receiving 59-weeks of intervention. Post-treatment, young offenders who received MST self-reported less criminal activity, had fewer arrests (mean .87 versus 1.52) and had spent an average of 73 fewer days in custody than their 'usual condition' counterparts (mean 5.8 weeks versus 16.2 weeks). In addition, families of the MST group reported increased family cohesion, while there was a corresponding decrease for those in the 'usual service' condition; MST participants also showed less aggression in their peer relationships. It is of particular interest that (a) treatment gains were noted at follow up some 2.4 years later (see Henggeler, Melton, Smith, Shoenwald, & Hanley, 1993) and (b) relative effectiveness was not moderated by demographic characteristics or psychosocial variables (that is, it was equally effective for juveniles and families from divergent backgrounds. In relation to substance abuse outcomes for the same group of 84 juvenile offenders (see Henggeler, Borduin, Melton, Mann, et al., 1991), MST was shown to significantly reduce substance use post-treatment. At four-year follow-up, only 4% of the MST group as compared to 16% of the 'other services' group had been arrested for substance-related offences.

A further evaluation conducted by Borduin, Mann, Cone, Henggeler, et al., (1995), involving 200 chronic juvenile offenders, examined the long-term effects of MST compared with individual therapy (IT). Post-treatment, offenders who had received MST showed decreased behaviour problems and improved family relationships, while at four-year follow-up the MST group were found to be arrested less often than the IT group (22.1% versus 71.4%; 87% of young offenders who refused to participate in either MST or IT were re-arrested within the same timeframe). Moreover, juvenile offenders who had participated in MST and were re-arrested generally committed less serious offences. Arrest and incarceration data for this group was subsequently analysed by Schaeffer and Borduin (2005), on average, 13.7 years later (range =10.2 to 15.9 years), by which times the participants were an average of 28.8 years of age. The results showed significantly lower recidivism rates for the MST group as compared to their IT counterparts. And while this had risen to 50% (including treatment dropouts), it was still significantly lower than the 81% who had participated in individual therapy. The MST participants had 54% fewer arrests and an average 57% fewer days in custody.

The recent evaluation of MST conducted by Timmons-Mitchell, Bender, Kishna and Mitchell (2006) is of critical importance as it was the first randomised clinical trial conducted in the United States without the direct oversight by the model developers. A total of 92 juvenile offenders, randomly assigned to MST or treatment as usual (TAU) conditions were assessed at 18 months for post-treatment offences and at six months for ratings on the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges & Wong, 1996). At 18 months post-treatment, odds ratio analysis revealed the overall recidivism rate for the MST group (66.7%) was significantly lower than the TAU group (86.7%). Young offenders in the MST group were also re-arrested significantly fewer times as compared to the TAU group (mean 1.44 versus 2.29 arrests). Survival analysis was used to calculate average days to first arrest following treatment, which showed an average of 135 days for the MST group as compared to 117 days for the TAU group (the difference was non-significant). Scores on the CAFAS pre-

treatment fell into the serious level of functional impairment range (as defined by Walrath, Sharp, Zuber, & Leaf, 2001). Of the six subscales used in the analysis (School/Work, Community, Behaviour Towards Others, Moods and Emotions, Substance Use), all scores showed significant improvement at post-test for the MST group. While the trend for the MST group showed continued improvement, the only significant difference on scores between them and the TAU group was found on the Mood and Emotion subscale. The authors highlight the importance of the overall findings in that gains were made in a practice, as compared to research setting.

3.2.3 Education

An extensive body of criminological literature has shown that young people not committed to school and who demonstrate low academic achievement (for example, Farrington, 1992; Maguin & Loeber, 1996; Monk-Turner, 1989), have poor school attendance (Katsiyannis & Archwamety, 1999; Thornberry, Moore, & Christenson, 1985), exhibit negative attitudes towards school (Loeber, Stouthamer-Loeber, Van Kammen, & Farrington, 1991; Farrington & Hawkins, 1991), demonstrate school disciplinary problems (Flannery, Vazsonyi, Rowe, 1996; Flannery & Rowe, 1994), and are truant or drop out of school (Farnworth & Lieber, 1989) are more likely to engage in delinquent and/or antisocial behaviours. This relationship, which is consistent across genders, also shows that young people with deficient academic skills not only offend more frequently, but also commit more violent and serious offences and persist in delinquent behaviours longer than young people whose academic performance is age-appropriate (Maguin & Loeber, 1996). Moreover, academic deficiencies in late childhood and early adolescence are frequently a precursor for limited life opportunities in later adolescence and adulthood. Given the strength of the established relationship between poor school performance and juvenile delinquency, the provision of education services to incarcerated juvenile offenders could not only enhance adjustment into the community upon release (Foley, 2001; Katsiyannis & Archwamety, 1999) and have long-lasting positive effects on broader social contexts, including continued education, employment, involvement in community activities, family and peer relationships, and decreased criminal activity.

The well-documented finding that offenders who are incarcerated during adolescence consistently suffer from poor employment, education, and parenting outcomes during adulthood highlight the importance of education as a criminogenic need. Education programmes are, therefore, a central component of the rehabilitation process for offenders detained in secure care. And yet, despite this type of programme being routinely delivered in institutional settings, there have been few published studies that examine the impact of educational remediation programmes on subsequent delinquency. For example, a recent review by Leone, Krezmien, Mason and Meisel (2005) identified only four papers that reported on the effects of experimental reading programmes on incarcerated youth. Limitations were noted in all four: none selectively identified juveniles with reading disability and failed to determine the nature of that disability (for example, phonological, visual, general cognitive); two studies were of insufficient experimental rigor to merit further review, with only two judged to be methodologically sound (that is, Drakeford, 2002; Malmgren & Leone, 2000). An additional problem is the focus that educators place on what should be taught, the consequence of which seems to be that juveniles in both short- and long-term correctional programmes are not receiving the level of educational programming necessary to have a serious impact on their offending behaviour post-release (Leone et al., 2005).

According to Drakeford (2002), the primary educational goal for incarcerated juvenile offenders should be teaching the fundamentals of reading and writing. In her view, young offenders should participate in intensive literacy programmes that will create an environment where students develop a 'love of reading'. The focus of this type of intervention is corrective reading (for example, targeting specific reading problems). Meltzer (1984), on the other hand, has disagreed that literacy should be the focus of correctional education, emphasising instead the importance of assessing educational failures. According to Melzer, the major educational problem experienced by incarcerated juveniles relates to symbolic intelligence (that is, which deals with numbers and letters, including reading, math, spelling, writing). Yet another approach, advocated by Sheridan and Steele-Dadzie (2005) among others, is to consider the learning styles of the individual when implementing educational programmes. In their view, a mismatch between student and teacher can lead to frustration on both sides, a frustration that impedes learning. They examined data on the learning styles and thinking skills of juveniles (69 females; 1,412 males) in US secure care institutions tested between 2001 and 2003. Assessment was based on Guilford's Structure of Intellect (SOI), which is designed to show an individual's strengths and weaknesses in learning and handling information processing tasks, the results of which reflect learning styles (that is, preferred modes of receiving information, preferred processing modes, and levels of complexity at which the individual feels comfortable processing information).

The first aim of the Sheridan Steele-Dadzie (2005) study was to examine preferred modes of receiving information, which showed that 78.5% of the sample tested within the developed or superior range for figural learning⁹ as compared to 65.7% in the same range for symbolic¹⁰ and 58.3% for semantic¹¹ abilities. With respect to dominant processing abilities, 75.3% were in the developed or superior range in terms of memory (that is, ability to recall and use information) and divergent thinking skills or creativity (that is, the ability to explore and operate without direction, rules or format). Perhaps unsurprisingly, given the sample being tested, 54% scored within the underdeveloped range for evaluation (judgement) skills (that is, the ability to face choices and make correct, timely decisions); 33.2% were underdeveloped in the area of cognition (that is, the speed and manner in which a person recognizes, discerns and understands) and 32.3% were in the same category for problem solving or divergent thinking capacities (that is, ability to employ known information to logically converge upon the correct answer to a situation or problem). Thus the intellectual strengths in the sample were their memory and creativity, while their weaknesses were in judgement, cognition, and problem solving skills. In terms of the complexity at which they could process information, the strongest areas, with scores in expected and superior range, was in relationships (89.3%; which measures association and orders) and transformation (81.5%; to see or use something in a different perspective than the most obvious). This contrasts with 77.4% scoring in the

9. Figural intelligence deals with concrete information that one can see, hear, and touch directly. Information that has visual shape, sounds that can be listened to (phonemes, melodies etc) and textures that can be felt to discriminate in feel. Figural learners will have problems in school, since information is symbolic, and they may be diagnosed as learning disabled.

10. Symbolic intelligence deals with information in notational form, for example, letters and numbers. While figural deals with the concrete, symbolic intelligence represents the ability to receive and process abstract information. Symbolic thinkers easily learn and handle notational systems such as the alphabet and numeracy.

11. Semantic intelligence deals with concepts and ideas. It is the meaning embedded in words (for example, reading comprehension). Semantic learners are good at processing the conceptual content of language. Conversely, people who are not good at processing the conceptual content are at a disadvantage in much of education and training.

underdeveloped range for implications thinking (that is, understanding consequences) which, again, is not surprising given empirical evidence about the relationship between these cognitive processes and offending behaviour. Based on these findings, the researchers concluded that the learning styles of this group of juveniles (that is, figural learners whose strongest processing abilities were creativity and memory) were the opposite of those needed in the traditional classroom. Interestingly, older adolescents who were identified as being high risk tested in the superior range for semantic intellect (92.3%) and lowest for symbolic ability (42.3%). As the latter is the basis for formal education, the authors argued this relative deficit helps to explain the educational problems of this group of offenders. In their view, these difficulties are compounded by their strong cognitive and semantic abilities: these individuals can quickly process and understand the conceptual content of language, but lack the capacity to represent this understanding in symbolic form. Consequently, they may display high intelligence in the verbal form, but complain when educators assign lower level learning materials because they perform at a low standard on standardized/objective tests of the materials being taught. This latter inability, according to Sheridan and Steele-Dadzie (2005), can be explained by their poor scores on the memory and evaluation subscales. A similar pattern was found for the younger adolescent high risk group who, despite being more figural than their older counterparts, were nonetheless relatively strong in their semantic abilities and weak in symbolic.

The main implications of the Sheridan Steele-Dadzie (2005) study are twofold. First, it supports the hypothesis that poorly developed reasoning skills increase a young person's vulnerability to involvement in the justice system. For example, it is highly likely that deficits in judgement (that is, the ability to make choices) and implicational thinking (that is, the capacity to understand consequence) will increase the risk of delinquent and antisocial behaviours. From an educator's perspective, this highlights a need to develop and implement programmes that specifically target change in cognitive ability rather than relying on behaviourist approaches to change (that is, reward-punishment). The second major implication is the importance of relaying information provided by an assessment tool such as that used in the study to the individual concerned. According to the researchers, this can help the individual understand previous educational difficulties and offer alternative (potentially successful) learning pathways.

4 Conclusion

The youth justice practitioner's task is a complex one that involves trying to integrate what theory has to offer and what is known based on empirical evidence, and then use this information to design and deliver interventions that target specific causes of crime. While the developmental theories described above take different approaches, the factor most consistently shown to be causal in terms of crime is antisocial behavior. Moreover, there is consistency within these theories in terms of how antisocial behaviour develops. With the exception of Moffitt (1990, 1993, 1997; Caspi, & Moffitt, 1995) who takes a biological approach to its manifestation, the remaining theories stress the socialisation process and subsequent social bonds that the young person forms as being paramount to the development of pro-social behaviour. There is a strong body of empirical evidence to support this theory (Andrews & Bonta, 2003), with the established predictors of recidivism being (1) antisocial values, (2) antisocial peers, (3) poor self-control, self-management, and pro-social problem-solving skills, (4) family dysfunction, and (5) past criminality.

The next question then is how to design a programme that targets these predictors. As a starting point, we now have a clear idea of what does not work. Research has shown the following approaches do little to reduce offending/re-offending: boot camps, punishment-oriented programmes (for example, 'scared straight' programmes), control-oriented programmes (for example, intensive supervision programmes), wilderness programmes, psychological interventions that are non-directive or insight-oriented (for example, psychoanalytic), and non-intervention (as suggested by labeling theory) (see *inter alia*, Cullen, 2002; Cullen & Gendreau, 2000; Cullen et al., 2002; Gendreau, 1996; Gendreau, et al., 2000; Lipsey & Wilson, 1998; MacKenzie, 2000). Programmes that target low-risk offenders or target weak predictors of criminal behavior (for example, self-esteem) have also been shown to be ineffective (Latassa et al., 2002).

Where does this leave the practitioner? What types of interventions do work with young offenders? While the principles of effective offender rehabilitation have been developed primarily from work with adult offenders, these principles nonetheless provide a basis for interventions with juvenile offenders. The most effective interventions are those that target offenders with the highest risk of re-offending, and seek to change individual needs that are directly related to the criminal behavior (that is, criminogenic needs). These principles can, and should, be used to inform the development and accreditation of programmes offered to youth justice clients. In addition, there is persuasive though not conclusive evidence that specialist programmes for those young people who have committed serious violent offences are likely to be effective. For other youth justice clients, this review suggests that substance use, cognitive and social skills programmes, and interventions to improve family functioning and educational/vocational attainment should form the core of any comprehensive and evidence based approach to service delivery.

5 References

- Alexander, K., & Entwisle, D. R. (1988). Achievement in the first two years of school: Patterns and processes. *Monographs of the Society for Research in Child Development*, 53, 157.
- Andrews, D.A. & Bonta, J. (1998). *The psychology of criminal conduct*. Cincinnati, OH: Anderson.
- Andrews, D. A., Zinger, I., Hoge, R. D., Bonta, J., Gendreau, P., & Cullen, F. T. (1990). Does correctional treatment work? A clinically relevant and psychologically informed meta-analysis. *Criminology*, 28, 369-404.
- Ang, R.P. and Hughes, J.N. (2002). Differential benefits of skills training with antisocial youth based on group composition: a meta-analytic investigation. *School Psychology Review*, 33, 164-185.
- Aos, S., Phipps, P., Narnoski, R. & Lieb, R. (1999). The comparative costs and benefits of programs to reduce crime (v.3). Washington: Washington State Institute for Public Policy.
- Araji, S.(1997). *Sexually aggressive children: Coming to understand them*. Thousand Oaks, CA: Sage.
- Ayers, C.D., Williams, J.H., Hawkins, J.D., Peterson, P.L., Catalano, R.F. & Abbott, R.D. (1999). Assessing correlates of onset, escalation, deescalation and desistence of delinquent behaviour. *Journal of Quantitative Criminology*, 15(3), 277-306.
- Awad, G.A., & Saunders, E.B. (1991). Male adolescent assaulters: Clinical observations. *Journal of Interpersonal Violence*, 6, 446-460.
- Baker, A.J.L., Tabacoff, R., Tornusciolo, G., & Eisenstadt, M. (2003). Family secrecy: A comparative study of juvenile offenders and youth with conduct disorder. *Family Process*, 42.
- Bagwell, C.L. (2004). Friendships, peer networks and antisocial behavior. In J.B. Kupersmidt and K. A. Dodge (Eds.), *Children's peer relations: From development to intervention* (pp. 37-57). Washington, DC: American Psychological Association.
- Becker, J.V. (1998). What we know about the characteristics and treatment of adolescents who have committed sexual offenses. *Child Maltreatment*, 3, 317-329.
- Beelmann, A. & Lösel, F. (2006). Child social skills training in developmental crime prevention: Effects on antisocial behavior and social competence. *Psicothema*, 18(3), 603-610.
- Belanko, S. (2002). *Trends in substance abuse and treatment needs among inmates: Final report to the National Institute of Justice*. New York: National Center for Addiction and Substance Abuse at Columbia University. Available from <http://www.nicic.org/Library/020901>
- Benda, B.B., Corwyn, R.F., & Toombs, N.J. (2001). Recidivism among adolescent serious offenders: Prediction of entry into the correctional system for adults. *Criminal Justice and Behavior*, 28, 588-613.
- Bernard, T. J. & Snipes, J.B. (1996). Theoretical integration in criminology. *Crime and Justice: A Review of Research*, 20, 301-348.
- Biggam, F.H., & Power, K.G. (2002). A controlled, problem-solving, group-based intervention with vulnerable incarcerated young offenders. *International Journal of Offender Therapy and Comparative Criminology*, 46(6), 678-698.

- Blud, L., & Travers, R. (2001). Interpersonal problem-solving skills training: a comparison of R&R and ETS. *Criminal Behaviour and Mental Health*, 11, 251-261.
- Bonta, J. (1997). *Offender rehabilitation: From research to practice*. Report No. 1997-01, Solicitor General, Ottawa, Canada.
- Bordiun, C.M., Mann, B.J., Cone, L.T., Henggeler, S.W., Fucci, B.R., Blaske, D.M., & Williams, R.A. (1995). Multisystemic treatment of serious juvenile offenders: Long-term prevention of criminality and violence. *Journal of Consulting and Clinical Psychology*, 63, 569-578.
- Bordiun, C.M., & Schaeffer, C.M. (2001). Multisystemic treatment of juvenile sex offenders: A progress report. *Journal of Psychology and Human Sexuality*, 13, 25-42.
- Boys, A., & Marsden, J. (2003). Perceived functions predict intensity of use and problems in young polysubstance users. *Addiction*, 98, 951-963.
- Boys, A., Marsden, J., Griffiths, P., & Strang, J. (2000). Drug use functions predict cocaine-related problems in young people. *Drug and Alcohol Review*, 19, 181-190.
- Boys, A., Marsden, J., & Strang, J. (2001). Understanding reasons for drug use among young people: A functional perspective. *Health Education Research*, 16(4), 457-469.
- Brame, R. & Piquero, A.R. (2003). Selective attrition and the age-crime relationship. *Journal of Quantitative Criminology*, 19(2), 107-127.
- Brannigan, R. Schackman, B.r., Falco, M., & Millman, R.B. (2004). The quality of highly regarded adolescent substance abuse treatment programs: Results of an in-depth national survey. *Archives of Pediatrics and Adolescent Medicine*, 158, 904-909.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Bourke, M.L., & Donohoue, B. (1996). Assessment and treatment of juvenile sex offenders. *Journal of Child Sexual Abuse*, 5(1), 47-70.
- Cann, J., Falshaw, L., Nugent, F. and Friendship, C. (2003) *Understanding What Works: Accredited cognitive skills programmes for adult men and young offenders*. London: Home Office Research Findings 226. London: Home Office.
- Caspi, A. & Moffitt, T.E. (1995). The continuity of maladaptive behaviour: From description to understanding in the study of antisocial behaviour. In D. Cicchetti & D.J. Cohen (Eds.), *Developmental psychopathology Volume 2: Risk, disorder, and adaptation* (pp. 472-511). New York: Wiley.
- Catalano, R. F., & Hawkins, J. D. (1996). The Social Development Model: A theory of antisocial behaviour. In J.D. Hawkins (Ed.), *Delinquency and crime: Current theories* (pp. 149-197). New York: Cambridge University Press.
- Catalano, R.F. & Kosterman, R. (1996). Modelling the etiology of adolescent substance use: A test of the social development model. *Journal of Drug Issues*, 26(2), 429-455.
- Chambers, J., Power, K. & Loucks, N. (2001). The interaction of perceived maternal and paternal parenting styles and their relation with the psychological distress and offending characteristics of incarcerated young offenders. *Journal of Adolescence*, 24, 209-27.
- Chandler, M. & Moran, T. (1991). Psychopathy and moral development: A comparative study of delinquent and non-delinquent youth. *Development and Psychopathology*, 2, 227-46.
- Chen, A., Matruglio, T., Weatherburn, D., & Hua, J. (2005). The transition from juvenile to adult criminal careers. *Crime and Justice Bulletin*, No. 86, NSW Bureau of Crime Statistics and Research, Sydney.

- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In N. Eisenberg & W. Damon (Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 779-862). New York: Wiley.
- Cottle, C.C., Lee, R.J., & Heilbrun, K. (2001). The prediction of criminal recidivism in juveniles: A meta-analysis. *Criminal Justice and Behavior*, 28, 367-394.
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin*, 115, 74-101.
- Cullen, F.T. (2002). Rehabilitation treatment programs. In J.Q. Wilson & J. Petersilia (Eds.), *Crime: Public policies for criminal control*. Oakland, CA: ICS Press.
- Cullen, F.T. & Agnew, R. (Eds.), (2003). *Criminological theory: Past to present*. Los Angeles: Roxbury.
- Cullen, F.T., & Gendreau, P. (2000). Assessing correctional rehabilitation: Policy, practice, and prospects. In J. Horney (Ed.), *Criminal Justice 2000: Volume 3 – Policies, processes, and decisions of the Criminal Justice System* (109-175). Washington, DC: US Department of Justice, National Institute of Justice.
- Cullen, F.T., Pratt, T.C., Miceli, S.L., & Moon, M.M. (2002). Dangerous liaison? Rational choice theory as the basis for correctional interventions. In A.R. Piquero & S.G. Tibbetts (Eds.), *Rational choice and criminal behavior: Recent research and future challenges* (pp.279-296). New York: Routledge.
- Debidin, M., & Lovbakke, J. (2005). Offending behaviour programmes in prison and Probation. In G. Harper & C. Chitty (Eds.), *The impact of corrections on re-offending: A review of 'what works'* (3rd ed.). Home Office Research Study 291. London: Home Office.
- Department of Human Services (2001). *Recidivism among Victorian Juvenile Justice clients 1997-2001*. Department of Human Services, Victoria.
- Dishion, T.J., Andrews, D.W. & Crosby, L. (1995). Antisocial boys and their friends in early adolescence: Immediate and 1-year outcomes. *Journal of Consulting and Clinical Psychology*, 63, 538-48.
- Dowden, C., & Andrews, D. (1999). What works in young offender treatment: A meta-analysis. *FORUM on Corrections Research*, 11(2), 21-24.
- Drakeford, W. (2002). The impact of an intensive program to increase the literacy skills of youth confined to juvenile corrections. *Journal of Correctional Education*, 53(4), 139-144.
- Eisenberg, N., Zhou, Q. & Koller, S. (2001). Brazilian adolescents' prosocial moral judgment and behavior: Relations to sympathy, perspective taking, gender-role orientation and demographic characteristics". *Child Development*, 72, 518-34.
- Fagan, J. & Wesler, S. (1988). Explanations of sexual assault among violent delinquents. *Journal of Adolescent Research*, 3, 363-385.
- Falshaw, L., Friendship, C., Travers, R. and Nugent, F. (2003) *Searching for 'What Works': An evaluation of cognitive skills programmes*. Home Office Research Findings 206. London: Home Office.
- Farnworth, M., & Leiber, M. J. (1989). Strain theory revisited: Economic goals, educational means, and delinquency. *American Sociological Review*, 55(2), 236-279.
- Farrington, D.P. (1992). Explaining the beginning, progress and ending of antisocial behaviour from birth to adulthood. In J. McCord (Ed.), *Facts, frameworks and forecasts: Advances in criminological theory* (Vol. 3, pp253-286). New Brunswick, NJ: Transaction Publishers.

- Farrington, D.P. (1995a). The challenge of teenage antisocial behaviour. In M. Rutter (Ed.), *Psychosocial disturbances in young people: challenges for prevention* (pp 83-130). Cambridge, UK: Cambridge University Press.
- Farrington, D.P. (1995b). The development of offending and antisocial behaviour from childhood: Key findings from the Cambridge Study in Delinquent Development. *Journal of Child Psychology and Psychiatry*, 36, 929-964.
- Farrington, D.P. (2000). Explaining and preventing crime: The globalization of knowledge: The American Society of Criminology 1999 presidential address. *Criminology*, 38(1), 1–24.
- Farrington, D.P. (2003). Key results from the first 40 years of the Cambridge Study in Delinquent Development. In T.P. Thornberry & M.D. Krohn (Eds.), *Taking stock of delinquency: An overview of findings from contemporary longitudinal studies* (pp.137-183). New York: Kluwer-Plenum.
- Farrington, D.P. (Ed.). (2005a). *Integrated developmental and life-course theories of offending*. New Brunswick, NJ: Transaction Publishers.
- Farrington, D.P. (2005b). Childhood origins of antisocial behaviour. *Clinical Psychology and Psychotherapy*, 12, 177-190.
- Farrington, D.P. (2007). Advancing knowledge about desistance. *Journal of Contemporary Criminal Justice*, 23(1), 125-134.
- Farrington, D. P., & Hawkins, J. D. (1991). Predicting participation, early onset and later persistence in officially recorded offending. *Criminal Behavior and Mental Health*, 1, 1-33.
- Farrington, D.P. and Loeber, R. (2001). Summary of key conclusions. In R. Loeber and D.P. Farrington (eds.): *Child delinquents: development, intervention and service needs*. Thousand Oaks, CA.: Sage.
- Fehrenbach, P.A., Smith, W., Monastersky, C., & Deisher, R.W. (1986). Adolescent sexual offenders: Offender and offense characteristics. *American Journal of Orthopsychiatry*, 56, 225-233.
- Fergusson, D.M. & Lynskey, M.T. (1997). Physical punishment/maltreatment during childhood and adjustment in young adulthood. *Child Abuse and Neglect*, 21, 617–30.
- Finkelstein, J.W., Susman, E.J., Chinchilli, V.M., Kunselman, S.J., D’Arcangelo, M.R., Schwab, J., Demers, L., Liben, L, Lookingbill, G. & Kulin, H.E. (1997). Estrogen or testosterone increases in self-reported aggressive behaviors in hypogonadal adolescents. *Journal of Clinical Endocrinology and Metabolism*, 82, 2423–38.
- Flannery, D., Vazsonyi, A. T., & Rowe, D. C. (1996). Caucasian and Hispanic early adolescent substance use: Parenting, personality, and school adjustment. *Journal of Early Adolescence*, 16, 71-89.
- Foley, R. M. (2001). Academic characteristics of incarcerated youth and correctional educational programs. *Journal of Emotional and Behavioral Disorders*, 9, 248-259.
- Fonagy, P. (1993). Psychoanalytic and empirical approaches to developmental psychopathology: Can they be usefully integrated? *Journal of the Royal Society of Medicine*, 86, 577.
- Ford, D.L. & Lerner, R.M. (1992). *Developmental systems theory: An integrative approach*. Newberry Park, CA: Sage.
- Ford, M.E., & Linney, J.A. (1995). Comparative analysis of juvenile sexual offenders, violent nonsexual offenders, and status offenders. *Journal of Interpersonal Violence*, 10, 56-70.

- Friendship, C., Blud, L., Erikson, M. and Travers, R. (2002) *An evaluation of cognitive behavioural treatment for prisoners*. Home Office Research Findings 161. London: Home Office
- Garland, A.F., Hough, R.L., Landsverk, J.A., & Brown, S.A. (2002). Multi-sectors of systems of care for youth with mental health needs 211. *Children's Services: Social Policy, Research, and Practice*, 4, 123-140.
- Gendreau, P. (1996). The principles of effective rehabilitation with offenders. In A.T. Harland (Ed.), *Choosing correctional options that work: Defining the demand and evaluating the supply* (pp.117-130). Newbury Park, CA: Sage.
- Gendreau, P., Goggin, C. Cullen, F.T., & Andrews, D.A. (2000). The effects of community sanctions and incarceration on recidivism. *Forum on Corrections Research*, 12, 10-13.
- Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works?, *Criminology*, 34, 401-433.
- Gleuck, S. & Gleuck, E.T. (1950). *Unravelling juvenile delinquency*. New York: Commonwealth Fund.
- Gottfredson, M.R. & Hirschi, T. (1990). *A general theory of crime*. Stanford: Stanford University Press.
- Hagell, A. (2002). *The mental health of young offenders – bright futures: Working with vulnerable young people*. London, UK: Mental Health Foundation.
- Henderson, C.E., Douglas, D.W., Jainchill, N., Hawke, J., Farkas, S., Davis, R.M. (2007). Program use of effective drug abuse treatment practices for juvenile offenders. *Journal of Substance Abuse Treatment*, 32, 279-290.
- Henggeler, S. W. (1998). Delinquency. In M. Fisher, K. Schonberg, & E. Alderman (Eds.), *Comprehensive adolescent health care*. (2nd ed). New York, NY: Mosby.
- Henggeler, S.W. (2001). Multisystemic therapy. In S. Pfeiffer & L.A. Reddy (Eds.), *Innovative mental health interventions for children: Programs that work*. Binghamton, NY: The Haworth Press.
- Henggeler, S.W., Melton, G.B., & Smith, L.A. (1992). Family preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile offenders. *Journal of Consulting and Clinical Psychology*, 60, 953-961.
- Henggeler, S.W., Borduin, C.M., Melton, G.B., Mann, B.J., Smith, L.A., Hall, J.A., Cone, L., & Cone, F.B.R. (1991). Effects of multisystemic therapy on drug use and abuse in serious juvenile offenders: A progress report from two Outcome studies. *Family Dynamics of Addiction Quarterly*, 1, 40–51.
- Henggeler, S. W., Melton, G. B., Smith, L. A., Shoenwald, S. K., & Hanley, J. H. (1993). Family preservation using multisystemic treatment: Long-term follow-up to a clinical trial with serious juvenile offenders. *Journal of Child & Family Studies*, 2, 283-293.
- Henry, B., Caspi, A., Moffitt, T.E., & Silva, P.A. (1996). Temperamental and familial predictors of violent and non-violent criminal convictions: Age 3 to 18. *Developmental Psychology*, 32, 614-623.
- Hoge, R. (2001). *The juvenile offender: Theory, research and applications*. Norwell, MA: Kluwer Plenum.
- Hoge, R., & Andrews, D. (2002). *The Youth Level of Service/Case Management Inventory*. Toronto, ON, Canada: Multi-Health Systems.
- Hollin, C. R. (1999). Treatment programs for offenders. *International Journal of Law and Psychiatry*, 22, 361-372.

- Holmbeck, G.N., Colder, C., Shapera, W., Westhoven, V., Kenealy, L. & Updegrove, A. (2000). Working with adolescents: Guides from developmental psychology. In P.C. Kendall (ed.), *Child and Adolescent Therapy: Cognitive-behavioral Procedures* (pp. 334–85). Guilford Press, New York.
- Howell, J.C., & Lipsey, M.W. (2004). A practical approach to evaluating and improving juvenile justice programs. *Juvenile and Family Court Journal*, 55(1), 35-48.
- Howells, K. & Day, A. (1999). The rehabilitation of offenders: International perspectives applied to Australian correctional systems. *Trends and Issues in Crime and Criminal Justice*, No 112. Canberra: Australian Institute of Criminology
- Hudson, S.M. & Ward, T. (1997). Intimacy, loneliness, and attachment style in sexual offenders. *Journal of Interpersonal Violence*, 12, 323-339.
- Hudson, S.M. & Ward, T. 2000, Interpersonal competency in sex offenders. *Behavior Modification*, 24, 494–519.
- Ireland, J. (2000). A descriptive analysis of self-harm reports among a sample of incarcerated adolescent males. *Journal of Adolescence*, 23, 605–13.
- Katsiyannis A. & Archwamety, T. (1999). Academic remediation/achievement and other factors related to recidivism rates among delinquent youths. *Behavioral Disorders* 24, 93–101.
- Katz, R.C. (1990). Psychosocial adjustment in adolescent child molesters. *Child Abuse and Neglect*, 41, 135-147.
- Knight, R.A. & Prentky, R.A. (1993). Exploring characteristics for classifying juvenile sex offenders. In H.E. Barbaree, W.L. Marshall, & S.M. Hudson (Eds.), *The juvenile sex offender* (pp.45-83). New York: Guilford Press.
- Knight, R.A. & Sims-Knight, J.E. (2003). The developmental antecedents of sexual coercion against women: Testing alternative hypotheses with structural equation modeling. In R.A. Prentky, E.S. Janus, & M.C. Seto (Eds.), *Annals of the New York Academy of Sciences: Vol. 989. Sexually coercive behavior: Understanding and management* (pp.72-85). New York: New York Academy of Sciences.
- Latimer, J. (2001). A meta-analytic examination of youth delinquency, family treatment, and recidivism. *Canadian Journal of Criminology*, 43, 331–57.
- Leone, P.E. Krezmien, M.M., Mason, L. & Meisel, S.M. (2005). Organizing and delivering empirically based literacy instruction to incarcerated youth. *Exceptionality*, 13, 89-102.
- Lipsey, M.W. (2005). *What works in juvenile offenders: Translating research into practice*. Presented at the Adolescent Treatment Issues Conference, Tampa, FL. Available from: http://www.tyc.state.tx.us/archive/Research/TxmtEffect05/15_references.html
- Lipsey, M.W., & Derzon, J.H. (1998). Predictors of violent or serious delinquency in adolescence and early adulthood: A synthesis of longitudinal research. In R. Loeber & D. P. Farrington (Eds.), *Serious and violent juvenile offenders: Risk factors and successful interventions* (pp. 86-105). Thousand Oaks, CA: Sage
- Lipsey, M., & Wilson, D. (1998). Effective intervention for serious juvenile offenders: A synthesis of research. In R. Loeber & D. P. Farrington (Eds.), *Serious and violent juvenile offenders: Risk factors and successful interventions* (pp. 313-345). Thousand Oaks, CA: Sage.
- Loeber, R., Stouthamer-Loeber, M., Van Kammen, W. B., & Farrington, D. P. (1991). Initiation, escalation and desistance in juvenile offending and their correlates. *Journal of Criminal Law and Criminology*, 82, 36-82

- Loeber, R. & Le Blanc, M. (1990). Toward a developmental criminology. In M. Tonry and M. Norris (Eds.), *Crime and justice: A review of research, Volume 12* (pp. 375-473). Chicago: Chicago University Press.
- Losel, F. (1995). Increasing consensus in the evaluation of offender rehabilitation? Lessons from recent research syntheses. *Psychology, Crime and Law*, 2, 19-39.
- Lynch, M., Buckman, J., & Krenske, L. (2003). Youth justice: Criminal trajectories. *Trends and Issues in Crime and Criminal Justice*, No. 265, Australian Institute of Criminology.
- Mackenzie, D.L. (2000). Evidence-based corrections: Identifying what works. *Crime and Delinquency*, 46, 457-471.
- Maag, J.W. (2005). Social skills training with youth with emotional and behavioral disorders and learning disabilities: Problems, conclusions, and suggestions. *Exceptionality*, 13(3), 155-172.
- Maag, J. W., & Katsiyannis, A. (1998). Challenges facing successful transition for youths with EB/D. *Behavioral Disorders*, 23, 209-221.
- Maag, J.W., & Kemp, S.E. (2003). Behavioral intent of power and affiliation: Implications for functional analysis. *Remedial and Special Education*, 24, 57-64.
- Maguin, E., & Loeber, R. (1996). Academic performance and delinquency. In M. Tonry (Ed.). *Crime and Justice: A Review of Research* (Vol. 20). Chicago, Ill.: University of Chicago Press.
- Malamuth, N.M. (2003). Criminal and non-criminal sexual aggressors: Integrating psychotherapy in hierarchical-mediational confluence model. In R.A. Prentky, E.S. Janus, & M.C. Seto (Eds.), *Annals of the New York Academy of Sciences: Vol. 989. Sexually coercive behavior: Understanding and management* (pp. 33-58). New York: New York Academy of Sciences.
- Malmgren K. & Leone, P.E. (2000). Effects of a short-term auxiliary reading program on the reading skills of incarcerated youth. *Education and Treatment of Children* 23, 239-247.
- Marshall, W.L., Hudson, S.M., & Hodgkinson, S. (1993). The importance of attachment bonds in the development of juvenile sex offending. In H.E. Barbaree, W.L. Marshall, & S.M. Hudson (Eds.), *The juvenile sex offender* (pp.45-83). New York: Guildford Press.
- Marshall, W.L., Laws, D.R. & Barbaree, H.E. (1990). *Handbook of sexual assault: Issues, theories and the treatment of offenders*. New York: Plenum Press.
- Martinson, R. (1974). What works? Questions and answers about prison reform. *The Public Interest*, 35, 121-135.
- Matthys, W. and Lochman, J.E. (2005). Social problem solving in aggressive children. In M. McMurrin and J. McGuire (eds.): *Social problem solving and offending* (pp. 51-66). Chichester: Wiley.
- McCabe, K.M., Hough, R., Wood, P.A., & Yeh, M. (2001). Childhood and adolescent onset conduct disorder: A test of the developmental taxonomy. *Journal of Abnormal Child Psychology*, 29, 305-316.
- McGuire, J. (1995). *What works: Reducing re-offending: Guidelines from research to practice*. Chichester, UK: John Wiley and Sons.
- McClelland, G.M., Elkington, K.S., Teplin, L.A., & Abram, K.M. (2004). Multiple substance use disorders in juvenile detainees. *Journal of the American Academy of Child Adolescent Psychiatry*, 43, 1215-1224.

- McGuire, J. (2001). What works in correctional intervention? Evidence and practical implications. In G.A. Bernfield & D.A. Farrington (Eds.). *Offender rehabilitation in practice: Implementing and evaluating effective programs* (pp. 25-43). New York: John Wiley & Sons
- McGuire, J. (2002). Explanations of criminal behaviour. In J. McGuire, T. Mason, & A. O’Kane (Eds.), *Behaviour, crime and legal processes: A guidebook for practitioners*. Chichester: Wiley.
- Mitchell, J., & Palmer, E. J. (2004). An evaluation of the Reasoning and Rehabilitation program with incarcerated juvenile offenders. *Journal of Offender Rehabilitation, 39*(4), 31-45.
- McMackin, R.A., Leisen, M.B., Cucask, J.F., LaFratta, J., & Litwin, P. (2002). The relationship between trauma exposure to sex offending behaviour among male juvenile offenders. *Journal of Child Sexual Abuse, 11*, 25-40.
- McMurran, M., Fyffe, S., McCarthy, L., Duggan, C., & Latham, A. (2001). “Stop & Think!”: Social problem-solving therapy with personality-disordered offenders. *Criminal Behaviour and Mental Health, 11*, 273-285.
- Meltzer, L.J. (1984). Cognitive assessment and the diagnosis of learning problems. In M.D. Levine & P. Satz, (Eds.), *Middle Childhood: Developmental Variation and Dysfunction* (pp.131-152). Baltimore: University Park Press.
- Moffitt, T.E. (1993). Adolescence-limited and life-course persistent antisocial behaviour: A developmental taxonomy. *Psychological Review, 100*(4), 674-701.
- Moffitt, T.E. (1997). Adolescent-limited and life-course persistent offending: A complementary pair of developmental taxonomies. In T.P. Thornberry (Ed.), *Advances in criminological theory (Vol. 7): Developmental theories of crime and delinquency* (pp.11-54). New Brunswick, NJ: Transaction Publishers.
- Moffitt, T.E. & Caspi, A. (2001). Childhood predictors differentiate life-course persistent and adolescence-limited antisocial pathways among males and females. *Development and Psychopathology, 13*, 355-375.
- Moffitt, T.E., Lynam, D.R., & Silva, P.A. (1994). Neuropsychological tests predicting persistent male delinquency. *Criminology, 32*, 277-300.
- Monk-Turner, E. (1989). Effects of high school delinquency on educational attainment and adult occupational status. *Sociological Perspectives, 32*, 413-418.
- Monson, C.M., Jones, L.M., Rivers, P.C., & Blum, S.B. (1998). Alcohol and sex offending,: Whjat do child sex offenders think about drinking? *Journal of Addictions and Offender Counseling, 19*, 15-27.
- Mulloy, R., Smiley, W.C. & Mawson, D.L. (1999). The impact of empathy training on offender treatment. *Forum on Correctional Research, 11*, 15–18.
- Murphy, W.D. (1990). Assessment and modification of cognitive distortions in sex offenders. In W.L. Marshall, D.R. Laws & H.E. Barbaree (Eds.), *Handbook of sexual Assault: Issues, theories and the treatment of offenders* (pp.311-330). New York: Plenum.
- NACRO (2001). *Young Adult Offenders: A Period of Transition*, NACRO policy report. Nacro, London.
- Nagin, D.S., Farrington, D.P., & Moffitt, T.W. (1995). Life-course trajectories of different types of offenders. *Criminology, 22*, 111-139.
- Neel, R. S., & Cessna, K. K. (1993). Behavioral intent: Instructional content for students with behavior disorders. In K. K. Cessna (Ed.), *Instructionally differentiated programming: A needs-based approach for students with behavior disorders* (pp. 31–39). Denver: Colorado Department of Education.

- Neumann, D.A., Houskamp, B.M., Pollock, V.E. & Briere, J. (1996). The long-term sequelae of childhood sexual abuse in women: A meta-analytic review. *Child Maltreatment*, 1, 6–16.
- Nicol, R., Stretch, D., Whitney, I., Jones, K., Garfield, P., Turner, K. & Stanton, B. (2000). Mental health needs and services for severely troubled and troubling young people including young offenders in an NHS region. *Journal of Adolescence*, 23, 243–61.
- Piquero, A.R. & Brezina, T. (2001). Testing Moffitt's account of adolescence-limited delinquency. *Criminology*, 39, 353-370.
- Porporino, F. J., & Fabiano, E. A. (2000). *Theory manual for Reasoning and Rehabilitation (Revised)*. Ottawa, Canada: T3 Associates.
- Prentky, R., Harris, B., Frizzell, K., & Righthand, S. (2000). An actuarial procedure for assessing risk in juvenile sex offenders. *Sexual Abuse: A Journal of Research and Treatment*, 12, 71-93.
- Putnins, A. (1995). Victim awareness as a core program for young offenders. *Youth Studies Australia*, Spring, 38–41.
- Putnins, A. (1997). Victim awareness programs for delinquent youths: Effects on moral reasoning maturity. *Adolescence*, 32, 709–14.
- Robinson, D. (1995) *The Impact of Cognitive Skills Training on Post-Release Recidivism among Canadian Federal Offenders*. Correctional Service of Canada Research Division.
- Robinson, D., Grossman, M., & Porporino, F. (1991). *Effectiveness of the cognitive skills training program: From pilot to national implementation*. Correctional Services of Canada, Research and Statistics Branch.
- Randall J., & Cunningham, P.B. (2003). Multisystemic therapy: A treatment for violent substance-abusing and substance-dependent juvenile offenders. *Addictive Behaviors*, 28, 1731-1739.
- Ronis, S.T. & Borduin, C.M. (2007). Individual, family, peer, and academic characteristics of male juvenile sex offenders. *Journal of Abnormal Child Psychology*, 35, 153-163.
- Ross, R. R., and Fabiano, E. A. (1985). *Time to think: A cognitive model of delinquency prevention and offender rehabilitation*. Johnson City, TN: Institute of Social Sciences and Arts.
- Sameroff, A.J. (1983). Developmental systems: Contexts and evolution. In W. Kessen (Ed.), *Handbook of child psychology (Vol. 1): History, theory and methods* (pp.237-294). New York: Wiley.
- Sampson, R.J., & Laub, J.H. (1993). *Crime in the making: Pathways and turning points through life*. Cambridge, MA: Harvard University Press.
- Sampson, R.J., & Laub, J.H. (1997). A life-course theory of cumulative disadvantage and stability of delinquency. In T.P. Thornberry (Ed.), *Advances in criminological theory (Vol. 7): Developmental theories of crime and delinquency* (pp.133-162). New Brunswick, NJ: Transaction Publishers.
- Sampson, R.J., & Laub, J.H. (2003). Life-course desisters? Trajectories of crime among delinquent boys followed to age 70. *Criminology*, 41, 301-339.
- Sampson, R.J., & Laub, J.H. (2005). A life-course view of the development of crime. *The Annals of the American Academy of Political and Social Science*, 602(1), 12-45.
- Schaeffer, C.M., & Borduin, C.M. (2005). Long-term follow-up to a randomized clinical trial of multisystemic therapy with serious and violent juvenile offenders. *Journal of Consulting and Clinical Psychology*, 73, 445-453.

- Schram, D.D., Milloy, C.D., & Rowe, W.E. (1991). *Juvenile sex offenders: A follow up study of reoffense behavior*. Olympia, WA: Washington State Institute for Public Policy, Urban Policy Research and Cambie Group International.
- Sealock, M.D., Gottfredson, D.C., & Gallagher, C.A. (1997). Drug treatment for juvenile offenders: Some good and bad news. *Journal of Research in Crime and Delinquency*, 34, 210-236.
- Seirfert, K., Phillips, S., & Parker, S. (2002). Child and adolescent risk of violence (CARV): A tool to assess juvenile risk. *Journal of Psychiatry and Law*, 29, 329-346.
- Sheridan, M.J., & Steele-Dadzie, T.E. (2005). Structure and learning style of incarcerated youth assessment: A means to providing a continuum of educational service in Juvenile Justice. *The Journal of Correctional Education*, 56(4), 347-371.
- Silverman, R.A. & Creechan, J.H. (1995). *Delinquency Treatment and Intervention*, Research Report, Correctional Services Canada.
- Thompson, A.P. & Pope, Z. (2005). Assessing juvenile offenders: Preliminary data for the Australian Adaptation of the Youth Level of Service/Case Management Inventory (Hoges & Andrews, 1995). *Australian Psychologist*, 40, 207-214.
- Teplin, L.A., Abram, K.M., McClelland, G.M., Dunlan, M.K., & Mericle, A.A. (2002). Psychiatric disorders in youth in juvenile detention. *Archives of General Psychology*, 59, 1133-1143.
- Thompson, D. (1999). Towards restoration: Victim awareness programs for adult offenders in South Australia. Paper presented at *Restoration for Victims of Crime: Contemporary Challenges* conference, Australian Institute of Criminology, Melbourne.
- Thornberry, T.P. (1997). Introduction: Some advantages of developmental and life-course perspectives for the study of crime and delinquency. In T.P. Thornberry (Ed.), *Advances in criminological theory (Vol. 7): Developmental theories of crime and delinquency* (pp.1-10). New Brunswick, NJ: Transaction Publishers.
- Thornberry, T.P. (1998) Membership in youth gangs and involvement in serious and violent offending. In R. Loeber and D.P. Farrington (Eds.), *Serious and violent juvenile offenders: Risk factors and successful interventions*. Thousand Oaks, CA: Sage.
- Thornberry, T., Moore, M., & Christenson, R.L. (1985). The effect of dropping out of high school on subsequent criminal behavior, *Criminology*, 23, 3–18
- Timmons-Mitchell, J., Bender, M.b., Kishna, M.A., & Mitchell, C.C. (2006). An independent effectiveness trial of multisystemic therapy with juvenile justice youth. *Journal of Clinical Child and Adolescent Psychology*, 35, 227-236.
- Tobach, E. & Greenberg, G. (1984). The significance of T.C. Schneirla's contribution to the concept of levels of integration. In E. Tobach (Ed.), *Behavioural evolution and integrative levels* (pp.1-8). Hillsdale, NJ: Erlbaum
- Van Voorhis, P., Spruance, L.M., Ritchey, P.N., Listwan, S.J., & Seabook, R. (2004). The Georgia cognitive skills experiment: A replication of Reasoning and Rehabilitation. *Criminal Justice and Behavior*, 31(3), 282-303.
- Vizard, E., Monck, E., & Misch, P. (1995). Child and adolescent sex abuse perpetrators: A review of the research literature. *Journal of Child Psychology and Psychiatry*, 36, 731-756.
- Walrath, C.M., Sharp, M.J., Zuber, M., & Leaf, P. (2001). Serving children with SED in urban systems of care: Referral agency differences in child characteristics in Baltimore and the Bronx. *Journal of Educational and Behavioral Disorders*, 9, 94-105.

- Ward, T. & Siegert, R.J.(2002). Toward a comprehensive theory of child sexual abuse: A theory knitting perspective. *Psychology, Crime, and Law*, 8, 319-351.
- Weiss, J.R. & Hawley, K.M. (2002). Developmental factors in the treatment of adolescents. *Journal of Consulting and Clinical Psychology*, 70, 21–43.
- Wilson, S.J., Lipsey, M.W. and Derzon, J.H. (2003). The effects of schoolbased intervention programs on aggressive behavior: a meta-analysis. *Journal of Consulting and Clinical Psychology*, 71, 136-149.
- Yoshikawa, H. (1994). Prevention as cumulative protection: Effects of early family support and education on chronic delinquency and its risks. *Psychological Bulletin*, 115, 28-54.
- Young, D.W., Dembo, R., & Henderson, C.E. (2007). A national survey of substance abuse treatment for juvenile offenders. *Journal of Substance Abuse Treatment*, 32, 255-266.
- Youth Justice Board (2001). *Risk and protective factors associated with youth crime and effective interventions to prevent it*. London: Youth Justice Board.