Managing Clinical Risk

A guide to effective practice

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9 Making delinquency prevention work with children and adolescents

From risk assessment to effective interventions

Corine de Ruiter and Leena K. Augimeri

Introduction

Studies have shown that individuals with an early onset of delinquency, prior to the age of 12, are more at risk of later serious violent and chronic offending by three times, as compared to those individuals who begin their delinquent careers in adolescence (Loeber and Farrington, 2001; Moffitt, 1993). This particular group of serious and persistent juvenile offenders accounts for 50 per cent of all juvenile offending (Loeber and Farrington, 1998). The economic cost of serious antisocial behavior in children and adolescents is substantial and the implications for society can be enormous (Loeber, Slot, van der Laan, and Hoeve, 2008). Such antisocial behaviors typically start before the age of 14 (Loeber, et al., 2008) and include costs that may relate to accessing health, mental health, child welfare, and special education. For example, Romeo, Knapp and Scott (2006) reported an annual cost of approximately GB £6,000 per year for children between the ages of three and eight years demonstrating antisocial behavior. Koegl (2011) conducted a longitudinal analysis on a clinical sample of Canadian children with conduct problems and found, for those who entered the juvenile justice system, the costs per case averaged approximately US $100K per year over a nine-year period. When looking at high-risk offenders, cost per case increased to upwards of US $1.4 million, and Koegl (2011) commented that although crime prevention programs may reach and benefit a small fraction of children, they can still produce enormous savings to society. Foster, Jones, and the Conduct Problems Prevention Research Group (2005) also concluded that '. . . public expenditures may be reduced if resources are moved from coping with problem behaviors to preventing them' (p. 1771). A similar recommendation was formulated by Romeo, et al. (2006): 'Wider uptake of evidence-based interventions is likely to lead to considerable economic benefits in the short term, and probably even more in the long term' (p. 547).

Child and adolescent offenders are a heterogeneous group in terms of risk status and the factors that contribute to antisocial behavior. Over the past few decades, epidemiological and longitudinal research has been successful in identifying individual and contextual risk factors for young people engaging

in future delinquency (Howell, 2003, 2009; Lahey, Moffitt, and Caspi, 2003; Loeber, Farrington, and Petechuk, 2003). Some of these factors are: lack of empathy or callous-unemotional traits[1] (White and Frick, 2010), Attention Deficit Hyperactivity Disorder (ADHD; Biederman, Mick, Faraone, and Burback, 2001; Fazel, Doll, and Långström, 2008), poor parenting styles (Snyder and Stoolmiller, 2002), and negative peer influences (Dishion, Spracklen, Andrews, and Patterson, 1996; Snyder, 2002). Furthermore, as much as possible, preventive interventions should target those risk factors that are causally linked to the antisocial behavior in each individual case. In order to facilitate such a tailor-made preventive strategy, a comprehensive psychosocial risk assessment framework is required (Augimeri, Enebrink, Walsh, and Jiang, 2010). Such a framework should include promotive and protective factors as well as risk factors, as the failure to consider both may lead to unbalanced and biased assessments (Rogers, 2000), particularly with regard to children and adolescents who are still developing. Some researchers (Farrington, Loeber, Jolliffe, and Pardini, 2008; Loeber, Slot, and Stouthamer-Loeber, 2008; Stouthamer-Loeber, Loeber, Wei, Farrington, and Wikström, 2002) conceptualize promotive factors as factors that lower the probability of problem behavior, regardless of risk level. Similarly, protective factors are factors that moderate the effects of risk on problem behavior (Fergusson and Lynskey, 1996; Pollard, Hawkins, and Arthur, 1999; Rutter, 2003). Protective factors are thus a subcategory of promotive factors that reduce the effects of risk factors on problem behavior (Farrington, et al., 2008). Research has shown that protective factors can act as buffers against risk factors and predict desistance from reoffending in children and adolescents (Lodewijks, de Ruiter, and Doreleijers, 2010; Stouthamer-Loeber, Wei, Masten, and Loeber, 2004).

The increase in our theoretical and empirical understanding of antisocial behavior in youth has resulted in great advances in evidence-based assessment and interventions. This chapter will provide an overview of validated structured risk assessment tools available for child and adolescent offenders as well as those at high risk of becoming so. Subsequently, we will review the scientific evidence base on multimodal risk management interventions for children and adolescents. The manner in which structured risk assessment and risk management are connected in everyday clinical practice will be illustrated with a case example from Toronto's Center for Children Committing Offences at the Child Development Institute (CDI). We will also provide a brief note on the implementation of evidence-based risk prevention at the community level. Finally, suggestions for future research into the further refinement of our structured risk assessment and clinical risk management strategies are presented.

Structured professional risk assessment for future offending and violence in children and adolescents

Factors that are empirically associated with increased risk of antisocial behavior in children and adolescents have been incorporated into instruments for structured risk assessment during the last decades. Furthermore, structured risk assessment

tools typically contain static and dynamic items. In this context, the term 'static' implies that these items are not subject to change, as opposed to the dynamic items, which may vary. So-called structured professional judgment (SPJ) risk assessment tools contain a fixed set of empirically based risk factors (and sometimes also protective factors), which are weighed and integrated into a final risk estimate by an experienced forensic mental health professional (Douglas and Otto, 2010). However, the goal of the SPJ tools is risk prevention, not risk prediction; therefore, SPJ tools are not reliant on the total score, nor do they encourage the use of cutoff scores to predict varying levels of risk. The focus of SPJ tools is intervention planning with a goal to reduce and manage risk. By doing so, the SPJ tools encourage the assessors to draw on the strengths of both the clinical and actuarial approaches to clinical risk management decision-making (Borum and Douglas, 2003).

EARL-20 B and EARL-21G

Since their development over a decade ago, research on the *Early Assessment Risk Lists* for boys (EARL-20B) and girls (EARL-21G) has flourished (Augimeri, Enebrink, Walsh, and Jiang, 2010; Augimeri, Walsh, Liddon, and Dassinger, 2011). Previous EARL-20B studies have included findings on the tools' reliability and validity. Total EARL-20B score values showed acceptable mean inter-rater reliability (e.g., Mean = .92; Enebrink, Långström, and Gumpert, 2006), which is comparable to other structured professional judgment tools, such as the *Structured Assessment of Violence Risk in Youth* (SAVRY) (.81; Catchpole and Gretton, 2003) and *Short Term Assessment of Risk and Treatability* (START) (.87; Nicholls, Brink, Desmarais, Webster, and Martin, 2006). To date, a number of studies have been completed on the EARL-21G, all of which have produced similar positive findings to the EARL-20B in terms of the clinical utility, reliability and validity of the tool (Levene, Walsh, Augimeri, and Pepler, 2004). The predictive validity of the EARLs was examined in several studies and has been shown to be good for parent and teacher ratings of aggression and criminal outcomes (Augimeri, Desmarais, Koegl, Jiang, and Webster, 2009; Enebrink, et al., 2006). For example, Enebrink and colleagues (2006) found, for a sample of 76 clinic-referred children, that the EARL-20B summary risk rating (low, moderate, high) showed good predictive validity for parent and teacher ratings of reactive and proactive aggression at six months (rs = .47-.58) and 30 months (rs = .31-.50) follow-up. For a comprehensive review, see Augimeri, et al. (2010).

To further the ecological validity of the research on the EARLs, a cross-sector collaboration between researchers and practitioners was undertaken to examine their predictive quality and content validity (Augimeri, Pepler, Walsh, Jiang and Dassinger, 2010). The investigators found that the *Family* subscale significantly predicts future criminal offences for both the EARL-20B and EARL-21G, with the EARL Total score and *Responsivity* subscale score predicting for boys only. Several individual EARL risk items were also found to predict for boys: *Caregiver Continuity*, *Parenting Style*, *Onset of Behavioural Difficulties*, *Likeability*, *Peer*

Socialization, Authority Contact, Antisocial Attitudes, Antisocial Behaviour, and *Family Responsivity*. For girls, however, the one *Family* item, *Antisocial Values and Conduct*, was a strong predictor of criminal outcome.

This investigation generated a similar three-factor model structure for the EARL-20B, as previously reported in Augimeri (2005). The three factors are labeled *Child*, *Family*, and *Biological*. For girls, the findings did not replicate previous observations from a retrospective sample (i.e., *Family*, *Child* and *Amenability*; Augimeri, et al., 2011). A new three-factor model was produced, with a *Relational Disturbance* factor. It is comprised of the following items: *Caregiver Continuity, Abuse/Neglect/Trauma, Antisocial Values and Conduct* and *Sexual Development.* The newly generated three-factor model for the EARL-20B, with the *Family, Child* and *Biological* factors, accurately predicted entry into the criminal justice system for boys. Out of the three-factor model generated for the EARL-21G, consisting of *Family, Child* and *Relational Disturbance,* only the latter predicted increased risk of future criminal offences for girls. Overall, these findings indicate that some of the risk factors for aggression and delinquency are to a certain degree gender specific.[2] The practical utility of the distinction between these three factors, or domains, lies in their value in intervention planning. Depending on the weight of the different domains, different intervention priorities and strategies should be implemented.

SAVRY. The SAVRY (Borum, Bartel, and Forth, 2006) is a structured professional judgment guide devised for the assessment of youths aged between 12 and 18 who have been detained or referred for assessment of violence risk (Borum, Lodewijks, Bartel, and Forth, 2010). The SAVRY protocol consists of 24 risk items and six protective items. Risk items are categorized into three subsets: *Historical, Individual,* and *Social/Contextual*, with one risk factor that directly relates to deficiencies in empathy. The SAVRY also addresses additional factors or situational variables that may be person-specific, but their influence is crucial in comprehending the propensity for future violence. This approach is an inherent component to many structured professional judgment guides, allowing the qualified clinician to take into account issues not included in the 24 risk factors listed in the SAVRY. The SAVRY draws on the structured professional judgment approach in that the items are not summed to arrive at a risk rating but are used to inform clinical risk management plans. Clinicians weigh and evaluate the collection and pattern of risk factors to arrive at a global risk rating of low, moderate, or high, versus being reliant on cutoff scores to determine level of risk, as in non-SPJ tools. A unique feature of the SAVRY is its inclusion of six protective factors that might mitigate the youth's risk.

The psychometric properties of the SAVRY are promising. Using trained student raters, the single-rater intraclass correlation coefficient (ICC) was .81 for the SAVRY Risk Total score and .77 for the Summary Risk Rating (Catchpole and Gretton, 2003). Comparably, McEachran (2001) found relatively high inter-rater reliability (.83) for the SAVRY Risk Total and moderate coefficients (.72) for the Summary Risk Rating. In several Dutch studies of adolescent offenders from successive phases in the legal process (pre-trial, during residential stay and after

release from a juvenile justice facility), the SAVRY showed good to excellent inter-rater reliability (Lodewijks, Doreleijers, de Ruiter, and Borum, 2008a; Lodewijks, Doreleijers, and de Ruiter, 2008b; Lodewijks, de Ruiter, and Doreleijers, 2009). For instance, in Lodewijks, et al. (2008a), the inter-rater reliability of the SAVRY domains and SAVRY Risk Total ranged from good to excellent (single measure ICC: Risk Total = .74, *Historical* = .74, *Social/Contextual* = .61, *Individual* = .82 and *Protective* = .86). The inter-rater reliability of the Summary Risk Rating was also excellent (ICC = .85).

As for predictive accuracy, in the initial validation sample (Bartel, et al., 2000), SAVRY Risk Total scores[3] were significantly related to measures of institutional aggressive behavior ($r = .40$) and aggressive conduct disorder symptoms ($r = .52$). SAVRY Summary Risk Ratings have also been found to correlate significantly with outcome measures of community violence (Gretton and Abramowitz, 2002; McEachran, 2001). Using the Receiver Operating Characteristic (ROC) analysis, Areas under the Curve (AUCs) for the SAVRY Risk Total averaged between .74 and .80 across these North-American studies. Interestingly, the overall risk judgment (Summary Risk Rating) consistently performed as well as, and often better than, the actuarial summation of the scores. For example, using the ROC analysis, McEachran (2001) found an AUC for the SAVRY Risk Total of .70, though the AUC for the SAVRY Summary Risk Rating was .89. SAVRY Risk Total scores also demonstrated high predictive validity in five samples of Dutch juvenile offenders (Lodewijks, et al. 2008a, 2008b, 2010). For instance, the AUC for the Summary Risk Rating was .86 for physical violence against persons within a secure residential institution (Lodewijks, et al. 2008a), and .71 for violent reoffending in the community after three years follow-up (Lodewijks, et al. 2008b). Significant associations were also found in all five samples between the *Individual* subscale and violent outcomes, and in four out of five samples between the *Social/Contextual* subscale and violent outcomes. Lodewijks, et al. did not find any association between the *Historical* scale and violent outcomes in any sample in their studies. The SAVRY was also significantly more accurate in predicting violent recidivism than unstructured clinical judgment (Lodewijks, et al., 2008b). A qualifying comment as to the clinical relevance of predictive validity studies is in order here: SPJ risk assessment tools are designed for risk management and risk prevention purposes (Douglas and Kropp, 2002). Thus, the ultimate test of these instruments lies in their ability to inform effective interventions to reduce future risk, though such research has not been conducted yet.

The practice of structured risk assessment with young offenders

Having available reliable and valid risk assessment tools such as those noted (i.e., EARLs, SAVRY) increases the chance that risk assessments will be evidence-based and accurate. Nevertheless, the quality of risk assessment is only partially determined by the quality of the device itself; the expertise of the professional that uses the tool is equally important. Through providing training workshops on the

proper use of tools like the EARLs and the SAVRY, we have noticed that the added value of using structured risk assessment versus unstructured clinical judgment only becomes apparent when professionals are rigorous in the following ways. Their approach to the collection of information relating to the different risk factors must be thorough. In some cases, this includes a comprehensive assessment of intelligence, personality features, and psychopathology of the child/adolescent. Data must be collected from a variety of agents in addition to the child, such as his/her caretakers, teachers, health-care professionals, using a variety of sources of information such as their respective records (e.g., school records, police records and standardized measures) as it is important to corroborate such findings to arrive at a clear understanding of the child in question. Professionals who use risk=assessment tools for children and juveniles should be trained in child development and developmental psychopathology as the individuals in question are still developing. The issue of whether certain behaviors or personality traits are 'non-normative' or part of a developmental process often arises (Johnstone and Cooke, 2004). Lastly, it cannot be emphasized enough that users should always have the corresponding risk assessment guide at hand when assessing a case, to prevent definition drift, which seriously reduces the fidelity of the tools. These are the minimum standards for use mentioned in SPJ manuals but also in the major textbooks on forensic mental health assessment (e.g., Heilbrun, Grisso, and Goldstein, 2008). Hart (2001) stated that the 'ultimate goal' of risk assessment should be violence prevention, and that a 'good risk assessment should: (1) yield consistent or replicable results; (2) be prescriptive, and (3) transparent' (p. 15). The following clinical case and completed EARL-20B Summary Sheet provides an example of these important principles in practice.

Clinical case example: Mason Edwards

Mason is a nine-year old boy. He is articulate, bright and likeable, even though adults find his behavior challenging at times. He enjoys swimming, skating and playing with his toys. He says he wants to be a firefighter or police officer when he grows up. Reports indicate he is barely passing his class subjects; the most recent academic report card indicated the majority of his marks were in the 50–69 per cent range. The teacher reported that he is not performing to his ability, as his reading skills are above grade level. Currently, he is in a specialized class with nine other children who are also experiencing serious behavioral issues – the teacher feels his conduct is impeding his ability to focus, which is the cause of his poor academic performance. Socially, the teacher reports he has positive social skills and is able to make friends; however, he has difficulty keeping them. He has also been known to associate with other children who get into trouble.

Mason and his older sister (aged 12) recently rejoined their family after being in foster care for the past four years. Crystal (Mason's mother) could not manage her children and they were placed in care. At the time, she was experiencing severe depression and other psychiatric problems. She frequently used punitive discipline and had difficulty supervising and monitoring her children. (This is still apparent

today.) In addition, the children witnessed extreme violence from various partners towards their mother. During the time that Mason and his sister were away from their mother, she had two more children (a boy aged four and a girl aged one). The family is currently receiving government assistance (financial help) and living in subsidized housing. The house is large enough for the family but poorly maintained. It is in a very 'tough' neighbourhood; however, the area has access to community resources (e.g., children's mental health center, recreation activities), which Crystal has been able to access for some help. They are hoping to stay in this home for a few years as the family has moved five times in the past five years. Besides these supports and a few close friends that Crystal relies on, the family is quite isolated.

In addition to the multiple moves and issues presented above, this family is experiencing other stressors. Crystal reports that her children constantly argue and fight and that Mason's behavior is problematic. She feels he is manipulative, withdrawn, depressed, can be physically aggressive (he has punched holes in the wall and broken windows), and often lies. He has also been stealing from the local store since he was seven years old, which has resulted in police contact. She attributes his behavior to being angry and/or having been in care. Crystal reports that to help her cope she occasionally drinks alcohol and there is a suspicion that she also uses illegal drugs. Mason has also admitted on a self-report delinquency measure that he destroys property at home, has shoplifted, has been in physical fights with his older sister, which often resulted in her being bruised and at times caused her to bleed, fights with peers and has been sent home from school for 'bad behavior'. He also indicated that he does not like going home and prefers to hang out on the streets with older kids he knows (many of whom get into trouble with the law). He reports feeling as though he is treated the worst in his family and that his mother resents him because she compares him to his father whom she greatly dislikes. He indicates feeling hopeless and angry towards his mother as he feels she will not change and treats him unfairly compared to the rest of his siblings. Reports from other sources also indicate that Mason has experienced both excessive physical and emotional abuse by his mother and her previous partners. Mason understands the concept of right from wrong but feels that being physical is the only way to get what he wants. He has a hard time feeling empathic towards others because he feels 'no one loves or cares about him'. He indicates that this makes him feel sad and that, on occasion, he has thought about suicide. He has indicated he wants to get help to control his anger but is not sure it will help. Crystal, on the other hand, feels that she has attended a number of parenting courses and believes that it is Mason who needs the help and not her.

As noted above, one of the goals of risk assessment is to summarize all available and relevant information in a structured and transparent manner so that the clinician assessing the case can formulate an effective clinical risk management plan based on the child's level of risk and need. Figure 9.1 presents a sample of a completed EARL-20B Summary Sheet for Mason. The information is organized under three main risk categories: *Family, Child* and *Responsivity*. The information becomes

'transparent' as the corresponding information is noted beside each item (see italics). Each item is scored on a three-point scale (0 = not present, 1 = possibly present, 2 = definitely present). The *Critical Risk* section helps clinicians to 'red flag' areas of particular concern that require immediate attention. This is why it is important, as noted above, to use multiple sources of information (e.g., school reports, standardized measures) from a variety of respondents (e.g., parent/caregiver, teacher, child) to ascertain the level of risk and need. At the bottom of the form is a section entitled *Overall Clinical Judgment*. This allows the clinician the 'clinical freedom' to denote level of risk (low, moderate or high) independent of the Total Score. As noted previously, the EARLs are part of the SPJ family of risk assessment tools and do not rely on cutoff scores to denote level of risk. Typically, there will be correspondence between Total Score and final risk estimate; that is, the higher the score the greater the risk. The *Overall Judgment* also allows for additional information that may not get captured in the tool and/or protective information that may buffer the risk scores rendered. In addition, to further help clinicians formulate an effective clinical risk management plan based on the EARL assessment, an EARL Case Planning Form was developed (see the section below and Figure 9.2) that corresponds with the EARL Summary Sheet (see Figure 9.1).

Effective preventive and risk management interventions

Risk management in practice

A key aspect of good clinical risk assessment is the ability to then use the information to formulate an effective clinical risk management plan ('prescription for intervention'). This involves the completion of a structured professional judgment risk/need assessment tool such as the EARL-20B (for boys) or the EARL-21G (for girls), followed by a thorough eco-systemic assessment. It has been noted in the scientific literature that this process from risk assessment to management seems to be missing a key ingredient when it comes to designing effective crime-prevention programs for children and youth (Jones and Wyant, 2007). In 2001, Andrews introduced the principles of risk-need-responsivity for effective correctional programs. This highlighted the need to match level of risk and need with the appropriate treatment interventions to ensure successful treatment response.

Since the creation of the EARL-20B (1998; 2001) and the EARL-21G (2001), one of the authors developed the EARL Case Planning Form that corresponds with the EARL Summary Sheet (see Figure 9.1). This form evolved out of a need to assist clinicians in linking the information from the EARL risk assessment to clinical risk management strategies (pinpointing areas for immediate intervention).

Figure 9.2 provides a sample for the case of Mason Edwards. One begins by examining the *Overall Clinical Judgment* and the *Critical Risk Items*. Part of that examination involves exploring possible protective factors that may diminish the risk level in the identified critical risk items. Based on the information noted, the clinician decides the services that are available within the community to best meet the needs of the particular client system.

The EARL-20B Version 2 Summary Sheet
(To be used in association with the EARL-20B, Version 2 Manual)

Child's Name or ID#: *Mason Edwards* (First name SURNAME) Date: *2010-03-01* (YYYY-MM-DD)

Assessor: *L.K.A* Child's DOB: *2001-02-15* (YYYY-MM-DD) Age: *9*

Family Items			Rating (0-1-2)	Critical Risk
F1	Household Circumstances	government assistance, subsidized housing, poorly maintained	2	
F2	Caregiver Continuity	single led family (mother), children in care/foster home (4 years)	2	
F3	Supports	few close friends, community social service agency	1	✓
F4	Stressors	parenting distress, high family mobility – 5 moves in 5 yrs, sibling rivalry, maternal depression	2	
F5	Parenting Style	inconsistent, spanking/hitting (puncture), lack of supervision/monitoring	2	✓
F6	Antisocial Values and Conduct	domestic violence (between Mom and partners), suspected alcohol/drug abuse	2	
Child Items			**Rating (0-1-2)**	**Critical Risk**
C1	Developmental Problem	no identified concerns	0	
C2	Onset of Behavioral Difficulties	7 years of age (started stealing)	1	
C3	Abuse/Neglect/Trauma	witnessed extreme family violence, neglect, spanking	2	✓
C4	HIA (Hyperactivity/Impulsivity/Attention Deficits)	impulsive, concentration problems	1	✓
C5	Likeability	likeable (teacher/clinician), pleasant demeanor, attractive, articulate/bright	0	✓
C6	Peer Socialization	history of problems with peers, able to make friends, difficulty keeping them	1	✓
C7	Academic Performance	specialized beh class – beh. vs academics, at grade level (4) – reading above, marks poor	2	✓
C8	Neighborhood	a tough area, resources available (mental health, recreation)	1	
C9	Authority Contact	principal, teachers, police	2	
C10	Antisocial Attitudes	antisocial thinking, weak in areas of cooperation and empathy, manipulative	2	✓
C11	Antisocial Behaviour	stealing, aggression (physical/verbal), lying, oppositional, delinquent behavior	2	
C12	Coping Ability	withdrawn, depressive symptoms (feels unloved, sad), suicide ideation	2	✓
Responsivity Items			**Rating (0-1-2)**	**Critical Risk**
R1	Family Responsivity	did not follow through in past, feels it is her child's issue not hers	2	✓
R2	Child Responsivity	guarded, would like to deal with his anger	1	✓

Overall Clinical Judgment	LOW	MOD	HIGH
	LOW	MOD	✓

TOTAL SCORE: 30

Notes: *Mason has some very positive attributes – he is likeable, bright and articulate. He is a bit guarded in getting help but is interested in learning how to control his anger. He is in a grade 4 behavioral class functioning at grade level (his marks are low; his reading skills are above grade level). Teachers report that his behavior impedes his ability to stay focused. The goal – build on his strengths. Based on the above risk summary, the following clinical risk management strategies are recommended: (1) connect Mother to a children's mental health center where she can access a Parent Group – to learn effective parenting strategies; (2) build a support system for this family – ensure continued monitoring by child protection; (3) promote family responsivity by helping Mother with instrumental challenges (e.g., transportation, child care); (4) help Mom find a service to deal with her depression/anger; (5) enroll Mason in anger management program (e.g., SNAP®); (6) connect him to a structured community activity (e.g., swimming, skating) – build on his social skills and encourage him to make some new friends; (7) academic tutoring; (8) assess items C4 and C12 – HIA versus anxiety/depression (assess suicide ideation immediately) – it is suspected that the impulsivity and concentration problems may be tied into C3 (Abuse/Neglect/Trauma); and (9) promote child responsivity (e.g., weekly telephone reminder calls to get to group, individual befriending/mentoring at home and school to explore identified issues/ensure engagement).*

Figure 9.1 The EARL-20B Version 2 Summary Sheet

EARL CASE PLANNING ECO-SYSTEMIC ASSESSMENT FORM	
NAME: *Maeon Edwards*	ID # *01216*
BIRTHDATE: February *15, 2001*	ASSESSOR: *Helena Hrynkiw*
SCREENING DATE(S): *March 3, 2010*	SERVICE COORDINATOR: *Nicola Perring*
TOTAL EARL SCORE: *30*	OVERALL CLINICAL JUDGMENT: ☐ LOW ☐ MOD ☑ HIGH

CRITICAL RISK ITEM(S)		REASON
F3	Supports	Family has few identified supports in place; multiple stressors. Focus – strengthen the support system to diminish/buffer the stressors.
F5	Parenting Style	Parent is inconsistent, does not adequately monitor child and uses punitive discipline methods – could be contributing to the child's problematic behavior (e.g., not coming home after school, staying out late at night and 'hanging out' on the streets with older delinquent peers).
C3	Abuse/Neglect/Trauma	Child has experienced physical and emotional abuse and been exposed to extreme violence by mother's partners.
C4	HIA (Hyperactivity/Impulsivity/ Attention Deficits)	Issues noted in regards to impulsivity and concentration problems. No formal testing/assessment has been conducted. Not sure if this is in relation to HIA or possible anxiety or depression.
C5	Likeability	Adults see this boy as likeable. This is in fact an important positive attribute for this child. Need to build on this strength.
C6	Peer Socialization	History of strained peer relationships. Determine what the issues are and how to build on his positive qualities so that he can form and keep positive relationships/ friendships.
C7	Academic Performance	This child is not performing to his ability (teacher indicates he is above grade level in reading but functioning at 50-60%). Strengthen academic performance (in school supports and incentives) to ensure school success.
C10	Antisocial Attitudes	Concerns that this child lacks empathy. He can also be manipulative. Important for treatment to challenge cognitive distortions/thinking errors without making him feel alienated or interfere with therapeutic alliance.
C12	Coping Ability	This boy is displaying depressive symptoms. He is withdrawn, sad and feels unloved. He sometimes also talks about killing himself. Assess this right away to determine suicidal tendencies.
R1	Family Responsivity	Mother does not seem interested in service. She feels she is not in need of assistance ('It is my son's problem, not mine.'). Focus on engagement issues.
R2	Child Responsivity	Child is interested in getting help but guarded. Focus on engaging this child in a therapeutic relationship.

SUGGESTED CLINICAL RISK MANAGEMENT STRATEGIES – BASED ON EARL ASSESSMENT

CHILD:

☑ ANGER/IMPULSE CONTROL AND SOCIAL PROBLEM SOLVING SKILLS TRAINING
☑ STRUCTURED MENTORING PROGRAM
☑ SUPERVISED RECREATION WITH PEERS
☑ SCHOOL CONSULTATION – CLASSROOM BEHAVIOURAL MANAGEMENT
☑ SCHOOL ADVOCACY
☑ ACADEMIC TUTORING
☐ STIMULANT MEDICATION
☑ SPECIALIZED MENTAL HEALTH SERVICES (e.g. for psychoses, major affective disorder, trauma, substance abuse)

Figure 9.2 EARL Case Planning Eco-Systemic Assessment Form

TYPE OF SERVICE RECOMMENDED BASED ON OVERALL CLINICAL JUDGMENT LEVEL

☑ HIGH INTENSITY ☐ MODERATE INTENSITY ☐ LOW INTENSITY

RECOMMENDED SERVCE:

Based on the information above and corresponding EARL-20B risk assessment it is suggested that this child and his family be referred to a children's mental health center specializing in latency-aged children with disruptive behavior problems. A multi-modal cognitive behavioral service is highly recommended for Mason and his family (e.g., SNAP® Under 12 Outreach Project for Boys at the Child Development Institute). This program offers the following recommended service components that meet the suggested needs (SNAP® Boys Group, a self-control and problem solving group; SNAP® Parent Group that focuses on effective parent management strategies; Individual Counseling/Mentoring and connections to structured community recreation activities; SNAP Parenting, Individual family counselling; School Support/Advocacy to assist the child in school; and Academic Tutoring to booster the child's academics through a tutoring club). A psychiatric assessment is critical to address the identified depression and suicide ideation risk. As Mason's mother seems to be guarded as noted in the Family Responsivity (R1) risk item, all attempts need to be made to engage this family in service. To further ensure treatment success, establishing a strong therapeutic alliance/connection with both Mason and his mother is important. Ongoing treatment reviews (every six months) to ensure treatment compliance and outcome monitoring need to be conducted.

PLANNING	
NEAREST INTERSECTION TO CHILD'S HOME: *Rogers Road and Black Creek*	
CLOSEST APPROPRIATE SERVICE PROVIDER(S): *Child Development Institute*	
AGENCY REFERRED TO: *Child Development Institute*	**DATE:** *August 5, 2010*
DESIGNATED PROGRAM: *SNAP® Under 12 Outreach Program for Boys*	
CONTACT PERSON: *Karen Sewell*	**TITLE:** *Program Manager/Intake*
PHONE NUMBER: *416–654–8989*	**EMAIL ADDRESS:** *not applicable*
AGENCY ADDRESS: *46 St. Clair Gardens, Toronto, Ontario, M6E 3V4*	
FOLLOW-UP PLAN: *Ensure family is actively participating in treatment; suggested recommendations have been implemented; ongoing treatment reviews; and monitoring of treatment outcomes.*	
EARL ASSESSOR SIGNATURE: Helena Hrynkiw	

Figure 9.2 (continued)

During the past few decades, the knowledge base on what is effective in the prevention and treatment of child and adolescent offending has increased tremendously. This knowledge base has been summarized in a number of excellent publications on the subject (e.g., Farrington and Welsh, 2007; Howell, 2003, 2009; Loeber, et al., 2008), and is now also available from websites of accredited rating bodies, such as the US Office of Juvenile Justice and Delinquency Prevention (http://www2.dsgonline.com/mpg/), the US White House initiative, Model Program Guides (http://www.findyouthinfo.gov) and the Canadian National Crime Prevention Centre (http://www.publicsafety.gc.ca/res/cp/res/2008-pcpp-eng.aspx). To a similar extent, our knowledge of what is *in*effective in reducing juvenile delinquency has accumulated. For example, correctional boot camps using the traditional military-style model of discipline are ineffective in reducing recidivism

(Aos, Phipps, Barnoski, and Lieb, 2001), and the potential for psychological and physical abuse of youngsters in these settings is substantial (MacKenzie, Wilson, Armstrong, and Gover, 2001). Examples of other ineffective approaches are 'Scared Straight', that is, bringing youth into prison and subjecting them to threats, bullying and intimidation (Lipsey and Wilson, 1998) and 'punishing smarter' techniques, such as home confinement, increased surveillance, and shock incarceration (Gendreau and Goggin, 1996). Some of these 'get tough' approaches even seem to result in slight increases in recidivism (Howell, 2003, p. 132). Nevertheless, many of these punitive approaches continue to be popular among policymakers, politicians and the general public, as they seem to fulfill a wish to confer a penalty on those who have caused harm to society.

A complete review of all evidence-based interventions available to reduce the risk of future antisocial behavior in children and adolescents is beyond the scope of this chapter. Instead, we will focus on two multimodal evidence-based interventions designed specifically for children and youth in conflict with the law that have received top effectiveness designations from the above-noted accredited rating bodies. These models include involvement with parents, youth, and other systems (e.g., schools) and they are the SNAP® (Stop Now And Plan) model for young children between 6 and 12 years of age and multisystemic therapy (MST) for youths between 12 and 17 years of age. These two interventions were selected because they coincide with the ecological, systems framework that is a central aspect of risk-prevention tools such as the EARLs and SAVRY.

SNAP® (Stop Now And Plan)

Twenty-five years ago, a small community-based organization (Earlscour Child and Family Centre, now called Child Development Institute) in Toronto in Canada, which specialized in working with children with disruptive behavior problems, created an innovative model for young children in conflict with the law. The program, called SNAP® (for more details see www.stopnowandplan.com), evolved from the best possible treatment ingredients identified in the scientific literature on 'what worked' with children and youth with conduct problems. It resulted in gender-specific cognitive-behavioral multi-component models based in a scientist-practitioner framework. The programs are fully manualized, and use an *adaptive* intervention structure; treatment dosage is dependent on level of risk and need (Collins, Murphy and Bierman, 2004). To ensure treatment adherence and compliance, a *SNAP® Fidelity and Integrity Rating Index* is used to monitor SNAP® replications (see Augimeri, Walsh and Slater, 2011). The model has been subjected to ongoing rigorous evaluation research (e.g., randomized controlled trials, replications and third-party evaluations), all of which have consistently demonstrated positive treatment changes from pre- to post-treatment and sustained treatment gains at follow-up. This has resulted in the model achieving the highest effectiveness rating from accredited bodies (for details, see Augimeri, et al., 2011; Koegl, Augimeri, Ferrante, Walsh, and Slater, 2008).

The first SNAP® program (SNAP® Under 12 Outreach Project; SNAP® ORP) was initiated in 1985 as a result of changes in Canadian federal law in 1984 pertaining to the decriminalization of children under the age of 12 with the implementation of the *Young Offenders Act* (YOA). At the time of the introduction of the YOA, the Canadian federal government put the onus on the provinces and territories to come up with effective crime-prevention and intervention programs to meet the needs of young children under the age of 12 engaging in antisocial activities.

The SNAP® ORP consists of five key components: (1) a SNAP® Children's Club – a structured group that teaches boys impulse control and problem-solving skills using SNAP® strategies; (2) a concurrent SNAP® Parenting Group that teaches parents effective child-management strategies; (3) one-on-one family counseling based on 'Stop Now and Plan Parenting' or SNAPP; (4) individual child counseling/mentoring for boys who are not connected with positive structured activities in their community and require extra support; and (5) academic tutoring to assist boys who are not performing at their age-appropriate grade level at school. Other components of the program that are deployed where appropriate include school advocacy and teacher consultation, victim restitution, and a Monday Night Club for high-risk boys who have completed the SNAP® Boys Group but still require support. In addition, a Leaders-In-Training (LIT) program is available to boys over 12 years of age who still require support as they enter into their teenage years. This component also provides the boys with job skills development by giving them opportunities to assist with therapeutic summer day camp and weekly activity groups at the Centre. Based on an assessment of their unique treatment needs, SNAP® ORP children and families access a range of these components; however, the two core components, the 12-week child-and-parent SNAP® groups, are offered to all children and their families.

The sister program of the SNAP® ORP, the SNAP® Girls Connection (SNAP® GC), began in 1996 when preliminary assessments of the then mixed-gender SNAP®ORP groups revealed that the program was not producing the same positive outcomes for girls as it was for boys. Over its 15-year history, the SNAP® GC has been established as the most advanced gender-specific intervention for girls under the age of 12 in conflict with the law (Pepler, Walsh, and Levene, 2004; Pepler, et al., 2010). Like the SNAP® ORP, two core components of the SNAP® GC are the SNAP® Girls' Club and a concurrent SNAP® Parenting Group. Upon completion of these components, however, girls over 8 years of age and their mothers may also participate in a third core component, Girls Growing up Healthy (GGUH) – a group for mothers and daughters that focuses on relationship building and includes such topics as physical and sexual health, puberty, female role models and girls in the media, and intimate relationships. Individual child counseling/mentoring, academic tutoring, one-on-one family counseling based on SNAPP and the LIT program are also made available, as needed.

Research on the SNAP® Under 12 Outreach Project (SNAP® ORP)

A number of randomized controlled trials (RCTs) of the SNAP® ORP program were conducted, and showed that treated children improved significantly more

than children receiving an attention-only group or delayed treatment; effect sizes were large, exceeding 1.1 (Koegl, Farrington, Augimeri, and Day, 2008). The program lowers aggression and delinquent behaviors in the short term, with good evidence that these effects can be sustained over the intermediate future. There is also some indication that the program may produce long-term changes, such as preventing involvement in criminal activities in adolescence and adulthood. A closer look at program effects showed that the amount of treatment received influences treatment effectiveness in terms of immediate decreases in delinquency and aggression, and longer-term outcomes such as involvement in criminal activities (Augimeri, et al., 2007; Koegl, et al., 2008).

Research on the SNAP® Girls Connection (SNAP® GC)

The first quantitative evaluation of the SNAP® GC program was conducted during the first four years of the program's operation (Walsh, Pepler and Levene, 2002). The analysis examined behavioral change, comparing externalizing behavior scores upon admission, as well as at six- (N = 72) and twelve- (N = 58) month intervals using the Standardized Client Information System, a measure based on the *Child Behavior Checklist* (CBCL, Offord and Boyle, 1996). At both follow-up periods, girls showed significant improvements in externalizing behaviors, which is an aggregation of conduct and oppositional problem behaviors. The girls also displayed an increase in social skills – statistically significant improvements from admission to the six-month follow-up were found, and these improvements were maintained at twelve months. Effect sizes for the change in externalizing behaviors were in the small to medium range (d = 0.42 to 0.49), whereas improvement in social skills emerged as a large effect (d = 0.72).

The most recent evaluation of the SNAP® GC was a prospective study of girls referred to the program between 2002 and 2004 (Pepler, et al., 2010). A quasi-experimental design was used to randomly assign referred girls either to immediate treatment in the program (N = 45) or to a waiting-list control group (N = 35). Both groups were stratified in terms of the severity of girls' behavior problems at intake. Externalizing behaviors were assessed at admission, post-treatment, and at six-, twelve-, and eigtheen-month follow-up intervals using the CBCL. Results indicated a significant treatment effect of the program. In comparing the treatment group to the control group, behavior problems (e.g., aggression, rule-breaking, conduct disorder, oppositional defiant disorder, and social problems) decreased significantly more for girls who received the SNAP® GC intervention. There was also a significant decrease in parental reports of girls' externalizing behaviors from pre-to post-program (d = .51), and significantly more of the treatment girls (38 percent) moved into the non-clinical range on externalizing behaviors post-treatment compared to controls (10 percent). Also, treatment girls significantly improved in terms of their self-control and cooperation skills.

Recent SNAP® longitudinal research looking at levels of risk as assessed using the EARLs and long-term outcome, showed that 91.8 percent of the boys and

96.9 percent of the girls who participated in the SNAP® ORP and SNAP® GC had no history of criminal offences at follow-up (14 years was the average age at follow-up; Augimeri, et al., 2010). In the last few years, CDI has engaged in two studies with the Hospital for Sick Children and the University of Toronto. The first study focused on neuro-cognitive processes in relation to impulse control in SNAP®-treated children. It used dense-array EEG sensor nets to record children's brain activity before and after SNAP® treatment. Results of this study showed that, after the SNAP® treatment, there were significant improvements in children's externalizing behavior associated with changes in brain activity as evidenced by more dorsally mediated executive regulation and less ventrally mediated reactive regulation (Lewis, et al., 2008). Thus, SNAP® increases children's ability to inhibit aggressive impulses, shown at both the behavioral and the brain level. The second study by Granic, O'Hara, Pepler and Lewis (2007) focused on parent-child interactions and found that SNAP® children who showed significant improvement in their externalizing behavior from pre-to post-treatment also showed improved parent-child communication; they were able to 'repair' more easily after engaging in a difficult parent–child interaction.

Multisystemic therapy (MST)

Scott Henggeler and colleagues at the Medical University of South Carolina developed MST in the late 1970s to address several limitations of existing mental health services for serious juvenile offenders (i.e., ineffectiveness, lack of a systems focus). MST fits closely with findings from multidimensional causal models of delinquent behavior (Howell, 2009). Using interventions that are present-focused and action-oriented, MST directly addresses intrapersonal (e.g., cognitive) and systemic (i.e., family, peer, school) factors that are known to be associated with adolescent antisocial behavior. Moreover, because different combinations of these factors are relevant for different adolescents, MST interventions are individualized and highly flexible. This provides a good fit with individualized risk assessment.

MST typically uses a home-based model of service delivery to reduce barriers that keep families from accessing services (Henggeler, Schoenwald, Borduin, Rowland, and Cunningham, 2009). Therapists have small caseloads of four to six families, work as a team, are available twenty-four hours a day, seven days a week, and provide services at times convenient to the family. The average treatment occurs over approximately four months, with multiple therapist–family contacts occurring each week. MST therapists concentrate on empowering parents and improving their effectiveness by identifying strengths and developing natural support systems (e.g., extended family, neighbors, friends, church members) and removing barriers (e.g., poor parenting skills, high stress, poor relationships between partners). Specific treatment techniques used to facilitate these gains are integrated from those therapies that have the most empirical support, including behavioral, cognitive-behavioral, and the pragmatic family therapies.

Research on MST

The first controlled study of MST with juvenile offenders (Henggeler, et al., 1986) evaluated its effectiveness compared with usual community treatment for inner-city juvenile offenders and their families. The study's success led to several randomized controlled trials and quasi-experimental studies, examining the effectiveness of MST in other populations of youths who presented serious clinical problems. Henggeler and colleagues (1992, 1993) examined MST as an alternative to incarceration. The study included 84 violent and chronic juvenile offenders, of whom 54 percent had been arrested for violent crimes. Their mean number of arrests was 3.5, and they averaged 9.5 weeks of prior placement in correctional facilities. The average age of the youths was 15.2 years, and 77 percent were male. Youths were assigned randomly to receive MST (n = 43) or usual services provided by the South Carolina Department of Juvenile Justice (n = 41). The average duration of treatment was 13 weeks. Assessment batteries, consisting of standardized measurement instruments, were administered pre- and post-treatment. The results of the study showed that MST was effective at reducing rates of criminal activity and institutionalization. At the 59-week post-referral follow-up, youths receiving MST had significantly fewer re-arrests and weeks incarcerated than did youths receiving usual services. Families receiving MST reported more cohesion, whereas reported family cohesion decreased in the usual services condition. Significantly, the relative effectiveness of MST was not moderated by demographic characteristics (e.g., race, age, social class, gender, and arrest and incarceration history). Similarly, pre-existing problems in family relations, peer relations, social competence, behavior problems, and parental symptomatology were not differentially predictive of outcomes. Moreover, a 2.4-year follow-up (Henggeler, et al., 1993) showed that MST doubled the percentage of youths who did not recidivate in comparison with usual services.

MST started to be transferred to community settings and to countries outside the United States in the mid 1990s and this provided an opportunity for independent evaluations of its effectiveness. For instance, Ogden and Halliday-Boykins (2004) directed a four-site randomized trial in which participants were 100 seriously antisocial adolescents in Norway. The Norwegian study's short-term outcomes at six months post-recruitment showed that MST was significantly more effective at reducing youth internalizing and externalizing symptoms and out-of-home placement as well as increasing youth social competence and family satisfaction with treatment (Ogden and Halliday-Boykins, 2004). Significantly, analyses demonstrated differential site effects – the one site with problematic adherence to the MST intervention protocols had the worst outcome. In addition, a two-year follow-up has shown that MST's effects on out-of-home placements and youth internalizing and externalizing problems were maintained (Ogden and Hagen, 2006).

In 2004, a meta-analysis of seven primary outcome studies and four secondary studies involving a total of 708 participants was published (Curtis, Ronan, and Borduin, 2004). Results indicated that across different presenting problems

and samples, the average effect size of MST was d = .55 following treatment. Youths and their families treated with MST were functioning better than 70 per cent of youths and families treated alternatively. Results also showed that the average effect of MST was larger in studies involving graduate-student therapists (i.e., efficacy studies; d = .81) than in studies with therapists from the community (i.e., effectiveness studies; d = .26). Thus, ongoing quality assurance to monitor treatment fidelity seems to be important to optimize treatment effectiveness. A more recent and more stringent meta-analysis by the Cochrane Collaboration using eight RCTs indicated no significant differences between MST and usual services in terms of out-of-home-placements and arrests/convictions (Littell, Campbell, Green, and Toews, 2009). However, the sample size for this meta-analysis was small and effects were not consistent across studies.

Using data from three effect studies of MST on criminal outcomes, Aos and colleagues (Aos, et al., 2001) reported that, compared to alternative interventions (usual services, community services, or individual therapy), MST reduced the proportion of youth who committed criminal offenses (Standardized Mean Difference = -.31, SD = .10). They estimated that the net direct cost of the program per participant was US $4,743. When they compared this cost with estimated economic benefits of anticipated reductions in crime, the estimated net benefits of MST range from US $31,661 (for taxpayers only) to US $131,918 (for taxpayers and crime victims) per MST program participant.

Implementing risk prevention at the community level

Bringing evidence-based intervention programs such as SNAP® and MST to communities requires more than just the training of therapists in the new treatment method. Dodge (2009) summarized the most important pitfalls in this process. The first is that evidence-based interventions are difficult to implement with high fidelity at full scale in entire communities (see the example of MST above; Curtis, et al., 2004). Treatment fidelity should be monitored continuously to prevent drift. Second, community-level improvements in the resources, financing, and access to individual-level interventions are often needed. Official government policies may or may not be in line with these needs. Finally, the third possible reason that interventions delivered to children and their families are not as effective as expected is that the antisocial behavior problems themselves are partially caused by community-level factors, such as neighborhood violence, cultural endorsement of aggression, and peer deviance and discrimination against specific groups, which can be changed only by community-level intervention. Clinicians 'work around' or 'work with' community risk factors mostly indirectly (Dodge, 2009).

To provide an illustration – the Centre for Children Committing Offences at the Child Development Institute (CDI) developed a comprehensive crime-prevention model for young children in conflict with the law that includes a three-pronged approach: police-community referral protocol, structured professional risk assessment (i.e., EARLs), and gender-sensitive evidence-based interventions (i.e., SNAP® Models) (Augimeri, et al. 2011). The Police-Community Referral Protocol

(briefly summarized here, including some of the dos and don'ts) is an example of how community partners such as the Toronto Police and Fire Services, child-welfare organizations, school boards, children's mental health and other children's service agencies can work together to establish a single-entry access point through a Central Intake Line housed at CDI. Signed on February 1, 1999, this Protocol mandates the 15 participating organizations to make referrals to CDI within 48 hours, which, if the family agrees to participate (families who refuse are referred to child welfare), triggers a more in-depth clinical assessment within five working days (for details, see Koegl, et al., 2008).

In order to assess the Protocol's effectiveness and maintain a steady flow of referrals, there must be constant communication and coordination among Protocol stakeholders. In the 12 years that the Protocol has been in place, CDI has been able to identify four key ingredients and challenges associated with such an endeavor (the ingredients were also described in Koegl, et al., 2008). Specifically, lessons learned included the need to have the following:

1. *Protocol champion* – a person within a lead organization who is in regular contact with partnering agencies to: (a) assess and monitor the volume of referrals, (b) check whether children are being admitted into services, (c) inform referral sources about the status of referrals (e.g., whether families followed through with treatment), (d) monitor whether partnering organizations are actively participating in the referral process, and (e) ensure that staff are adequately trained to provide services. The Protocol champion should also mobilize local stakeholders and resources, and/or secure external funding when needed to support its continued development.
2. *Protocol marketing strategy* – so that frontline personnel within participating organizations (i.e., those most likely to encounter at-risk children) are aware of the Protocol and know how to make a referral through the Central Intake Line. For example, in Toronto, a Protocol poster was widely distributed to elementary schools, community centers, police and fire stations, child welfare offices, and children's mental health centers. We learned, however, that many of these posters were either never displayed or were removed over time. This led us to extend our marketing efforts beyond the poster itself to key personnel within our community who occupied positions of influence, and who could ensure that staff were aware of the Central Intake Line.
3. *Ongoing protocol training* – so that professionals (e.g., police, clinicians) understand the needs of high-risk children and their families so that they are able to engage and encourage them to participate in treatment. This is important at the point of referral but also during the provision of clinical services. For example, we know that families are more likely to consent to treatment if referring police officers assume a compassionate rather than authoritative stance when making a referral through the Central Intake Line (Coombs, 2005).
4. *A process for ongoing dialogue between the referral source and service provider* – our practice with the Toronto Police Service is to inform referring officers about the status of their referral. In the absence of information, we have found that there is a tendency for officers – especially in cases where the family does not pursue treatment – to become cynical about the efficacy of the Protocol, which has historically led to a reduction in referrals. Two evaluations indicate that the Protocol has helped to seal a significant crack in the system by bringing organizations together to serve this specific population of youth. From these positive evaluations, and the fact that Protocol implementation costs relatively little in terms of financial resources, the Protocol model has been subsequently replicated in eight other communities across Canada (see Koegl, et al., 2008, p. 287–88).

Future directions in research and practice

The 'nothing works' era in juvenile-offender rehabilitation, which started with Martinson's (1974) analysis of 231 program studies and his conclusion that a 'radical flaw [exists] in our present strategies [such] that [rehabilitation] at its best, cannot overcome, or even appreciably reduce, the powerful tendency for offenders to continue in criminal behaviors' (p. 49), seems finally to have ended and turned into an era of 'evidence-based practice'. This is largely the result of numerous well-designed studies that identify the effectiveness of specific intervention programs and their critical components. However, the size of treatment effects reported in recent meta-analyses still leaves room for improvement. Further refinement of individual clinical risk management may be possible if we take recent research that is showing important interaction effects into account. For instance, Hawes and Dadds (2005) examined the impact of callous-unemotional (CU) traits on treatment outcomes in a 10-week behavioral parent-training intervention with young boys referred for conduct problems (N = 56; mean age 6.29 years). CU traits were associated with greater conduct problems at pretreatment and with poor outcomes at six-month follow-up. Boys with high CU traits were less responsive to discipline with time-out than boys without CU traits and reacted to this discipline with less affect. Recently, Hawes, Brennan and Dadds (2009) examined evidence that the role of the hypothalamic-pituitary-adrenal (HPA) axis in the development of antisocial behavior may differ across subgroups of children. A meta-analysis (Alink, van IJzendoorn, Bakermans-Kranenburg, et al., 2008) has supported the prediction that low levels of cortisol are associated with risk for childhood antisocial behavior, but the relationship is weaker than previously assumed. Recent studies suggest the association between cortisol levels and antisocial behavior may vary depending on type of antisocial behavior, patterns of internalizing comorbidity, and early environmental adversity. The findings are consistent with evidence that two early-onset pathways to antisocial behavior can be distinguished based on the presence or absence of callous-unemotional traits. Obviously, these ideas need further research, but improved insights into the role of interactions between different risk factors in the etiology of antisocial behavior seem essential to still further increase the effectiveness of present risk management strategies.

Lastly, the promise of risk assessment tools as *risk prevention* tools is still largely unfulfilled, since studies designed to demonstrate the preventive effects of these tools to formulate risk management and prevention plans still lie ahead. However, as noted in this chapter, there are promising new tools and interventions to help present-day practitioners develop effective intervention plans and community initiatives to help this group of children at risk.

Notes

1 Some scholars use the term psychopathy to refer to these types of traits in children and adolescents (Salekin and Lynam, 2010). This is still highly controversial, because of the great number of negative connotations (e.g., high risk, untreatable) professionals and laypeople alike associate with this term (Johnstone and Cooke, 2004), and because children and adolescents are still in development in terms of personality.

2 It is beyond the scope of this chapter to discuss in detail the relationship between gender and aggression. Although most research on juvenile offenders has been conducted on boys, there are some excellent resources that summarize what is known about aggression and antisocial behavior in girls: Moretti, Odgers, and Jackson, 2004; Pepler, Madsen, Webster, and Levene, 2005.

3 Although all SPJ guidelines advise against the simple summation of the individual risk factors in clinical practice, researchers have tended to ignore this and have examined the predictive value of these instruments' total (added) scores in comparison to the final risk judgement performed by the professional.

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