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Psychopathy traits and parental dysfunction in sexual offending and general delinquent adolescent males

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Abstract *The failure to account for differences between adolescent males who offend against children and those who offend against peers may account for the similarities found between sex-offending samples and non-sexual delinquents. Psychopathy traits (grandiosity, impulsivity, lack of empathy, interpersonally exploitative and risk-taking) and antisocial behaviour, including behaviours and age of onset for delinquent behaviours and drug use, were explored in male adolescents with sex offences against children, sex offences against peer/adults, sexual offences against both and non-sex delinquents. Youths who committed sexual offences were similar on psychopathic traits and level of antisocial behaviour. Higher levels of grandiosity and lack of empathy were found in those whose offences were non-sexual. Parental dysfunction was consistent across all groups, but maternal psychiatric difficulties were more frequent in youths with histories of sexual offending and a history of maternal substance abuse was more common for cross-over sexual offenders. These data indicate that most psychopathy traits and antisocial behaviour are similar in all sexual offenders, while maternal dysfunction and narcissistic traits distinguish them from non-sex delinquents.*

Keywords *Sex-offender; psychopathy; adolescent; delinquent; parental dysfunction*

Introduction

To become more successful at preventing and treating adolescent sex offending behaviour, researchers must continue to develop a broader and more nuanced understanding of this behaviour and its aetiology. Much of the research on sex offending behaviour focuses on understanding adult perpetrators. This research does not necessarily inform our understanding of sexually aggressive behaviours in young people because it does not recognise the malleability of adolescent character and behaviour (Prentky & Righthand, 2003). For this reason there has been a recent shift towards developing a greater understanding of the aetiology of sexual offending in young males (Barbaree & Marshall, 2008; Caldwell, 2009; Daversa & Knight, 2007; Hickey, McCrory, Farmer, & Vizard, 2008; Knight & Sims-Knight, 2005; Miner, Robinson, Knight, Berg, Swinburne Romine, & Netland, 2010). These studies provide insight into the possible precursors to sexually aggressive behaviours in young people.

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While they provide a useful heuristic for understanding what factors are associated with adolescent sexual offending behaviours, they leave room for the additional refinement of this knowledge through further delineating the subgroups that exist within the greater adolescent male sex offending population.

Sex offenders versus delinquents

Research suggests many similarities between adolescent sex offenders and non-sexual delinquent offenders (Seto & Lalumière, 2010). Research provides evidence that male juvenile sexual offending may be a subset of behaviours related to the more pervasive behavioural problems indicative of life-course persistent antisocial behaviours. Many young sex offenders commit their sexual offences after a history of repeated non-sexual offending (Elliott, Browne, & Kilcoyne, 1995; France & Hudson, 1993). Furthermore, it is much more likely that male adolescent sex offenders will re-offend non-sexually (non-assaultive and assaultive offences) rather than sexually (Caldwell, 2002, 2009; Vandiver, 2006). There is evidence that male adolescent sex offenders and non-sexual delinquents in outpatient treatment may have similar mental health needs (Zakireh, Ronis, & Knight, 2008). For example, adolescent sex offenders and adolescent non-sexual offenders may face similar challenges regarding anxiety, attention problems, conduct disorder, socialised aggression, relationship problems with peers and parents and poorer academic performance (Ronis & Bourduin, 2007). Many of the variables that predict future sex offending behaviour, such as age of offence, criminal history and antisocial personality traits, also predict future delinquency (Craissati & Beech, 2006; Daversa & Knight, 2007; DeLisi, Beaver, Wright & Vaughn, 2008). Knight and Sims-Knight (2003) found that the development of sexual aggression in adolescent males was associated with callous and unemotional traits, which are also associated with non-sexual delinquent behaviour.

Although the research points to similarities between adolescent sex offenders and non-sexual delinquents, there is also evidence suggesting differences between adolescent sex offenders and non-sexual delinquent offenders. The research indicates different patterns of delinquent behaviour in adolescents who have been identified for their sexual offending behaviour, with some having an extensive history of criminal behaviour, while others have little such behaviour (Butler & Seto, 2002; Seto & Lalumière, 2006). Male adolescent sex offenders describe themselves as more socially isolated than non-sexual delinquents (Miner & Munns, 2005). Unlike adolescent male non-sexual delinquents, adolescent male sex offenders appear to struggle with preoccupations of sex and feelings of inadequacy, but they also tend to have positive attitudes toward others (Miner et al., 2010). Adolescent sex offenders are more likely to follow a victim-to-victimiser pattern of behaviour and were more likely to have received services for significant emotional problems than non-sexual delinquents (Jonson-Reid & Way, 2001). When compared with non-sexual offenders in residential treatment, adolescent sex offenders in residential treatment rated higher on measures of hypersexuality and sexual deviance, were more likely to have engaged in violent behaviours or fantasies and had an increased history of victimisation (Zakireh et al., 2008).

A comprehensive review of the literature by Seto and Lalumière (2010) concluded that the general delinquency risk factors were not sufficient to explain why an adolescent commits a sexual rather than a non-sexual crime. These authors suggested that the observed pattern of general delinquency factors might be obscured by differences between adolescent sexual offenders who target peers as opposed to children. Correspondingly, studies comparing adolescent sex offenders with non-sexual delinquents often lose sight of the differences found

between young sex offenders. For example, there is evidence that adolescents who abused siblings had been exposed to higher levels of marital discord, parental rejection, physical discipline, negative family atmosphere and had general dissatisfaction with family relationships compared to adolescents who had sexually offended against non-siblings (Worling, 1995). Callous/unemotional traits and antisocial behaviours have been found to predict adolescent sexual aggression towards peers (Knight & Sims-Knight, 2005), but appear to be less predictive of adolescent sexual aggression towards children (Daversa & Knight, 2007). Adolescent sex offenders in residential treatment tend to engage in higher rates of deviant fantasies than those receiving outpatient treatment; higher rates of deviant fantasising were found to be correlated positively with number of victims, offences and feelings of hostility (DiGiorgio-Miller, 2007). There is also evidence that parental loss and poor attachment with caregivers may leave a young person susceptible to being sexually abused, contributing to a cycle of future perpetration (Hummel, Thömke, Oldenürger, & Specht, 2000). Adolescent sex offenders who have good parental attachment and who have had positive experiences with their fathers are more likely to develop empathy for others. This development of empathy appears to minimise future antisocial behaviours in youth who have been exposed to antisocial males and violence against females (Hunter, Figueredo, Becker, & Malamuth, 2007).

Thus, it appears that factors such as early caregiver relationships and sexual preoccupation may differentiate adolescent sex offenders from delinquents. This paper advances the understanding of the factors involved in the aetiology of sexual perpetration among adolescent males by further dividing adolescent sex offenders by offence type while comparing them simultaneously with a group of adolescent delinquents.

Psychopathy traits

Personality traits related to the construct of psychopathy appear well suited to measure the presence of more persistent and pervasive antisocial tendencies that often emerge in young people who engage in adolescent sex offending behaviour. In clinical and research settings, psychopathy is used to describe children and adults who show a lack of remorse. In addition, they tend to be manipulative, egocentric, superficially charming, impulsive, unreliable and express shallow affect (Hare, 1991; Lynam, 1997). The Big Five personality traits of openness, conscientiousness, extroversion, agreeableness and neuroticism (McRae & Costa, 1997) have also been used to help conceptualise adolescent male psychopathy more clearly. Lynam et al. (2005) found that aspects of male adolescent psychopathy that were related to selfishness, callousness and interpersonal exploitation were associated strongly with the Big Five personality dimension of low agreeableness. Lynam and colleagues (2005) also found that the aspects of psychopathy associated with impulsivity, instability and antisocial behaviour were associated with low agreeableness, low conscientiousness and high neuroticism. Similar results were found by Salekin, Leistico, Trobst, Schrum, and Lochman (2005). These authors believe that their results lend support to the idea that psychopathy represents the specific presentation of the traits found in general personality functioning, and in turn these results add to the evidence for the construct validity of psychopathy. There is also evidence that adolescents with psychopathy traits may lack the response specificity that is necessary for developing social relationships. Vitale et al. (2005) found that adolescents who scored high on measures of psychopathy, but were not yet engaged in high levels of antisocial behaviours, had deficits in information processing that would likely leave them vulnerable to poor socialisation and ineffective behavioural self-regulation.

There is a growing body of research using the construct of psychopathy with adult sex offenders (Knight, Daversa, & Sims-Knight, 2007; Langton, Barbaree, Harkins, & Peacock, 2006; Olver & Wong, 2006; Walters, Knight, & Thornton, 2009). However, there is much less research of psychopathy related to adolescent male sex offending, with most of the research being conducted to determine if this construct will effectively predict recidivism (Gretton, Hare, & Catchpole, 2004; Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001; Olver, Stockdale, & Wormith, 2009). To date, there is little research using psychopathy as a construct to understand differences among the different types of adolescent sex offenders. Butler and Seto (2002) believed that further research using antisocial indicators could act to elucidate further the aetiology and development of sexual offending. Measures of psychopathic traits appear to be distinct from other antisocial indicators because they focus on the affective, interpersonal and motivational aspects of behaviours rather than on behaviours in isolation of what may be driving them (Frick, 2002; Kazdin, 1997; Salekin, 2006).

Another compelling reason to look at the psychopathy traits in adolescent male sex offenders comes from the information on psychopathy as related to adult male sex offending. Studying adult male sex offender populations, researchers found the rates of psychopathy to be higher among male rapists than male child molesters (Brown & Forth, 1997). Male adult rapists have been shown to be at least three times more likely to be classified as psychopaths as adult child sex offenders (Seto & Barbaree, 1999). According to Porter et al. (2000), the base rate for psychopathy in adult male rapists has been calculated to be approximately 35%, while it has been calculated to be between 6% and 10% in adult child sex offenders; the base rate of psychopathy for adult cross-over sex offenders (i.e. offending against both children and adults) has been calculated to be 65%.

Recently there has been controversy surrounding the overall construct of psychopathy, with some considering antisocial behaviour, defined most commonly by documented criminal acts, an essential component of the construct (e.g. Hare & Neumann, 2010), while others believe that a history of antisocial behaviour is not an essential feature of psychopathy, and that many individuals who have high levels of psychopathy traits do not necessarily have a history of documented antisocial acts (Skeem & Cooke, 2010). Psychopathy traits appear to be related to social and emotional processing deficits often found in youth who engage in antisocial behaviours (Salekin, 2008).

In the 1990s, advances in the measurement of adult psychopathy and evidence of its ability to predict criminal recidivism led researchers to question whether these measures could be applied to young people. Despite many studies showing the validity and reliability of instruments that measure child and adolescent psychopathy (e.g. Edens, Campbell, & Weir, 2007) and studies that show the predictive utility of this construct (e.g. Lynam, Loeber, & Stouthamer-Loeber, 2008), using the term "psychopathy" with young people is controversial (Petrila & Skeem, 2003; Seagrave & Grisso, 2002; Skeem & Petrila, 2004). Much of the controversy lies in the idea that many of the traits associated with psychopathy such as impulsivity, parasitic lifestyle and irresponsibility can be age-appropriate behaviours in adolescents (Edens, Skeem, Cruise, & Cauffman, 2001). Similarly, there are concerns that the term psychopathy connotes a stable, genetically determined personality pattern that is highly resistant to psychological interventions (Seagrave & Grisso, 2002). Also, there are concerns that the use of the term psychopathy outside the field of mental health may encourage excessively punitive sentencing in correctional settings (Edens, Guy, & Fernandez, 2003; Petrila & Skeem, 2003) or possibly exclude children from special education programmes (Frick & Morris, 2004). When using the term psychopathy it must be acknowledged that some level of irresponsibility, egocentricity and shortsightedness represents age-appropriate, normative behaviour for young males that are transient and normative

(Seagrave & Grisso, 2002; Skeem & Cauffman, 2003). However, Salekin and Frick (2005) describe that most forms of mental health symptoms are variants of normative behaviour. They also believe that it would be impossible to develop indicators for any type of clinical behaviour without measures that are related in some way to normative development and normative personality traits. It is believed that true psychopathy is present in about 25% for institutionalised male adolescent offenders and about 10% for male adolescents on probation (Gretton, Hare, & Catchpole, 2004).

There are also concerns that psychopathy may not be as stable in young males as it is in adults (Hart, Watt, & Vincent, 2002; Seagrave & Grisso, 2002). However, even in adult males there are only limited data suggesting the stability of this construct over significant periods of time (Frick, Kimonis, Dandreaux, & Farrell, 2003; Salekin, 2006). This reasoning implies that psychopathy is a meaningful construct only if it is enduring in nature. However, Roberts and DelVecchio (2000) assert that most measures of personality show much more modest stability in childhood and adolescence than they do in adulthood, but that these constructs are still quite important to our understanding of adaptive and maladaptive behaviours and overall mental health.

A final concern with the use of the term psychopathy is that psychopathy is likely to be comorbid with other childhood mental health disorders (i.e. oppositional defiant disorder, conduct disorder, attention deficit/hyperactive disorder). Childhood mental health disorders generally have more overlap with one another than do adult disorders (Salekin & Frick, 2005). Conceptually, psychopathy is distinct from other disruptive disorders because it focuses on the affective, interpersonal and motivational aspects of disruptive behaviours (Frick, 2002; Kazdin, 1997; Salekin, 2009). For these reasons, it is believed that psychopathy may be used to better define more homogeneous subgroups of delinquent or conduct-disordered young males (Salekin & Frick, 2005). However, the above indicates that it may be more appropriate to explore psychopathy traits, which may indicate a developing personality pattern, rather than a unitary psychopathy construct. Thus, we have chosen to measure specific traits which may be indicative of psychopathy, rather than measuring psychopathy *per se*.

Parental dysfunction

A better understanding of the base rates of parental dysfunction will probably support a greater understanding of the aetiology of adolescent sex offending and promote the development of effective treatment programmes. Poor maternal mental health has been associated with developmental problems beginning during pregnancy and continuing into childhood (Andersson et al., 2003; Andersson, Sundström-Poromaa, Wulff, Åström, & Bixo, 2004; Larsson, Sydso, & Josefsson, 2004). Problems associated with poor mental health appear to undermine both appropriate growth and health in young people (World Health Organistion, 2008) and are associated with unhealthy attachment behaviour in their children (Edelstein et al., 2004). There is evidence that patterns of attachment drive behaviour that effect future relationships (Simpson, Collins, Tran, & Haydon, 2007) and that less securely attached adolescent and adult males tend to engage in more aggressive behaviours (Lawson, 2008; Miner et al., 2010, Ooi, Ang, Fung, Wong, & Cai, 2006).

Similarly, prenatal exposure to alcohol is associated with low birth weight and a variety of cognitive and behavioural problems (US Department of Health and Human Services, 2009). Children whose parents have substance use disorders are more likely to experience abuse (i.e. physical, sexual and emotional) and neglect than children from other households (DeBellis et al., 2001; Dube et al., 2001; Hanson et al., 2006). They are also much more likely to

develop attachment difficulties that can undermine appropriate emotional development (Tay, 2005), as well as lack the structure and positive role models necessary for developing appropriate socialisation skills (Cavanaugh, Smith, CrossBear, Hornberger, & Kelley, 2010). According to Whitaker, Orzol, and Kahn (2006), there is evidence that child risk for behavioural problems increases with the number of problem areas reported by mothers (e.g. mental health and substance abuse).

Evidence of adolescent delinquency, parental mental health problems and parental criminality appear to be associated with severe problems in family system functioning and makes decisions about implementing appropriate interventions challenging (Lewis, Balla, Shanok, & Snell, 1976). Parental criminality has been correlated strongly with an increased risk for young people to develop conduct problems and to be involved later in criminal activity (New Zealand Ministry of Justice, 2009). However, as with mental health and substance abuse, the influence of parental criminality on the development of such behaviours is complex, because multiple factors such as shared environment, genetic/other biological risk factors and behaviour modelling all have the potential to pass a parent's risk of criminality to their child (Moffitt, 1993, 2005; Moffitt & Caspi, 2001; New Zealand Ministry of Justice, 2009).

This paper will describe a study of four groups of male adolescents (i.e. child sex offenders, peer/adult sex offenders, cross-over sex offenders and non-sex delinquents). In order to elucidate further the path to sexual offending, we will explore levels of psychopathy traits (i.e. grandiosity, impulsivity, lack of empathy, interpersonally exploitative and risk-taking) and antisocial behaviours that include delinquent behaviours, school problems and the age at which delinquent behaviours and drug use began. Further, we explore the influence of parental antisocial behaviours, including substance use, criminal behaviour and parental psychiatric history. Given the importance of the callous, unemotional factor in the causal pathway to sexual aggression (Knight & Sims-Knight, 2005), it is expected that sexual offenders against peers and cross-over offenders will show higher levels of grandiosity, lack of empathy and interpersonal exploitation than sex offenders against children, who will show more impulsivity. It is likely that sexual offenders of all types will have biological parents with more psychiatric problems than delinquents, whose parents will have more criminal history. Parental substance use will probably be similar across all groups.

Methods

Participants

The participants for the current study were drawn from the Roots of Sexual Abuse Study, a study of the aetiology of child sexual abuse perpetration (Roots; Miner et al., 2010). The Roots study consisted of adolescent males (ages 13–18 years) who had sexually abused children (committed crimes against victims who were at least three years younger than themselves and who were 12 years old or younger), adolescents who had sexually assaulted peers or adults (victims less than three years younger or older than themselves), adolescents who had sexually assaulted both children and peers or adults (i.e. cross-over adolescent sex offenders who are defined as having a history of sexually assaultive behaviour against both someone significantly younger than themselves and someone of similar age or older than themselves) and adolescents who have committed non-sexual delinquent behaviours. The current study included 333 adolescents: 116 child offenders, 56 peer/adult offenders, 36 cross-over offenders and 125 non-sex delinquents. Data collection occurred between 6 June 2005 and 29 July 2009. All participants were required to have intelligence quotients greater than 79 on the Wechsler Intelligence Scale for Children (WISC-IV; Wechsler, 2003). None of

the participants presented signs of organic brain disorders or had a history of psychotic disorders. Participants' racial representation was 50.9% Caucasian, 24.9% African American, 2.0% Hispanic, 5.7% Native American, 2.0% Asian, 8.6% Multiracial and 1.4% Other.

All participants had participated in some type of remedial delinquency or sex offender treatment programme in the state of Minnesota (MN). However, many of the MN programmes took adolescents from other states. Treatment programmes provided either residential or outpatient care to address histories of delinquency and/or sex offending; these programmes included sex offender-specific treatment programmes, juvenile probation departments and juvenile detention centres from urban and rural counties in MN (e.g. Hennepin, Arrowhead, Dodge, Fillmore, Olmsted counties). Participants were contacted by several methods. Some participants and/or their guardians were given information and consent forms for the study by therapists (inpatient and outpatient), probation officers and/or therapeutic programme coordinators who had agreed to collaborate with the study. Other participants and/or guardians were given information and consent forms for the study directly by members of the study's research staff.

The criterion for having a sex offence was having a documented history of unsolicited sexual physical contact with another. The criterion for being a delinquent was having a probation officer and a history of any type of offence greater than misdemeanor delinquent behaviour. All participants had been in treatment programmes for less than 4 months (some had recently re-offended at the time of data collection).

Procedures

A computerised survey based on the Multidimensional Inventory of Development, Sex, and Aggression (MIDSA; Augur Enterprises, Inc., 2007) was administered to participants and five scales were analysed for this paper. The survey was written at a 4th grade reading level and could be completed in approximately 1 hour. While participants completed the survey, research staff were available to answer questions from subjects. Features of the MIDSA to ensure data validity and integrity included validity checks, three lie scales and a timer feature that alerted staff if participants answered questions from the survey too quickly. Participants completed the survey and interview in a private room at their treatment centres, in their homes, at the University of Minnesota or at a public facility (e.g. community centre or library). The variety of locations was necessary because the outpatient adolescents in this study often came from chaotic and/or impoverished homes. Because of this factor, subjects often had difficulty obtaining transportation to the study if the meeting was away from their homes or were unable to meet at home because they did not have a room with privacy. Also, because of the stigma associated with sexual offending and corresponding reluctance to acknowledge this behaviour, it was necessary to be accommodating to encourage subject participation. Group status, parental information (i.e. history of psychopathology, criminality and substance use) and history of antisocial behaviours (i.e. age of first alcohol use, age of first non-script drug use, problems at school, age of first victim offence and age of first non-victim offence) were determined through a review of institutional files (e.g. medical record, probation records, programme charts, therapist casebook, etc.) using the *File Review Coding Guide*, a protocol for coding clinical case records based on the Sauk Centre Sex Offender Program File Review Guide (Miner, Siekert, & Ackland, 1997).

Informed consent was obtained from participants or their legal guardians by having them sign a consent form that explained the pros and cons of being involved the study. Participants who were 18 years old gave consent for their own participation. Participants between the ages of 13 and 17 had consent forms signed by a parent or legal guardian. Participants between the

ages of 13 and 17 signed an assent form before participating in the study. Participants were paid $25 for their participation. The study questionnaire, recruiting methods, data collection methods and consent forms were all approved by the University of Minnesota's Institutional Review Board.

Measures

Psychopathy traits. The five scales used in the analysis were taken from items of the MIDSA (Knight, 2004), which is a revised version of the Multidimensional Assessment of Sex and Aggression (MASA; Knight, Prentky, & Cerce, 1994). Knight et al. (1994) developed the MASA by using previous research to identify the domains (e.g. social competence, pervasive anger, sexualisation, etc.) that are useful for assessing sexual aggression. Knight and Cerce (1999) reported that a series of four revisions had been made on the MASA. Both juvenile and adult sex offender subjects who were in residential treatment were used in their validation studies, which included factor analyses and internal consistency analyses. The validity of these scales has been established through the consistency of the pattern of correlations among them using various distinct groups, e.g. college students, community males, generic non-sexual criminals, adult sex offenders in outpatient treatment, adult sex offenders who have been civilly committed as sexually dangerous and residential juvenile sex offenders (Augur Enterprises, Inc., 2007; Knight, 2004).

The scales include:

- *Grandiosity*: four-item Likert-type scale ranging from 1 to 5, where 1 = definitely false and 5 = definitely true. High scores indicate high levels of grandiosity (exaggerated sense of self-worth). To test the reliability of each scale, Cronbach's alpha was calculated using another data set of 307 adolescent males who had participated in a different research study (see Augur Enterprises, 2007, p. 5). The internal consistency was $\alpha = .64$.
- *Impulsivity:* nine-item Likert-type scale ranging from 1 to 5, where 1 = definitely false and 5 = definitely true. High scores indicated high levels of impulsivity and irresponsible behaviour. The internal consistency was $\alpha = .82$.
- *Lack of empathy*: six-item Likert-type scale, ranging from 1 to 5, where 1 = definitely false and 5 = definitely true. High scores indicate a lack of the ability to recognise and/or share feelings that are being experienced by another. The internal consistency was $\alpha = .73$.
- *Interpersonally exploitative*: five-item Likert-type scale ranging from 1 to 5, where 1 = definitely false and 5 = definitely true. High scores indicated high levels of manipulating others for personal gain. The internal consistency was $\alpha = .72$.
- *Risk-taking*: four-item Likert-type scale, ranging from 1 to 5, where 1 = definitely false and 5 = definitely true. High scores indicated a high need for stimulation. The internal consistency was $\alpha = .67$.

Swinburne Romine and Miner (2007) re-evaluated the scales of the MIDSA on a population of adolescents that consisted of both sex offenders and non-sex delinquents. Participants differed from previous validation studies in that they were recruited from residential and community-based treatment programmes. Across all the previously listed validation studies there were mean differences on some of the scales between group types (i.e. adults versus adolescents, the Knight sample versus the Swinburne Romine and Miner sample, adolescent sex offenders versus non-sex delinquents).

Antisocial behaviour. To measure antisocial behaviour, scores associated with age of first alcohol use, age of first illegal drug use, age of first victim offence, age of first non-victim offence and a score associated with documented school problems were derived and added together. There is evidence that the earlier in life one engages in antisocial behaviours the more likely it is that these behaviours will persist and become an enduring behavioural pattern (Baker, Jacobson, Raine, Lozano, & Bezdjian, 2007; Simpson et al., 2007; Vandiver, 2006; Vaughn, 2005). For this reason, more weight was given to younger documented incidences of antisocial behaviour. Age scores were calculated by taking age at interview minus the earliest age of the documented behaviour. Thus, higher scores were indicative of earlier involvement in antisocial behaviour. The measure of antisocial behaviour in this study included: (1) age of first alcohol use; age at interview minus the earliest documented use of alcohol; if no history of alcohol use was identified, the participants' age at the time of the interview was used, thus no history of alcohol consumption was coded 0. (2) Age of first illegal drug use; age at interview minus the earliest documented non-prescription drug use was documented; if no history of drug use was identified, the participants' age at the time of the interview was used, thus no history of non-prescription drug consumption was coded 0. (3) Age of first victim offence; age at interview minus the earliest documented victim offence (sexual or non-sexual) was documented; if no history of victim offences were identified, the participants' age at the time of the interview was used, thus no history of victim offences was coded 0. (4) Age of first victim offence; age at interview minus the earliest documented non-victim offence was documented; if no history of non-victim offences were identified, the participants' age at the time of the interview was used, thus no history of non-victim offences was coded 0. (5) History of school problems; history of school problems were documented as an accumulative score across three periods of time; problems in grammar school, junior high and high school were coded as 0 = no problems/unclear, 1 = slight, 2 = moderate, and 3 = severe. Slight problems included a few instances of absences/truancies or minor conduct problems had been noted (e.g. subject had come to the attention of the teacher for some problem). Moderate problems were indicated if parents were called in, if subject was fighting with peers or if there were many absences/truancies. A severe problems designation was given to participants with serious behavioural problems (e.g. out of control and beating/bullying others). An aggregate score of the five aforementioned derived scores determined the overall level of antisocial behaviour. Information about antisocial behaviours was gathered from institutional file reviews by research assistants. Only data from the file review associated with antisocial behaviour were used for this study. A confirmatory factor analysis indicated that these measures give rise to a single construct associated with antisocial behaviour with the model providing a good fit; $\chi^2 = 9.25$ $p = .099$, comparative fit index (CFI) = .984, root mean square error of approximation (RMSEA) = .049, normed fit index (NFI) = .968, Tucker–Lewis index (TLI) = .953.

Parental dysfunction. Participant parental information was gathered by graduate research assistants by reviewing institutional records. Institutional records came from inpatient facilities for delinquents, inpatient facilities for sex offenders and outpatient records from therapist and/or probation officers. Documentation of the presence or absence of dysfunction for biological fathers was missing slightly more often than that of biological mothers (see Table II). Intact family systems were rare among participants; 29.4% of participants came from families where their parents had never married, 48.6% from family where parents were

no longer married and 14.9% where parents were married. This description of marital status was similar across participant groups.

The participant's biological mother and biological father were evaluated as having a history of psychiatric disorders (coded "yes") if the adolescent's institutional records showed a parent as having a history of outpatient or inpatient mental health care or of having received counselling. Inferences were also made if statements were found in the participants' institutional records supporting a history of psychiatric problems, for example "the patient's mother had a nervous breakdown". If there is no psychiatric history, this variable was coded as "no". If there was some evidence suggesting a psychiatric history this variable was coded as "unclear".

The participant's biological mother and biological father were evaluated as having a history of alcohol or drug abuse (coded "yes") if the adolescent's institutional records showed that parents over used or engaged in problematic behaviour related to drug or alcohol use. If there is no history of alcohol or drug abuse, this variable was coded as "no". If there was some evidence suggesting an alcohol or drug abuse this variable was coded as "unclear".

The participant's biological mother and biological father were evaluated as having a criminal history (coded "yes") if the adolescent's institutional records showed the parents as having been convicted of a felony or having more than one non-felonious crimes (i.e. speeding, public drunkenness, etc.). If there is no criminal history, this variable was coded as "no". If there was some evidence suggesting of a criminal history this variable was coded as "unclear".

Results

An analysis of variance (ANOVA) was used to compare the four independent groups; alpha was set at .05. A Tukey's honestly significant difference (HSD) post-hoc test ($p < .01$) was used to explore differences between groups with overall significant Fs. The results show relative differences between the groups (i.e. child sex offenders, adult/peer sex offenders, cross-over sex offenders and non-sex delinquents) on measures of psychopathy traits, but not antisocial behaviour (see Table I). The non-sex delinquent group was found to be significantly higher on level of grandiosity, $F_{(3,\ 225)} = 8.13$, $p = .000$ and lack of empathy, $F_{(3,\ 225)} = 5.55$, $p = .001$, compared to the three sex offender groups, but no significant differences were found between the three sex offender groups on these measures. No statistically significant differences were found between the four groups of adolescents on measures of impulsivity, risk-taking, interpersonally exploitative or antisocial behaviour.

A history of documented maternal substance abuse (see Table II) was common across all groups. The percentage of participants whose mothers had a history of psychiatric problems differed by group designation, $\chi^2_{(3,\ n=275)} = 11.59$, $p = .009$. Delinquents were significantly less likely than the sex offending groups to have a mother with a history of psychiatric problems (see Table II). The percentage of participants whose mothers had a history of substance abuse problems differed by group designation, $\chi^2_{(3,\ n=304)} = 8.05$, $p = .045$. Cross-over offenders were significantly more likely to have biological mothers with a history of substance abuse than the other groups (see Table II). No significant differences were found in maternal levels of criminality, although histories of criminal behaviour were somewhat high (21–29%).

While there were no statistical differences in the rate of biological father criminality and history of substance abuse, rates were high for all four groups of participants, with rates of paternal criminality ranging between 36 and 47% and substance abuse ranging from 55 to

Table I. *Mean score and standard deviation for psychopathy traits and antisocial behaviour for each group*

Group designation	Grandiosity mean (SD)	Impulsivity mean (SD)	Lack of empathy mean (SD)	Interpersonally exploitative mean (SD)	Risk-taking mean (SD)	Antisocial mean (SD)
Child ($n=76$)	6.03[a] (3.41)	18.39 (6.54)	17.32[a] (4.65)	7.82 (4.06)	8.04 (3.74)	12.43 (12.47)
Peer/adult ($n=49$)	6.43[a] (3.31)	19.14 (6.80)	16.39[a] (3.98)	8.45 (3.55)	7.92 (4.23)	12.55 (9.74)
Cross-over ($n=26$)	6.08[a] (3.51)	20.19 (8.10)	16.27[a] (3.86)	8.69 (4.70)	8.73 (3.61)	15.53 (8.59)
Delinquent ($n=78$)	8.31[b] (3.81)	17.60 (6.41)	19.13[b] (4.24)	7.37 (3.86)	9.42 (4.23)	11.90 (7.34)

[a]Significantly different less than[b] at $p<.01$. Groups with the same superscript are not significantly different. SD: standard deviation.

62%. Psychiatric problems were less commonly documented for the biological fathers of participants (11–29%) and did not differ significantly across groups.

Discussion

Our data indicate that sexual offending, whether against children, peers, or both, is not influenced by different levels of psychopathic traits, nor are these different types of offending related to different levels of antisocial behaviour. However, general delinquency is more likely in those with a grandiose sense of self-worth and a general lack of empathy. In the current study, all the sex offender groups were found to have significantly lower levels of grandiosity than the non-sex delinquent group. Miner and colleagues (2010) hypothesise that attachment style may be a distinguishing factor between adolescents who engaged in sex offending behaviours and those who engaged in non-sexual delinquent acts. Hazan and Shaver (1987) describe that attachment styles learned in childhood are replayed in adolescence and adulthood. The Miner et al. study described adolescent sex offenders as feeling more isolated from peers and struggling to relate to females on an interpersonal level; their results found non-sex delinquents to more commonly have a positive representational model of self (low anxiety) while adolescent sex offenders more commonly had high anxious attachment, which is indicative of a negative representational model of self. Following this line of reasoning, it

Table II. *Rate of participant occurrence for biological parents' history of psychiatric, criminal and substance abuse problems*

Group designation	Maternal substance abuse	Maternal psychiatric problems	Maternal criminal history	Paternal substance abuse	Paternal psychiatric problems	Paternal criminal history
Child	43%[a] ($n=106$)	39%[b] ($n=92$)	21% ($n=105$)	55% ($n=93$)	17% ($n=81$)	47% ($n=89$)
Peer/adult	48%[a] ($n=50$)	36%[b] ($n=47$)	28% ($n=47$)	62% ($n=47$)	13% ($n=39$)	36% ($n=47$)
Cross-over	65%[b] ($n=34$)	43%[b] ($n=30$)	29% ($n=34$)	57% ($n=28$)	27% ($n=22$)	38% ($n=29$)
Delinquent	38%[a] ($n=114$)	20%[a] ($n=106$)	23% ($n=115$)	55% ($n=95$)	11% ($n=92$)	46% ($n=98$)

[a]Significantly less than [b] at $p<.05$. Groups with the same superscript are not significantly different from each other.

seems plausible that individuals scoring higher on levels of grandiosity (non-sex delinquents) probably see themselves as being worthy and capable of having a consenting peer sexual partner. Correspondingly, those lower on levels of grandiosity (adolescent sex offenders) may perceive limitations in both their interpersonal skills and inherent self-worth and consequently perceive limitations in their abilities to develop intimate relationships with peers, thus contributing to sexually offending.

In this study, the three sex offender groups were found to have higher levels of empathy than the non-sex delinquent group. Considering the nature of sexual offending, it may seem counterintuitive that sex offenders would score higher on a scale measuring empathy. However, there is research with adult male sex offenders indicating that empathy is not directly related to sexual offending (Tierney, 2001) and that it is difficult to distinguish adult male sex offenders from other males on the basis of empathic deficits (Langevin, Write, & Handy, 1988; Marshall & Maric, 1996). Fernandez and Marshall (2003) believe that adult sex offenders do not have empathy deficits but rather they suppress empathy toward their victims. Lindsey, Carlozzi, and Eells (2001) found adolescent sex offenders to have lower scores on empathy than non-sex delinquents; however, Monto, Zgourides, Wilson, and Harris (1994) did not find significant differences between these two groups. More recently, Hunter et al. (2007) found that a lack of empathy was associated with a tendency for adolescent sex offenders to engage in non-sexual delinquent acts. Smallbone, Wheaton, and Hourigan (2003) found similar results in adult sex offenders; their study found that adult sex offenders who had low levels of empathy were more likely to engage in non-sexual criminal offenses and in violent non-sexual offenses. Based on the aforementioned research, there is not a strong link between the ability to empathise and sexual offending; however, more general criminal and delinquent behaviour seems to be associated with decreased levels of empathy. The results of the current study appear consistent with the previous literature, suggesting that low levels of empathy are a better predictor of general criminal behaviour rather than sex offending behaviour. Further, a sense of grandiosity, coupled with a lack of empathy, is a feature of narcissistic personality (APA, 2000). Thus, our findings indicate that non-sexual delinquency appears related to the self-centred, narcissistic aspects of psychopathy.

Consistent with previous research, this study found that there were similarities between adolescent sex offenders and non-sex delinquents (Seto & Lalumière, 2006; van Wijk et al., 2006). Specifically, there were no significant differences in the psychopathy traits of impulsivity, risk-taking and interpersonally exploitative (all associated with deficits in forethought) between the four adolescent groups. The results are consistent with research describing the presence of significant externalising behaviours in adolescents (Krueger et al., 2002). The various manifestations of eternalising behaviours commonly appear together and include antisocial behaviour, substance abuse and personality dimensions of aggressiveness and impulsivity (Krueger, McGue, & Iacono, 2001). Behavioural genetics research by Kruger et al. (2002) has indicated that this externalising factor has a heritability percentage of approximately 81%, indicating that these behaviours are biologically based. Furthermore, Hall, Bernat, and Patrick (2007) have found that externalising behaviours are neurobiologically based and associated with an inability to monitor impulse control and socialise effectively with peers; they also seem to be associated with low levels of the personality trait conscientiousness. Recent electroencephalography studies have found such externalising behaviours to be associated with unique patterns of neural activity that appear to be highly heritable in nature (Carlson & Iacono, 2008; Hicks et al., 2007a). There is evidence that environmental adversities (e.g. stability and quality of family relationships, financial instability, history of familial financial or mental health problems, etc.) interact with specific genes associated with externalising behaviours to cause the phenotypic expression of such

behaviours (Hicks et al., 2007b). It is likely that these traits (impulsivity, risk-taking and interpersonally exploitative) are associated with externalising behaviours and the gene–environment interactions that appear to be related to their development. Our finding of no difference between groups in antisocial behaviour, which was influenced strongly by age of initiation, further indicates that adolescent sex offending behaviour probably lies along this underlying externalising dimension.

While our data are consistent with the extant literature, in that we found high levels of parental dysfunction across all study groups, our data indicate that certain parental dysfunction, such as maternal psychiatric problems, are more likely to be found in adolescent male sex offenders. We found that biological fathers' dysfunctions were not associated differentially with offender groups, which may be related to the high rates across all groups or to the fact that very few of our participants grew up in an intact family, with both biological mother and father.

Our findings shed some light on the concerns addressed by Seto and Lalumière (2010) in their review of the literature on adolescent sexual offenders. We did not find differences between psychopathy traits across those whose victims were children and those whose victims were peer or adults. What we did find was that not all psychopathy traits differ between adolescent sexual offenders and other delinquents, but only those related to sense of self-worth and general experiences of empathy, which may be related to an exaggerated self-centredness or narcissism. Additionally, we found fairly consistent parental dysfunction across all groups, but that maternal problems, especially psychiatric difficulties and drug use, appear to lead to different behavioural outcomes in this sample of adolescent boys. This maternal dysfunction may lead to the anxious attachment found by Miner et al. (2010), as mothers with substance abuse and mental health disorders are likely to be either unavailable or intermittently available to their children.

Limitations of this study include that some of the scales measuring psychopathy traits may lack reliability and validity. Specifically, the grandiosity $\alpha = .64$ and risk-taking $\alpha = .67$ are below the commonly accepted cutoff for the social sciences of an alpha of .70 (Miller, 1995). For these measures, the standard error of measurement will be well over half a standard deviation. Another limitation of this study is that the cross-sectional design shows how variables relate to each other at one period in time. Participation was voluntary, creating the potential for sample bias. It is possible that volunteers create a bias that is not captured in the measures. However, because the adolescent samples were recruited in the same way, i.e. from inpatient and outpatient treatment programmes and juvenile probation and detention centres, it is unlikely that the differences found among the groups were related to volunteer bias. Differences between these groups (i.e. adolescent child, peer/adult, cross-over and non-sex delinquents) on these measures (psychopathy and antisocial behaviour) are relative to one another; it is unclear how these groups would compare with other groups of adolescent males, such as a control group with no history of sexual offending or delinquency or groups of males with a history of mental health diagnoses associated with impulsivity and externalising behaviours (e.g. chemical dependency and attention deficit/hyperactive disorder). Practical considerations should be made for self-report scales that attempt to measure emotional detachment. Populations who present psychopathy traits may lack insight and be more likely to lie without guilt or anxiety (Lilienfeld & Fowler, 2006). Finally, the failure to find differences across the three sexual offending groups may be related to limited statistical power due to the small samples of offenders against peers/adults and cross-over offenders.

A confirmatory factor analysis using the measures reported here failed to conform to either the two-, three- or four-factor model of psychopathy (Netland, 2010). Thus, our data do not provide insight into the involvement of psychopathy as a construct. However, our

measures were designed to assess specific traits, and not necessarily to be measures of psychopathy (Augur Enterprises, 2007), thus our findings appear to indicate that certain psychopathy traits (e.g. grandiosity and lack of empathy) influence sexual and non-sexual delinquent behaviour.

The results of this study indicate that sexual offending in adolescent males is less related to the narcissistic aspects of psychopathy than other forms of delinquent behaviour. Non-sex male adolescent delinquents appear to have developed a more exaggerated sense of self-worth and may be more impaired in their ability to empathise with others when compared to sex offenders.

No differences were found between the three male adolescent sex offender types (i.e. child, peer/adult and cross-over). It is possible that the similarities are limited to the traits measured specifically in this study. Many behaviours associated with psychopathy, such as impulsivity, parasitic lifestyle and irresponsibility, are age-appropriate in nature (Edens et al., 2001; Seagrave & Grisso, 2002; Skeem & Cauffman, 2003). It is also logical that acting out, either sexually or non-sexually, would be related to issues with impulsivity, risk-taking and interpersonal exploitativeness. Longitudinal studies following the consistency of these traits would indicate more clearly if these traits are adolescent-limited or life-course persistent in specific types of adolescent sex offenders. Longitudinal studies would also give evidence regarding whether or not these traits are associated with future problems.

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