

**Red Flags and Dark Traits: An Exploration of Individual Differences in a Sample of  
Youth Charged with Violent Sexual and Nonsexual Crime**

by

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Red Flags and Dark Traits: An Exploration of Individual Differences in a Sample of Youth Charged with Violent Sexual and Nonsexual Crime

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## **Abstract**

Youth who commit crimes of a sexual nature are a highly understudied demographic of sexual perpetrators. Research to date has had limited success in distinguishing youth who perpetrate sexually from their nonsexual counterparts. Traits associated with psychopathy, a disorder of personality, have been linked to criminal sexual behaviour in adults. While research at the youth level has been relatively minimal, it is possible that these arguably stable traits contribute to analogous behaviours in youth. Further, research suggests that individual differences linked to antisocial behaviour, specifically low IQ and childhood mistreatment, may also influence the likelihood of sexual offending. However, the relationship between psychopathy, intelligence, and child maltreatment remains unclear. Using a sample of juveniles charged with sexual and nonsexual crimes obtained from the Oklahoma Office of Juvenile Affairs (OOJA), the present study examined the construct of adolescent psychopathy measured by the PCL-YV as it relates to perpetration, with the consideration of two moderators: IQ and experience of childhood abuse. Interpretation of a binomial logistic regression suggested that, contrary to hypothesis, none of the main variables or interactions were associated with having a sexually violent criminal charge. However, descriptive and supplementary analyses indicate that young offenders are a heterogeneous group warranting interdisciplinary cooperation and further study for best preventative practice. Findings can also educate front-line workers in their understanding of young sexually violent and generally violent delinquents, facilitating their knowledge of how to tailor programming to individual needs.

## **Preface**

This research was the result of collaboration between researchers at the University of British Columbia, Okanagan and the Oklahoma Office of Juvenile Affairs (OOJA). For the present thesis, I was responsible for organizing the data transfer, the generation of the SPSS dataset, shared coding of youth files, analysis, and the written portion herein. This research has been approved by the UBC Okanagan Behavioural Research Ethics Board under Ethics Certificate number H16-02832-A002. No findings of this study have been published.

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## **Dedication**

*For my father, as promised.*

*For my mother, thank you.*

## CHAPTER 1 Introduction

Within Canada, it is estimated that over 20,000 sexual assault cases are brought to the attention of law enforcement annually, yet it is estimated they are only made aware of six of every 100 assaults (Sexual Assault in Canada, 2014; Brennan, 2011). For example, in 2014, it was determined that a mere 5% of perpetrated sexual assaults were reported (Perreault, 2014). Drastic underreporting in conjunction with profound societal and personal costs has spurred an interdisciplinary effort to make sense of and reduce intimately violent offences against persons. For this to come to fruition, a more refined understanding of a violent perpetrator is germane. In scientific literature and practice however, adolescents have been rather neglected. Yet they represent a complex demographic of perpetrators with heterogeneity in personality, psychopathology and history (Fox & DeLisi, 2017). While youth aged 12-17 comprise a mere 7% of the Canadian population (Allen & Superle, 2014), early estimates claim they are responsible for roughly one quarter of sexual offences nationwide (Matthews, 1987). A conservative estimate of more recent *reported* incidents in 2011 is that individuals under 18 were accountable for 10% of sexual assaults in Canada (Statistics Canada, 2011). In the United States, youth under the age of 18 are accountable for nearly one in five (18%) of all reported sexual crimes, excluding forcible rape (15%; Puzanchera & Adams, 2009; Puzanchera, 2010). A disproportionate amount of criminal sexual behavior is attributable to this narrow age group, yet an understanding of the factors that may contribute toward youth engaging in criminal sexual behavior is still wanting. More so, an understanding of contributing influences will foster greater understanding of what protects youth from a criminal lifestyle in the face of adversity.

## **1.1 Young Offenders: Literature and Practice**

According to the Canadian Centre for Justice Statistics' Incident-Based Crime Reports Survey (Allen & Superle, 2014), rates of police-reported crime perpetrated by Canadian youth have been declining since 2006. Yet 13% of all individuals accused of crime are between the ages of 12 and 17 (Allen & Superle, 2014). Fortuitously, the majority of youth-perpetrated Criminal Code offences are comparatively minor and nonviolent in nature (e.g., cannabis possession; Allen & Superle, 2014). It is estimated that a small group of youth (3.7-5%) are responsible for a large proportion of violent crime, constituting a sample of severe or high-rate young offenders (Hein et al., 2017; Vaughn, Salas-Wright, DeLisi, & Maynard, 2014). However, likelihood of violent crime perpetration has been shown to peak around age 15 (Hein et al., 2017), making adolescents particularly vulnerable to participation in nefarious activities. Given their age, most person-to-person crime perpetrated by adolescents occurs during school hours, or in the hours following school dismissal (Gottfredson & Soulé, 2004). Nonetheless, violence by youth cannot be merely stereotyped as a schoolyard brawl. Canadian youth, compared to a demographic over the age of 25, offend at twice the rate, and they are alleged to commit over twice the number of violent offences (Allen & Superle, 2014). Youth appear just as capable of engaging in injurious crimes as adults, and appear to be unrestricted by category of offence. For example, offences typically considered to be adult-exclusive crimes (e.g., sexual offences) are as mentioned above, perpetrated by youth as well.

### **1.1.1 Sexual Offences**

Roughly 50% of adult sexual offenders acknowledge that their first sexual offence was committed before 18 years of age (Abel, Osborn, & Twigg, 1993; Abel & Rouleau,

1990; Groth, Longo, & McFadin, 1982). This does not mean that all who commit a sexual offence in youth will continue to sexually reoffend as adults. Rather, Worling & Långström (2006) found that only a minority – 15% - of youth who commit a sexual crime will reoffend sexually within a five-year span. Such comparably low recidivism rates (e.g., 4-14%; Caldwell, 2016; Christiansen & Vincent, 2013; Chu & Thomas, 2010) have directed much attention to seemingly more critical adult perpetrators, while neglecting to consider the extent of initial offences at the youth level.

Historically, and likely in part due to a narrow age gap between perpetrator and victim, criminal sexual behaviour in adolescence was once accredited (and since discredited) to inappropriate experimentation (Cashwell & Caruso, 1997). The professed innocence of youth in combination with the belief that they do not yet understand appropriate sexual behaviour may even still mistakenly paint them as less threatening. Indeed, a 2014 analysis of Canadian arrests revealed that youth were more likely to be charged for Level 1 sexual offences (causing minimal or no physical harm) than their adult counterparts (Allen & Superle, 2014). However, this same report disclosed that youth were also more likely to be charged with sexual crimes against children. Given that adolescents are more likely to perpetrate against minors (Awad & Saunders, 1991; Worling, 1995), their preferred victim group may lack the ability to comprehend the act or to identify their abuser. In turn, it is particularly difficult to know realistic offending rates amongst those under 18. In all likelihood though, incidence and prevalence is substantially underestimated (Becker & Hicks, 2003). As such, the present state of youth-based sex offender literature remains, from all perspectives, frustratingly deficient.

A broader comprehension of adolescent sexual offenders will be of considerable benefit to scholars and practitioners who have already established promising early intervention and treatment plans (e.g., Dopp, Bourduin, & Brown, 2015). For example, success has been demonstrated with a multi-systemetic approach for which a team of professionals addresses the presenting problem (i.e., sexual deviance) in conjunction with suspected influences (e.g., family relations; Borduin & Schaeffer, 2002; Borduin, Schaeffer, & Heiblum, 2009). Cognitive behavioural therapy has also been found to be successful in reducing sexually aggressive thought processes in young sexual offenders (Apsche, Evile, & Murphy, 2004). Unfortunately, our understanding of youth who perpetrate sexually remains too ambiguous to allow for consensus regarding standardized treatment(s). Future program development and testing must take into account the diversity of young offenders, including – beyond age and type of sexual offence – the compilation of factors most likely pertinent to the incidence of first sexual offence and likelihood of re-offence. In addition to “*red flagging*” those who may be at a greater risk to pursue a sexual crime, it seems advantageous to understand the *protective* influences that could lead to preventative programming.

## **1.2 Motivations for Offending**

Undoubtedly influencing the success of programming is the lack of a reliable, measurable distinction between adolescent sexual and nonsexual offenders (e.g., Butler & Seto, 2002; Seto & Lalumière, 2010; Worling & Langstrom, 2006). There is much less known about youth who perpetrate sexually than what we have ascertained from adult populations. Given age-related differences between youth and adults, there are almost certainly contributing factors unique to stages of development. For example, adolescents are prone to reward-driven behaviours, meaning that their inhibitory control mechanisms can be

reduced (Geier, Terwilliger, Teslovich, & Velanova, 2010). In an adolescent sample, odds of committing severe violence have been found to increase by 45% and 48% with increases in anticipated thrill rewards and social rewards respectively (Shulman, Monahan, & Steinberg, 2017). Youth were seemingly more likely to behave based on anticipated positive sensations associated with the thrill of violence and social rewards rather than the costs. Because the majority of adolescent males enter puberty around the age of 13 (Bogaert, Friesen, & Klentrou, 2002; Kaltiala-Heino, Kosunen, Rimpelä, 2003), a crucial period in understanding healthy sexual experiences may be interrupted by poor decision-making in wake of a misbalanced reward vs. cost consideration. Relatedly, Ward and Beech's (2006) integrated theory of sexual offending acknowledges the role of youth's neuropsychological functioning (e.g., motivation), environmental challenges, brain development (e.g., hormone balance), and clinical symptoms (e.g., issues with emotional regulation, deviant sexual arousal, social problems). To date, it has been challenging to establish and organize motivations for juvenile sexual offending due to a lack of sample availability, the appropriateness of available samples for testing (e.g., longitudinal research), and lack of substantiated theory (Seto & Lalumière, 2010).

Conversely, a substantial body of adult-based literature is dedicated to intrinsic and extrinsic explanations for such behavior in later years. Of particular relevance is the belief that antisocial tendencies (e.g., behavioural impulsivity, aggressiveness, callousness, pro-criminal attitudes) are a considerable risk factor, being prevalent in literature pertaining to sexual offences for decades (e.g., Hall & Hirschman, 1991, 1992). For example, *Psychopathy* - a disorder of personality - can be considered an acute manifestation of antisocial tendencies and has been highlighted as a factor of interest in adult sexual perpetration.

### **1.2.1 Adult Psychopathy**

While not all perpetrators are psychopathic (and not all psychopaths perpetrate; Babiak & Hare, 2006), individuals with psychopathic personality are found to be drastically overrepresented in incarcerated settings. For example, 15-25% of imprisoned adult males meet the diagnostic criteria for clinical psychopathy (Porter et al., 2000; Porter, Birt, & Boer, 2001). Diagnoses are not lightly given; quantitatively, a score of 30 out of a maximum 40 points on the 20-item Hare Psychopathy Checklist Revised (PCL-R; Hare, 1991) is required in clinical settings. This numerical score is achieved by totaling Factor 1 points, pertaining to interpersonal (e.g., grandiose sense of self) and affective deficits (e.g., lack of remorse), with Factor 2 points concerning antisocial tendencies (e.g., early behaviour problems) and externalizing behaviours (e.g., impulsivity, sensation-seeking). A lesser tally may still be indicative of considerable emotional and behavioural deficits, and scores of 25 have been used by some researchers as a suitable cut-off point (e.g., Gregory et al., 2015; Olver & Wong, 2015).

The psychopath's antisocial tendencies in conjunction with Factor 1 traits indicate that he/she can be dangerous – no doubt contributing to overrepresentation within legal contexts. For example, although they are more likely to reoffend violently (Serin, 1996), psychopathic inmates achieve parole 2.5 times sooner than their non-psychopathic counterparts (Porter, ten Brinke, & Wilson, 2009). It has been theorized that this illogical success is attributable to an eye for vulnerability (Book, Costello, & Camilleri, 2013) and propensity for charm and manipulation (Hare, 1991). A reduced ability to identify and relate to the emotions of others however (Blair, 1995; Brook, Brieman, & Kosson, 2013; Brook & Kosson, 2013, Hastings, Tangney, & Stuewig, 2008; Kosson, Suchy, Mayer, & Libby, 2002)

has trademarked them as conscienceless (Hare, 1999). Likely due to their callous disposition, psychopaths have been found to perpetrate unwarranted violence (Porter, Woodworth, Earle, Drugge, & Boer, 2003), and have an affinity for instrumental, or goal-oriented, violence specifically when the stakes are high (Cornell et al., 1996; Laurell, Belfrage, & Hellstrom, 2014; Patrick & Zempolich, 1998; Porter & Woodworth, 2006; Woodworth & Porter, 2002).

Violent or forceful tendencies have also been documented in the psychopath's approach to mating (Camp, Skeem, Barchard, Lilienfeld, & Poythress, 2013). Not surprisingly then, higher levels of psychopathic traits have been noted in adults who pursue sexual interactions by nefarious means (Woodworth et al., 2013). For example, they pursue sexual partners when opportunistic, often obtained through deliberate deception (Harris, Rice, Hilton, Lalumière, & Quinsey, 2007; Jonason, Norman, Webster, & Schmitt, 2009; Lalumière & Quinsey, 1996). It has been proposed that there are individuals whose psychopathic traits (muted emotional sensitivity, thrill-seeking and impulsivity) motivate them to commit sexually violent crimes, titled *sexual psychopaths* (Porter, Campbell, Woodworth, & Birt, 2001; Porter, Demetriooff, & ten Brinke, 2010). For example, adult perpetrators with diverse victim pools have elevated psychopathy scores (Brown, Dargis, Mattern, Tsonis, & Newman, 2015; Porter et al., 2000; Skovran, Huss, & Scalora, 2010). Their higher Factor 1 scores in particular (Brown et al., 2015; Porter et al., 2000) denote a cold disposition and lack of remorse. Unfortunately, treatment implementation on psychopathic sexual offenders has only produced scattered success (e.g., DeSorcy, Olver, & Wormith, 2017; Langton, Barbaree, Harkins, & Peacock, 2006; Olver & Wong, 2009), suggesting those high in psychopathic traits may be treatment resistant, or require highly specialized treatment, due to the qualities they possess.

The idea that psychopathy is heterogeneous, or rather that there is more than one type of psychopath, is not a novel concept. For example, psychopathy has traditionally been divided into two major distinctions: primary and secondary psychopathy (Blackburn, 1975). The classic understanding of this “dark” personality (thought to be one of the Dark Triad: psychopathy, narcissism and Machiavellianism) is more aligned with the theory of primary psychopathy, and the idea that psychopaths’ affective deficits are primarily the product of genetics (Karpman, 1948; Tuvblad, Fanti, Andershed, Collins, & Larsson, 2017; Yildirim & Derksen, 2015). Conversely, the theory of secondary psychopathy proposes that individuals develop psychopathic traits as a coping strategy within their environment (e.g., aversive childhood experiences; Porter, 1996). There has since emerged a body of research devoted to examining differences between the two and implications for problematic behaviours and treatment (e.g., Vaughn, Edens, Howard & Smith, 2009; Skeem, Johansson, Andershed, Kerr, Louden, 2007). For example, it has been found that those categorized as secondary psychopaths are more in line with Factor 2 traits of psychopathy, and are more impulsive (Anestis, Anestis, & Joiner, 2009), prone to risk-taking (Dean et al., 2013), and also more anxious/depressed (Kimonis, Frick, Cauffman, Goldweber, & Skeem, 2012) than those categorized as primary psychopaths. However, the core features of varying models of psychopathy do remain fairly consistent. For example, even newer models (e.g., Triarchic Model; Patrick, 2009) encompass familiar aspects, including problems with controlling impulses, fearlessness, and lack of regard for others (Gatner, Douglas, & Hart, 2016).

### **1.2.2 Youth Psychopathy**

According to the theory of *primary psychopathy* (see Brinkley, Newmann, Lynam, & Widiger, 2004 for a review) a sexual psychopath is unlikely to go unobserved until

adulthood. Rather, given the potential presence of callous and unemotional (CU) traits as early as age three (Willoughby, Waschbusch, Moore, & Propper, 2011) and some evidence for persistence throughout life (Frick, Kimonis, Dandreaux, & Farrel, 2003; McMahon, Witkiewitz, & Kotler, 2010), it is probable that behavioural problems would manifest earlier. Further, there is evidence to suggest that adolescent sexual offenders, potentially somewhat akin to the adult sexual psychopath, prefer a diverse selection of victims (Aylwin et al., 2000; Wieckowski, Hartsoe, Mayer, & Shortz, 1998). This possible propensity for diversity in addition to an affinity for impulsive and thrill-seeking behaviours (d'Acremont & Van der Linden, 2005), does raise the possibility of a young sexual psychopath. However, it may not be clear to professionals assessing these youth what these traits may indicate in terms of level of risk, or propensity to engage specifically in sexual crimes.

One critical concern remains however: can we be confident in applying the same construct of psychopathy to youth? There is some evidence to suggest that psychopathic traits in adolescence hold fairly stable and are predictive of adult psychopathy (Lynam, Caspi, Moffitt, Loeber, & Stouthamer-Loeber, 2007; Salihovic, Özdemir, & Kerr, 2013). However, these studies are limited and longitudinal research that specifically compares across the same individual at both adolescence and adulthood is sparse. Outside of the logistical constraints of conducting this research, another reason for the lack of empirical studies is that youth psychopathy is a relatively new model with interest only surging since the 1990's (Vitacco & Vincent, 2006). It has been examined in the context of understanding and predicting deviant behavior in adulthood through an examination of children and adolescents who present with psychopathic tendencies. In particular, in children under the age of 12, psychopathic tendencies are more closely identified as CU traits and present

similarly to adult psychopathy (e.g., fearfulness; Barry et al., 2000; diminished response to others' emotions; Hodson, Lavie, & Viding, 2014) in childhood environments. CU traits can be stable into adolescence (Fontaine, Rijdsdijk, McCrory, & Viding, 2010), although developmental risk factors such as history of abuse have been found to likely influence the trajectory of such traits (Byrd, Hawes, Loeber & Pardini, 2016). As mentioned above while studies are scarce, one study did find that those high in psychopathic traits at age 13 show stability in these traits when re-assessed at age 24 (Lynam, Loeber, & Stouthamer-Loeber, 2008).

For assessments of psychopathic traits in those aged 12-18, a Youth Version of the adult Psychopathy Checklist (PCL-YV; Forth, Kosson, & Hare, 2003) is standardly applied. Notably, there are two fundamental distinctions between the PCL-R and the PCL-YV. First, the PCL-YV does not mandate a cutoff score for a clinical diagnosis of psychopathy, although researchers have in the past applied the score of 30 as used with adults (e.g., Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001). Second, the foundational assessment of the PCL-R was revised to reflect (a) normative adolescent behaviours, (b) peer and family-provided testimony, (c) items befitting a younger demographic, and (d) scoring for behavior enduring since late childhood (Forth et al., 2003). For example, titles for 12 of the 20 items were modified (e.g., Item 1's *Glibness/superficial charm* modified to *Impression management*) so as to better emphasize the attribute in question. Descriptions for 11 items were also expanded or restricted to capture pertinent behaviours, and additional sources of information (including examples) for scoring were allocated for 18 items. For instance, Item 11's *Impersonal sexual behaviour* (previously titled *Promiscuous sexual behaviour*) is now focused on the *meaning* of sexual activity to the adolescent, rather than merely frequency.

The PCL-YV has been demonstrated to be a reliable, valid tool for the assessment of psychopathic traits and behaviours (presence and quantity), but should be applied to decision-making in conjunction with other criterion (Forth et al., 2003; Kosson, Cyterski, Steuerwald, Neumann, & Walker-Matthews, 2002).

It is estimated that one quarter of adolescent offenders meet the diagnostic criteria for psychopathy through the PCL-YV (Forth, Kosson, & Hare, 2003; Långström & Grann, 2000; Långström & Grann, 2002; Långström & Lindblad, 2000). However, using scores obtained on the PCL-YV to forecast criminal behavior long-term based on the same patterns of criminality as witnessed in adults is not without concerns. For example, as Ryan (2016) contends, it is impractical to argue that *all* adult sexual offenders embarked on their pattern of criminal behaviour early in life. Further, a diagnosis of youth psychopathy has been found to rouse adverse perceptions (e.g., within the criminal justice system; Boccaccini, Murrie, Clark, & Cornell, 2008; Daniel, Cornell, & McCoy, 2005), and has been criticized for contributing to the placement of youth in correctional facilities over treatment programs (Edens, Skeem, & Cruise, 2001). Lastly, the abovementioned developmental qualities of youth (e.g., poor behavioural control) consistent with psychopathy may be age-related. If so, these qualities may change over the course of maturity, although the PCL-YV is designed to account for typical development. It is vital to distinguish typical and atypical adolescent behaviours, or more specifically, to identify what is a consequence of adolescent cognitive development (e.g., egocentrism) versus an antisocial personality characteristic (e.g., grandiose sense of self worth). For example, a youth who conveys anger towards an authority figure (e.g., parent) would not deserve a high score on “poor anger control” (Item 10; Forth et al., 2003). Rather, youth who become easily, inappropriately, and fleetingly aggressive

will receive higher scores on that item as it specifically indicates behaviour outside of what is typical of their peer group.

Antisocial personality traits in youth have been shown to often persist into maladaptive practices in adulthood (Moffitt, Caspi, Harrington, & Milne, 2002), providing further evidence that personality, including that of an antisocial or psychopathic nature, is stable over time (e.g., Loney, Taylor, Butler, & Iacono, 2007). Yet, while the relationship between antisocial personality traits and criminal behaviour – including crime severity and versatility - in youth is well founded (e.g., Vaughn, Howard, & DeLisi, 2008), researchers have yet to establish an association between psychopathic traits and juvenile sexual offending as they have with adults (e.g., Morrell & Burton, 2014). For example, Boonmann and colleagues (2015) noted that youth with a history of sexual crimes had a lower average of *self-reported* psychopathy than a nonsexual comparison group. Notably, his sample was not assessed using a clinical measure but rather a self-report questionnaire, raising the possibility that a multisource approach (such as the PCL-YV) may produce different findings. There is also somewhat contrasting literature to suggest that problematic personality traits are a contributor to sexual aggression in youth (Hall & Hirschman, 1991). For example, antisocial tendencies (e.g., higher levels of impulsivity and sensation-seeking) in adolescence have been linked to an earlier onset of sexual offending (McCuish, Lussier, & Corrado, 2015). Bearing the contrasting results in mind, in conjunction with a wealth of adult literature, psychopathic traits as measured by the PCL-YV may be a useful tool in understanding more about youth who perpetrate sexual violence.

### **1.3 Moderators of Psychopathy and Sexual Violence: Individual Differences**

The influence of psychopathic traits on sexual perpetration in youth is almost certainly only one of the potential influences on their behaviour. Just as there is considerable diversity in adult offenders (Robertiello & Terry, 2007; Smallbone & Wortley, 2004), we must then anticipate that certain types of other individual differences may separate youth offenders over and above the ways that antisocial personality associates them. From a practical perspective, it is impossible and impractical to generate a “one size fits all” treatment or intervention for young sexual perpetrators based solely on a quantified psychopathy score. Rather, it is pertinent to consider additional prospective and empirically endorsed influences that may relate to juvenile sexual offending. An understanding of these factors may generate the protective factors that will diminish the negative impact of prospective risk factors (e.g., psychopathic traits). Amongst these, two factors have been well reviewed and long-standing in criminal behaviour literature: intelligence and familial violence (e.g., Gibson, Piquero, & Tibbetts, 2001; Lansford et al., 2007; White, Moffit, & Silva, 1989). These two factors are of particular interest in the current study as well given their assessable nature (e.g., intelligence testing, medical reports validating abuse) and the fact that front-line workers (e.g., counsellors, medical professionals, social workers, educators) have the means to identify and work with these risk or protective factors.

### **1.3.1 Intelligence**

There is a long-observed relationship between low intelligence (IQ), delinquent or criminal behavior (Farrington, 2000; Hirschi & Hindelang, 1977), and recidivism (Gendreau, Little, & Goggin, 1996). For example, low verbal IQ has been linked to general delinquency (Lynam et al., 1993), early delinquency (Gibson, Piquero, & Tibbetts, 2001), and repeat offending (Vermeiren, Schwab-Stone, Ruchkin, & Deboutte, 2002). Individuals with superior

intelligence would hypothetically be able to avoid many acts of a criminal nature given their ability to weigh the risk for penalty in light of the rewards. However, when it comes to those who sexually offend there are mixed findings in regards to the role intelligence plays. For example, Guay, Ouimet, and Proulx (2005) noted deficits in IQ in a sample of sexually violent offenders. Conversely, Seto and Lalumière's (2010) meta-analysis found that while young sexual offenders were lower in total, verbal and performance IQ than nonsexual offenders, there was no statistically significant difference, suggesting a lower mean IQ is likely associated with general delinquency and not type. Notably, this meta-analysis included over three decades worth of diverse samples measured on intelligence by assorted measures. Accordingly, there is not enough evidence yet to confirm if those who engage in sexually inappropriate behaviour are more likely to be below, on par with, or above average IQ.

What then, of those thought to be criminally sophisticated? Occasionally referred to as the *Hannibal Lector Myth* (DeLisi, Vaughn, Beaver, & Wright, 2010), Cleckley (1976) observed in a clinical setting that primary psychopaths bore superior intelligence advantageous to their selfish endeavours. Despite some backing for Cleckley's theory (e.g., Vitacco, Neumann, & Wodushek, 2008), most research demonstrates that psychopaths appear no more intellectually superior overall compared to non-psychopaths (Bate, Boduszek, Dhingra, & Bale, 2014; Hare & Neumann, 2008). For example, in a sample of adult sexual offenders, verbal intelligence was actually found to decrease as psychopathic traits increased (Nijman, Mercklebach, & Cima, 2009). Conversely, Salekin, Neumann, Leistico, and Zalot (2004) found that youth who expressed traits indicative of a superficial and deceitful lifestyle had superior verbal intelligence, suggesting enhanced language-based reasoning and skill. Children higher in dark personality traits have also been found to

demonstrate stronger verbal and nonverbal intelligence (Fontaine, Barker, Salekin, & Viding, 2008).

Very few studies have examined the role intelligence may play with the relationship between psychopathy and offending, let alone in a youth sample. However, it has been proposed that higher verbal intelligence amongst psychopaths contributes to early criminal behavior (Johansson & Kerr, 2005), possibly serving as advantageous for luring victims. This may explain why verbal intelligence has been found by some to strengthen the relationship between callous-unemotional traits and violent juvenile offences (Muñoz, Frick, Kimonis, & Aucoin, 2008). Relatedly, Hampton, Drabick, and Steinberg (2014) found that adolescent offenders with a higher IQ and levels of psychopathic traits also perpetrated more violent crimes. Interestingly, there is also some evidence to the contrary suggesting that high IQ may serve as a protective factor (or buffer), against antisocial behavior. In a sample of adult sexual offenders, Beggs and Grace (2008) noted that those who were high in psychopathic traits, but who bore a low IQ, were over four times more likely to sexually recidivate. Further, individuals high in psychopathic traits, but who also have a low IQ, have been found to engage in less criminality (Wall, Sellbom, & Goodwin, 2013; Watts, 2016). In summary, research findings remain limited and mixed. Given the considerable implications for tailored intervention and treatment, intelligence must be further explored as a prospective moderator between psychopathy and juvenile sexual offending.

### **1.3.2 Familial Violence**

In the same way that innate qualities such as intelligence play a role in prevention and treatment, the way in which those qualities interact with one's environment is also vital to understanding behaviour. Of particular pertinence to dissecting violent behaviour is the

consideration of harmful early experiences. According to *social learning theory* (Bandura, 1978), individuals exposed to antisocial behaviours (e.g., aggression) from a young age are more prone to reproducing those types of behaviours later on. This theory has provided a foundation for numerous more recent theories that have proposed that children exposed to abuse will continue the cycle (e.g. Plummer & Cossins, 2016). Research has also offered support for criminal persistence preceded by abuse (e.g., Basto-Pereira, Miranda, Ribeiro, & Maia, 2016). Indeed, literature suggests that children reared in dysfunctional or disadvantaged households are at a greater risk for adverse outcomes later in life, including criminality (Staff, Whichard, Siennick, & Maggs, 2015; Watts & McNulty, 2013). For example, family adversity has been found to be a significant predictor for number of criminal court appearances in youth under 16 (Farrington & Loeber, 1999).

There has been a long-standing enquiry into if the victims of specifically childhood sexual abuse are more likely to offend as adults, and some research does support this (Becker, Hall, & Stinson, 2001; Christiansen & Thyer, 2002; Levenson & Socia, 2016; Seto & Lalumière, 2010). Yet, indicative of an outstanding controversy, there is also evidence against such a proposed relationship. For example, Widom and Massey (2015) noted that while adult males with a history of physical abuse and neglect were more at a higher risk of arrest for a sexual offence than a comparison control group, history of sexual abuse had no impact on sexual criminal charges. There is also an increasing acknowledgment of the considerable role genetics and neuropsychology play in understanding some offenders' path to sexual crimes (Ward & Beech, 2006). For example, Ward and Gannon (2006) point out that impulsivity and behavioural inhibition is to a large degree impacted by brain function, and that individuals with higher levels of cortisol or sex hormones may be more likely to act

impulsively to achieve a sexual goal. While researchers have yet to reach a final consensus as to the extent of negative impact of early adverse familial experiences, some research has found that childhood abuse of both a physically violent *and* sexual nature was linked to sexual offending behaviours in adolescence (Seto & Lalumière, 2010). The relationship between abuse and abuser has been conceptualized by Marshall and Barbaree (1990), who point out that – associated with Bandura’s social learning theory – negative early life experiences in general diminish the ability to self-regulate in later years. Youth without the means to brake against his (or her) impulses will tend to engage in sexually deviant behaviour as sexual curiosities peak. In this crucial developmental period, the familial environment (criminogenic environment; Moffitt, 1993) in which a youth is raised may help moderate engaging in sexual violence (Margari et al., 2015; Marshall & Marshall, 2000).

Environmental factors, such as a tumultuous home environment, have been linked to psychopathic traits in both adolescence and adulthood. For example, childhood maltreatment, including unfitting parental relations and abuse, has been posited as influential in the development of psychopathic traits (Edens, Skopp, & Cahill, 2008; Porter, 1996; Wootton, Frick, Shelton, & Silverthorn, 1997). This theory – related to the aforementioned concept of *secondary psychopathy* - suggests that unhealthy early experiences produce a diminished empathetic response later in life (Porter, 1996). Empirical evidence however, remains divided. For example, poor parental relationships and a history of abuse have predicted elevated adult psychopathy scores (Gao, Raine, Venables, & Mednik, 2010; Weiler & Wisdom, 1996). Forth (1995) also noted that individuals higher in psychopathic traits were more likely to have experienced family turmoil. Alternatively, Poythress, Skeem, and Lilienfeld (2006) noted no influence of childhood abuse on psychopathic outcomes, and

genetics (as opposed to environmental factors) have been linked to the stability of psychopathy over time (e.g., Forsman, Lichtenstein, Andershed, & Larsson, 2008). For example, Viding, Blair, Moffit, and Plomin's (2005) twin study demonstrated a heritable risk for psychopathy such as that twin children reared in different environments remained high in callous and unemotional traits over time. There is also mounting recent research demonstrating that psychopathic tendencies have been traced to deficits in brain structure and function (in adolescent and adult samples; Korponay et al., 2017; Pardini, Raine, Erickson, & Loeber, 2014; Thijssen & Kiehl, 2017). It is possible then that familial environment is better considered as a risk/protective factor in relation to psychopathy and desirable lifespan outcomes, or that it may more readily impact particular psychopathic traits and related behaviours.

To date, there is limited research examining childhood abuse in relation to both psychopathy *and* sexual offending in youth. What is known suggests that an experience of violence early in life and the presence of psychopathic traits may very well contribute to deviant behaviour. For example, individuals who experienced childhood victimization have been found to perpetrate extensive violence and produce higher scores as measured by the PCL (Lang, Klinteberg, & Alm, 2002; Weiler & Wisdom, 1996). Further, physical familial abuse has been identified as a moderator that strengthens the relationship between psychopathy and criminal behaviour (Lynam, Loeber, & Stouthamer-Loeber, 2008). Further research is warranted to fully understand the role that exposure to childhood abuse may play, particularly when examining the highly uncertain relationship between sexual offending and maltreatment. Considering a more specific type of criminal behaviour, such as sexual offences, will allow for a more refined understanding and better informed practice (e.g.,

trauma-informed treatment) compared to the broader scope of antisocial behaviour explored in much previous literature. Inconsistencies in the research may be explainable by studies that have taken too broad of a scope by only considering general offending.

#### **1.4 Present Study**

A search of available scholarly literature demonstrates that the study of psychopathic traits in youth is still relatively recent, accounting for a lack of thorough research pertinent to youth antisocial personality and criminal perpetration. Yet, in adult samples, there is reason to believe that psychopathic traits contribute to both the perpetration, and the type, of sexual crimes – a subset of criminal behavior desperately warranting attention in those less than 18 years of age. Empirical data attesting to this relationship in youth is severely lacking – although, as Lynam (2002) argues, psychopathic traits in youth are viable for research – and individual differences that likely play a moderating role is often overlooked. The present study is a small step towards rectifying considerable gaps in existing literature. This thesis will be one of the first to compare youth charged with sexual and nonsexual violent crimes on a clinical measure of youth psychopathy, while factoring in two potential moderators of IQ and aversive developmental familial environment. The following research questions will be explored: (1) Is total psychopathy score (as measured by the PCL-YV) associated with the type of criminal charge (sexual vs. nonsexual); (2) Is an association between psychopathy and type of criminal moderated by IQ?; (3) Is an association between psychopathy and type of criminal charge moderated by a history of childhood abuse?; (4) Is there a three-way interaction between psychopathy, intelligence, and the presence of abuse in relation to the type of criminal charge?

It is hypothesized that psychopathic traits will be associated with the type of criminal charge such that juveniles who score higher in psychopathic traits are more likely to be charged with a sexual crime than a nonsexual violent crime (Parks & Bard, 2006; Woodworth et al., 2013). Second, it is predicted that youth who are high in psychopathy, but low in intelligence will be more likely to be charged with a sexual crime (Bate, Boduszek, Dhingra, & Bale, 2014; Farrington, 2000; Guay, Ouimet, & Proulx, 2005; Hare & Neumann, 2008). Third, it is anticipated that youth high in psychopathy and who have experienced childhood abuse will be more likely charged with a sexual crime (Lynam, Loeber, & Stouthamer-Loeber, 2008). Fourth, it is hypothesized that a three-way interaction will exist between psychopathy, intelligence, and childhood abuse such that youth high in psychopathy, low in intelligence, with the experience of childhood abuse will be more likely to be charged with a sexual offence.

## CHAPTER 2 Methods

### 2.1 Participants

Data was donated for analysis by the Oklahoma Office of Juvenile Affairs (OOJA) as per a data transfer agreement between the organization and researchers at the University of British Columbia, Okanagan. Interns and a leading staff member at the OOJA anonymized and compiled a convenience sample of youth who had been evaluated in their facility following criminal charges. OOJA staff compiled the sample based on a process of going through available youth files (beginning with the most recent). Data was transferred over the course of fifteen months and – by examination of available testing dates – was dated no earlier than 2012 and no more recent than 2016. The cut-off for inclusion in the present analysis was data transferred by May, 2017 to allow suitable time for analysis and report, with data received later stored securely for future analysis. This data was donated with the intention that findings be disseminated for the benefit of frontline workers in youth justice, making the present study a small representation of a continuing, large-scale research endeavour.

Researchers received the data in two formats (a) a spreadsheet and (b) corresponding interview files. The OOJA staff was not responsible for any coding procedures. The spreadsheet detailed demographical details and measures of individual differences (e.g., Structured Assessment for Violence Risk in Youth [SAVRY; Borum, Bartel, & Forth, 2000], Psychopathy Checklist – Youth Version [PCL-YV; Forth et al., 2003], Minnesota Multiphasic Personality Inventory-Adolescent [MMPI-A]), and included 130 youth aged 13-19 ( $M_{\text{age}} = 17.06$ , 120 males). Corresponding interviews (PCL-YV and structured clinical interviews) were available for 97 participants. Due to time restrictions and human error (e.g.,

misfiled documents) by the donating party, the researchers did not receive 33 files to correspond with youth detailed in the spreadsheet. All available information was compiled into a dataset. Demographic information for the sample is outlined in Table 1. While the PCL-YV is designed for use with youth up to the age of 18, youth aged 19 at time of testing were included. Previous studies of psychopathic traits in adolescent offenders have included those above 18 given that a proportion of individuals over 18 are processed in the youth criminal justice system (Campbell, Porter, & Santor, 2004; Shepherd & Strand, 2016). Further, studies of adolescent sexual offenders have been documented to include youth ranging from age 11 to 25 (Seto & Lalumière, 2010), and we feel confident in the inclusion of youth age 18-19.

## **2.2 Measures**

### **2.2.1 Psychopathy: PCL-YV**

An OOJA employee qualified to assess psychopathy using the PCL-YV tested the sample for presence of psychopathic traits. A review of interviews revealed that amongst a number of interviewers there was two primary staff used to conduct the PCL-YV and Clinical Interviews. This was not a concern as literature shows that the PCL-YV demonstrates excellent inter-rater reliability amongst trained assessors (e.g., ICC = .93; Forth et al., 2003). Interviews were conducted using the 20-question, four-facet model of Psychopathy Checklist – Youth Version (PCL-YV; Forth et al., 2003). As considered in the introduction, the PCL-YV was assembled from the Psychopathy Checklist Revised (PCL-R) such that the construct of psychopathy is downwardly applied to (and adapted for) those aged 12-18. As such, the PCL-YV can be considered a modification of its prototype, the adult-oriented PCL-R. Generally, it has been consistent in signifying sound psychometric

properties. For example, it has been demonstrated to have good predictive validity for general reoffending (Viljoen, Elkovitch, Scalora, & Ullman, 2009), violent reoffending (Hilterman, Nicholls, & van Nieuwenhuizen, 2014), and sexual offending (Schmidt, Campbell, & Houlding, 2011). The PCL-YV has been shown to have comparable convergent validity with other measures of psychopathic traits (e.g., Youth Psychopathic Traits Inventory [YPI; Andershed, Kerr, Stattin, & Levander, 2002], Andershed, Hodgins, Tenström, 2007) and adequate test-re-test reliability (ICC = .66; Skeem & Cauffman, 2003). The PCL-YV is given as a semi-structured interview that typically takes up to 90 minutes to administer. Items are scored on a three-point scale such as that “0” indicates that the item does not apply (e.g., the youth has not engaged in any sexual relations), and “2” indicates that the item definitely applies. While useful for clinical reasons, the PCL-YV is by design also appropriate for grouping or distinguishing youth for research purposes (Forth et al., 2003). In the present sample, scores for Facets 1-4 were provided, which when tallied with two items not incorporated in any particular Facet (*unstable interpersonal relationships* and *impersonal sexual behaviour*), produced a total PCL-YV score.

### **2.2.2 Intelligence: WASI-II**

Intelligence (IQ) was measured by the four-subtest version of the Wechsler Abbreviated Scale of Intelligence – Second Edition (WASI – II; Wechsler, 2011). The WASI-II is a 98-question (30-minute) convenient measure of cognitive abilities in individuals aged 6-90, and is suitably designed for application in a clinical, research or educational setting. The product is a total IQ score, as well as two composites: verbal IQ score (tallied vocabularies and similarities test score) and performance IQ score (tallied block design and matrix reasoning subtests). Normative testing has found that adult and children

samples produced a consistent, corrected split-half reliability coefficient above .90 (Irby & Floyd, 2013); the WASI-II also boasts a good test-retest-reliability (ICC = .86-.87) and strong validity with comparable tests of intelligence (e.g., KBIT-II; Kaufman & Kaufman, 2004; WFAS; Wechsler, 2008).

### **2.3 Procedure**

Due to concerns surrounding the predictive validity and efficacy of the PCL-YV for assessment of adolescent girls (e.g., Odgers, Reppucci, & Moretti, 2005; Vincent, Odgers, McCormick, & Corrado, 2008; Schmidt, McKinnon, Chattha, & Brownlee, 2006), and the use of males in comparative studies (Marini, Leibowitz, Burton, & Stickle, 2014), females were excluded in analysis. Further, as the main research question posed in the present study pertained to sexually violent and non-sexually violent crime, any adolescent male who was formally charged with only nonviolent crime(s) were not included in analysis. The sample was classified into youth charged with sexual and nonsexual crimes by reference to Title 21 of Oklahoma State law. This method of cataloguing was strategically applied in accordance with the origin of the sample provided so that results could be generalized to other youth within the organization. By this method, all sexual charges were considered violent charges. Examples of nonsexual violent charges are but are not limited to murder in the first degree, assault with a deadly weapon, extortion, burglary I, and robbery; sexual violent charges include but are not limited to incest, forcible sodomy, rape, lewd acts or proposal with a child, or attempts at any sexual crime. As a result, a minority of 21 youth were identified as being charged with a sexual crime, with no discrepancy in ratings. The entire sample was also coded for *number* of violent charges, with a very good inter-rater reliability demonstrated by a Cronbach's alpha value of .96, and ICC 95% CI, [.92-.97],  $p < .001$ ).

Discrepancies in the number of violent offences were discussed between researchers, and following review of Oklahoma law, a consensus was reached for each case. Overall, there was generally good consensus with explainable differences. Data was coded by the primary researcher in conjunction with an honours student and a trained psychology undergraduate student with research experience.

For supplementary descriptive purposes, IQ and PCL-YV scores were dichotomized following frequency analysis and a median split. It was determined that 50% of the sample fell at or above an IQ score of 91, so that scores at 90 or below were conservatively labeled “Lower Half” IQ and scores at 91 or above were labeled “Higher Half” IQ. While a score of 100 has been demonstrated by literature to be a standard for identifying higher and lower IQ based on mean intelligence (Maccow, 2011), this proved problematic within the present sample. For example, an initial split of 100 such as that youth at or above 100 fell into the “Higher Half” IQ revealed highly uneven groups that manifested throughout analysis. As such, a total IQ score of 91 was a more appropriate split for the sample. Due to concerns of outliers, IQ scores were *Winsorized*; this procedure is conducted to adjust extreme IQ values rather than eliminating them. This step was found to make no difference to findings and upper and lower IQ scores remained in the sample. For PCL-YV scores, an analysis of score frequencies determined that 51.4% (n = 59) of the sample fell at or above a score of 22 on the PCL-YV. The continuous variable of psychopathic traits was dichotomized into “Mod/High” PCL-YV and “Lower” PCL-YV with scores at 21 or below qualified as “Lower” PCL-YV.

### **2.3.1 Coding for Presence of Childhood Abuse**

Specifically, PCL-YV Question #58 (“Were you ever abused physically, sexually, or emotionally”) was coded dichotomously Yes/No for presence or absence of childhood abuse.

In some cases, interviewers had made a note to refer to the clinical interview, in which case the raters reviewed the Family History section (“Child abuse: sexual, physical, emotional, neglect”) of the available file. As abuse was self-reported in interviews, researchers were careful to examine all available information to determine if youth identified abuse in a related question but denied when directly asked. Location of information pertinent to identifying presence of and form of abuse was documented. For cases where only one corresponding interview was available (i.e., only PCL-YV or Clinical interview), the researchers examined the appropriate sections for indication of abuse and documented denial of abuse (considered absence), presence of abuse, or unavailable information (e.g., if there was no response written for the interview question). Form of abuse was coded for future analysis but, for the purpose of the present analysis, abuse was introduced as a dichotomous variable given the breadth of abuse type and small numbers (e.g.,  $n = 1$ ) associated with each group. Abuse was coded as 1, no abuse coded as 0, while no available information as to abuse was left blank in the data file. For 34 youth, no available information was either due to lack of corresponding interview, or absence of information in the available interview(s). The calculated inter-rater reliability for coding of abuse indicated that there was excellent consensus between the coders,  $\kappa = .86$  (95% CI, .75 to .97),  $p < .001$ . Coding type of abuse in for youth was successful in that there was disagreement for only 8 youth; in these cases, it was explainable by one coder having misread or missed information that indicated an additional type of abuse (e.g., physical *and* sexual). This was attributable to the handwritten interview notes, which were occasionally difficult to decipher. Following discussion, consensus was reached on all forms of abuse.

## 2.4 Analysis

Bivariate correlations were conducted to examine the relationship between the main variables of psychopathic traits, intelligence, abuse, and alleged offending. Subsequently, a three-predictor logistic model was applied to the sample of alleged youth offenders to test the hypothesis regarding the relationship between psychopathic traits, intelligence, and victimization and the likelihood that the youth is charged with a sexual crime. Specifically, PCL-YV score, IQ score as measured by the WASI-II, and self-report childhood abuse were entered as independent variables to produce an odds ratio; the product being a mathematically-represented probability that the outcome (sexual vs. nonsexual charge) will occur. The predictors were first entered to examine independent relationships, followed by two-way interactions (e.g., PCL-YV X IQ) to highlight what, if any variables influenced the relationship between an independent variable and the outcome. Lastly, the three-way interaction (PCL-YV X IQ X Abuse) was applied. A second, follow-up regression analysis was conducted after youth were divided into abused and non-abused (a potential moderating factor) to assess the relationship between psychopathic traits and intelligence on type of alleged violence. Lastly, bivariate correlations were conducted while the data was split based on abuse for a more refined understanding of regression findings, and for supplementary information specific to youth who experienced or denied the experience of abuse.

## CHAPTER 3 Results

### 3.1 Descriptive Findings

The original dataset generated from the OOJA spreadsheet included a total of 130 youth. All females ( $n = 10$ ) were excluded from analyses, as were seven youth charged with exclusively non-violent crimes were excluded. As such, the final sample included 113 male, allegedly violent offenders. Twenty-one youth were identified as youth charged with a sexual offence, while 92 were alleged to have committed a nonsexual violent crime. Of the sample, 80 had corresponding interview files available in addition to individual difference measure scores (62 both PCL-YV and Clinical, 17 PCL-YV only, one Clinical only). Total IQ score was unavailable for 11 youth, and total PCL-YV score was unavailable for two youth.

#### 3.1.1 Demographics

The mean age of the sample at time of assessment by OOJA was 17.09 ( $SD = .87$ ) years, with a range from 13.6 to 19.4 years. The sample had considerable racial diversity, although the majority were identified as black (43.4%), or white (35.4%) by their records. Approximately 15% identified as mixed race. A breakdown of racial identification is provided in Figure 1.

#### 3.1.2 History of Abuse

Data regarding personal history obtained from PCL-YV and Clinical interviews was limited by the availability of these interviews and the content of these interviews. Information pertinent to the presence of childhood abuse was available for 79 youth, of which 57% ( $n = 45$ ) identified that they had experienced some form of childhood abuse. Thirty-four were included in the final sample after the aforementioned exclusion criteria. Of youth charged with sexual violent offence(s), 57.9% ( $n = 11$ ) had a history of abuse; data was unavailable for two alleged sexual perpetrators. Information pertaining to abuse was

available for 60 youth who were charged with nonsexual violence offence(s), of which 38.3% ( $n = 23$ ) had been victimized.

Coding revealed variety in the type of childhood abuse detailed in the youth files. Ten youth experienced exclusively abuse of a physical nature, while two youth experienced exclusively sexual abuse. Two youth experienced neglect, and three youth reported abuse of an exclusively verbal/emotional nature. The remainder of youth who self-reported abuse identified diverse abusive tactics. These included: physical and emotional abuse ( $n = 10$ ); sexual and emotional abuse ( $n = 1$ ); physical and sexual abuse ( $n = 1$ ); physical, sexual, and emotional abuse ( $n = 2$ ); neglect, physical, and emotional abuse ( $n = 2$ ); neglect, physical, emotional and sexual abuse ( $n = 1$ ). The range of abuse type, and small sample sizes associated with each type was such that type of abuse was not considered in present analysis.

### **3.1.3 Intelligence**

Mean total intelligence for the sample was 89.9 ( $SD = 12.38$ ), with mean Verbal IQ of 89.5 ( $SD = 11.2$ ) and mean Performance IQ of 92.01 ( $SD = 12.50$ ). Youth charged with nonsexual violent offence(s) had a mean intelligence of 89.9 ( $SD = 11.94$ ), ranging from 59-121. Verbal and Performance IQ means for these youth were 89.93 ( $SD = 10.77$ ) and 91.41 ( $SD = 11.68$ ) respectively. Mean intelligence for youth charged with sexual violent offence(s) was 90.00 ( $SD = 14.4$ ) ranging from 66-110. Mean verbal IQ was 87.80 ( $SD = 12.94$ ), and Performance IQ was 94.4 ( $SD = 15.48$ ).

### **3.1.4 Psychopathy**

The mean total PCL-YV score of the full sample was 21.67 ( $SD = 8.08$ , range = 39). Youth scored higher on Factor 2 scores ( $M = 11.35$ ,  $SD = 4.26$ ) than Factor 1 scores ( $M = 8.19$ ,  $SD = 4.17$ ),  $t(109) = -7.96$ ,  $p < .001$ , 95% CI [-3.88, -2.33]. Frequency distribution of

PCL-YV scores across the sample is depicted in Figure 2. Youth charged with nonsexual violent offence(s) had a mean total PCL-YV score of 21.13 ( $SD = 8.19$ ), ranging from 1 to 35. These youth scored higher in Factor 2 scores ( $M = 11.17, SD = 4.25$ ), than Factor 1 ( $M = 7.96, SD = 4.25$ ),  $t(88) = -7.35, p < .001, 95\% CI [-4.01, -2.3]$ . Those charged with sexually violent offence(s) had a mean total PCL-YV score of 23.95 ( $SD = 7.33$ ), ranging from 6 to 40. Akin to their nonsexual counterparts, these youth also scored higher in Factor 2 scores ( $M = 12.10, SD = 4.38$ ) than Factor 1 scores ( $M = 9.19, SD = 3.78$ ),  $t(20) = -3.05, p = .01, 95\% CI [-4.89, -.92]$ . Youth scores for Facets 1-4 are depicted in Table 1. Descriptive analysis showed that 15 of the 21 youth (71%) whose charges included a sexual offence fell into the category of scoring Mod/High on the PCL-YV. Conversely, 44 (49%) of youth charged with a nonsexual violent offence were identified as being Mod/High in psychopathic traits.

### **3.1.5 Bivariate Correlation Analysis**

Initial bivariate correlations were conducted using the full youth sample with the main variables of IQ (Total, Verbal and Performance), psychopathic traits (Total, Factor 1, Factor 2), abuse and presence of sexual charge(s). Table 2 below depicts the associations between the variables. Specifically, there were two noteworthy significant relationships. First, there was a positive relationship between total PCL-YV score and both Factor 1 ( $n = 111, r^2 = .72$ ), PCL-YV score and Factor 2 ( $n = 110, r^2 = .76$ ), and between Factor 1 and Factor 2 ( $n = 110, r^2 = .28$ ). Second, total IQ positively related to verbal ( $n = 100, r^2 = .77$ ) and performance subscales ( $n = 100, r^2 = .77$ ), while verbal and performance IQ were also related ( $n = 101, r^2 = .55$ ).

Supplementary bivariate correlations were conducted for descriptive information pertaining to the youth sample and the quantity of charges obtained. Total PCL-YV score for the full youth sample positively correlated with number of violent charges ( $n = 111, r = .25$ ,

$p < .001$ ,  $r^2 = .06$ , and number of total accumulated charges ( $n = 111$ ),  $r = .37$ ,  $p < .001$ ,  $r^2 = .14$ . Number of violent charges negatively correlated with total IQ ( $n = 101$ ),  $r = .32$ ,  $p < .001$ ,  $r^2 = .10$ , as well as verbal ( $n = 102$ ),  $r = -.35$ ,  $p < .001$ ,  $r^2 = .12$ , and performance IQ, ( $n = 101$ ),  $r = -.32$ ,  $p < .001$ ,  $r^2 = .10$ . Further correlation analysis revealed that number of violent offences and number of alleged sexual offences was associated, ( $n = 111$ ),  $r = .20$ ,  $p = .03$ ,  $r^2 = .04$ .

### **3.2 Binary Logistic Regression**

The main effects of Total score on the PCL-YV (Psychopathy), IQ, and Abuse were not associated with the type of charge (sexual violent or nonsexual violent; see Table 3). There were no two-way significant interactions found in the predictor model (see Table 3). A three-way interaction between psychopathy, IQ, and abuse was found to be significantly associated with having a sexual charge,  $\text{Exp}[\beta] = .98$ , 95% CI [0.96, 1.00].

To better understand the three-way interaction, a second logistic regression was conducted following a data split based on presence ( $n = 34$ ) or absence ( $n = 45$ ) of childhood abuse. Psychopathy score and IQ did not emerge as statistically significant in the model, nor did a two-way interaction between total psychopathy score and total IQ.

#### **3.2.1 Supplementary Analysis.**

Descriptive analysis was completed on the split data (abused vs. non-abused youth). First, bivariate correlations were conducted to examine the relationship between total IQ, total psychopathy score, and presence of a sexual charge between these groups. No associations were noted in this analysis.

Second, bivariate correlations were run to examine the relationships between psychopathic traits, intelligence, and existence of sexual charge(s) with and without a history

of childhood abuse. In youth who did not experience abuse, total psychopathy score positively correlated with total number of violent charges ( $n = 44$ )  $r = .42$ ,  $p = .004$ ,  $r^2 = .18$  and total number of charges ( $n = 44$ ),  $r = .44$ ,  $p = .003$ ,  $r^2 = .19$ . Verbal intelligence was found to be negatively associated with number of sexual offences ( $n = 39$ )  $r = -.41$ ,  $p = .01$ ,  $r^2 = .17$ , and number of violent offences ( $n = 39$ ),  $r = -.46$ ,  $p = .004$ ,  $r^2 = .22$ .

Youth who had been victims of childhood abuse did show some differences to their non-abused counterparts. There was a positive association between number of total charges and total PCL-YV score ( $n = 44$ ),  $r = .39$ ,  $p = .03$ ,  $r^2 = .15$ , as well as between number of total charges and Factor 2 score ( $n = 33$ ),  $r = .47$ ,  $p < .001$ ,  $r^2 = .22$ . Number of sexual charges also correlated with total number of violent charges ( $n = 34$ ),  $r = .38$ ,  $p = .03$ ,  $r^2 = .14$ , while number of violent charges was found to be associated with total number of charges ( $n = 34$ ),  $r = .39$ ,  $p = .02$ ,  $r^2 = .15$ . The percentage of the sample categorized by abuse, psychopathic traits, and IQ is available in Figures 3-6.

## **CHAPTER 4 Discussion**

The present study afforded the relatively rare opportunity to examine a sample of youth charged with sexually violent and non-sexually violent crimes. It also provided a glimpse of the relationship (or lack thereof) between psychopathy, potential moderators, and the nature of offending in youth. While a number of important findings did emerge, interestingly they did not support any of the four hypotheses. In addition, while a binomial logistic regression initially produced a statistically significant three-way interaction between psychopathy, IQ, and abuse in the prediction of type of criminal charge (as per hypothesis four), the interaction was deemed spurious and cannot be deciphered. However, as outlined in the literature review herein, much of the limited available literature offered mixed findings, making the hypotheses fairly tentative. Further, supplementary analyses did provide some interesting findings that prompt useful questions for future research. For example, total psychopathy was found to be associated with number of violent offences and total offences in this youth sample, akin to adult research. The present study is an important contributor to youth literature and to our understanding of youth-perpetrated sexual and nonsexual violence, with important implications for the design and implementation of prevention and treatment.

### **4.1 Descriptive Understanding of the Youth Sample**

Researchers at the University of British Columbia, Okanagan were provided with an opportunity to explore data from the Oklahoma Office of Juvenile Affairs, who received over 13,000 youth referrals between 2015-2016 (“Fiscal Year”, 2016). The sample in the present study represents a group of juveniles charged with serious crime. The descriptive findings offer support to suggest that our youth sample is comparable to incarcerated (convicted) youth.

#### **4.1.1 Prevalence of Childhood Abuse**

Youth files were examined for type of abuse experienced if at all, identifying four categories: physical, sexual, neglect, and verbal/emotional. For example, Youth 1014 was coded as experiencing physical abuse following his report, “[My brother] picked me up by my neck and started slamming me into the floor”. There was considerable variety noted among the forms of maltreatment experienced by youth, with the majority (50%) experiencing a combination of two or more types of abuse. Also, there was a documented gap in the prevalence of physical and sexual abuse (29.41% and 5.8% respectively), which is not uncommon. For example, McCuish, Cale, and Corrado (2017) noted that 46.1% of their juvenile sample had experienced physical abuse, compared to 12.1% who experienced sexual abuse. Given the diversity of abuse within the small sample, we hesitate to draw causal conclusions regarding the impact of abuse type on criminal behaviour, but note the importance of its prevalence amongst our sample for future inquiry. It would appear physical abuse is the more prominent form of childhood maltreatment in youth correctional settings, whereas it is not the leading type of abuse in community samples (“Child Maltreatment”, 2017).

A considerable proportion – nearly half in fact – of youth in the sample claimed they had experienced some form of childhood abuse. This number may be also an underestimation given that some youth files were unavailable (including possible histories of abuse), and that child maltreatment was self-reported by males, who are historically less forthcoming about experiences of abuse (Gordon, 1990). Of youth whose charges included a sexually violent offence, almost 60% expressed they had experienced some form of childhood abuse (of 20 with available abuse data). Conversely, fewer than 40% of youth who had exclusively non-

sexually violent charges reported abuse (of 60 with available data). This finding is in line with Seto and Lalumière (2010), who found that a greater proportion of male adolescent sexual offenders, compared to nonsexual offenders, experienced childhood maltreatment. Findings of the present study does raise the question that youth who attempt to and/or commit sexual crimes may be influenced by (or in some way motivated towards) antisocial sexual behaviours by their aversive childhood experiences. Perhaps more decisively, it highlights the prevalence of childhood abuse in violent youth (sexual and nonsexual), as in our sample. This calls for the recognition of trauma throughout a therapeutic process for violent youth, as the experience of abuse does appear to be a criminogenic risk factor. Because only one youth experienced exclusively sexual abuse in childhood, it was deemed inappropriate (at this stage) to explore the relationship between being a victim *and* perpetrator of sexual violence.

#### **4.1.2 Intelligence**

To date, there has been little examination of intelligence scores amongst adolescent sexual offenders, marking this study as one of the first to consider the impact of IQ specifically on this type of offending. Any differences would be pertinent to our understanding of prospective decision-making in youth, such as attempts to evade detection (e.g., strategic timing, victim selection). Interestingly, our results suggest *no* difference between those alleged to sexually and nonsexually offend, similar to findings by Seto and Lalumière (2010) whose meta-analysis concluded that the IQ of adolescent sexual and nonsexual offenders was essentially the same. This is in contradiction to Guay and colleagues (2005) who found that adult sexual offenders' scores substantially lower in total, verbal and performance IQ than their nonsexual, violent counterparts. Guay et al. (2005) used test scores

obtained from the computer-based Tests d'Aptitudes Informatisés (TAI). Considering that the TAI is alleged to have similar Verbal and Performances scales to the WASI-II, it is possible that a distinction between verbal and performance IQ is not mirrored in a younger demographic. This could be in part explained by how cognitive abilities have been shown to change over the course of development (Tucker-Drob & Briley, 2013; Wettstein, Tauber, Kuźma, & Wahl, 2017). Also, our sample was composed entirely of alleged violent perpetrators, raising the possibility that IQ remained consistent between alleged sexual and nonsexual offender groups because both are representative of violent offenders. Indeed, we did find that total, verbal and performance intelligence was negatively associated with number of *violent* charges (sexual and nonsexual) such that youth who scored lower in IQ had a higher number of violent criminal offences on record. In other words, an analysis of IQ between young violent versus nonviolent perpetrators may show more of a distinction. Notably, the mean IQ for the sample did fall below a mean IQ of 100 as measured by the WASI-II, but is in line with previous research placing adolescent offenders within one standard deviation below the mean (Gretton et al., 2001; Maccow, 2011). Overall, it remains clear that further research is needed to tease apart how intelligence plays into the decision making of young sexual perpetrators.

#### **4.1.3 Psychopathic Traits**

Mean psychopathy score and corresponding Factor scores fell within the range of incarcerated youth tested with the PCL-YV in other studies (e.g., Murrie & Cornell, 2002), suggesting that this study successfully captured a forensic sample. Across all youth, mean PCL-YV score was 21.67, which is congruent with findings by Murrie and Cornell (2002), and Cale, Lussier, McCuish, and Corrado (2015), who documented means of 21.90 and 21.60

respectively. Considering that some researchers have used a score of 25 as a cut-off to differentiate between those scoring higher or lower on psychopathy, the mean score in the sample does illustrate how a fairly large number of individuals scored highly on a number of the psychopathic traits as captured by the PCL-YV.

The entire youth sample, as well as within groups of alleged sexual and nonsexual offenders, scored higher in Factor 2 (antisocial/lifestyle) traits than Factor 1 (interpersonal/affective), suggesting that these youth are more prone to stimulation seeking, impulsivity, and antisocial tendencies (Forth et al., 2003). This finding was not unexpected, given that adjudicated and incarcerated adolescent males (Forth et al., 2003; Walters, 2014; Walters and DeLisi, 2015) have been shown to score higher in Factor 2 scores than Factor 1, evidence to the forensic nature of our sample. Reasonably, Factor 2 scores include ratings of items directly and indirectly related to delinquent behaviour, such as early conduct problems, poor anger control, unstable interpersonal relationships, serious violations of conditional release and criminal versatility. Similarly, in adult samples, Porter and colleagues (2000) noted that Factor 2 scores were higher than Factor 1 scores regardless of offender type, although Factor 1 scores were lower in nonsexual offenders than sexual (with exception of extra familial molesters). Interestingly, we did not find any differences in the Factor 1 scores (encompassing traits such as pathological lying, grandiose sense of self, shallow affect, lack of remorse; Forth et al., 2003) of our sexual and nonsexual violent youth. This is different than what has been found in adult literature (Brown et al., 2015; Porter et al., 2000) and some youth literature that suggests young sexual perpetrators are more deceitful, arrogant, manipulative and callous (Cale et al., 2015). However, because a lack of empathy – independent of psychopathy – is believed to be a key component behind sexual offending in

general (Barnett & Mann, 2013a; Barnett & Mann, 2013b; Ward, Fisher & Beech, 2016), further research on affective deficits in young offenders is clearly warranted.

In the present study a larger proportion, roughly 71%, of youth charged with a sexual offence scored above the median split, falling into the category of Mod/High psychopathy. However, differences in total, factor and facets scores were not statistically significant. As such, at this time we cannot conclude that youth who are alleged to commit sexual offences score higher in psychopathic traits. This is in spite of previous literature that has documented higher psychopathy scores for adolescents and adults who commit a sexual crime (Parts & Bard, 2006; Woodworth et al., 2013), suggesting there may be more pronounced dark personality traits. It is possible that our study could unearth no differences between our groups because our entire sample was comprised of violent youth as classified by Oklahoma state law (non-violent youth being excluded). Consequently, higher psychopathic traits were likely elevated across the board related to violent behavior and not necessarily that of a sexual nature.

Total psychopathy score was found to positively correlate with total number of violent offences, indicating that youth higher in psychopathy score were charged with a higher quantity of violent crimes. Consistent with adult studies, the current thesis found that within our sample increased violence was associated with those who scored higher on psychopathy (e.g., Flight & Forth, 2007; Porter et al., 2003; Porter & Woodworth, 2006). This is meaningful to our understanding of how psychopathic traits in youth may manifest in criminal behaviour. Previously, youth scoring higher in psychopathy were found to execute more instrumental, or goal-oriented violence (Flight and Forth, 2007), which is similar to studies in adults (Woodworth & Porter, 2002). However, our understanding of motivations

for violence in youth and how it is related to psychopathic traits is constrained by limited studies. Yet when one considers the aforementioned contribution of Factor 1 traits (encompassing qualities such as a callous and unemotional character), these features may enable a more cold and instrumental disposition. For example, elevated Factor 1 scores relate to more instrumental violence in adults (Blais, Solodukhin, & Forth, 2014; Walsh, Swogger, & Kosson, 2009), and higher Interpersonal scores relate to more predatory violence (Declercq, Willemsen, Audenaert, & Verhaeghe, 2012). At the youth level, more serious and severe types of violent crimes such as sexual offences may be more likely to be committed in a planned out and calculated manner by individuals scoring higher on psychopathy. While our sample of sexual offenders scored no higher in Factor 1 traits than our nonsexual comparison group, future research should investigate the impact of motivation and planning in youth scoring higher on psychopathy for both sexual and general violence. Interestingly, the finding that PCL-YV scores positively correlated with number of total charges (violent and nonviolent) is congruent with previous findings that adult individuals high in psychopathic traits are also more impulsive and thrill-seeking when considering criminal offending in general, aligned with Factor 2 traits (Hart & Dempster, 1997).

#### **4.2 Logistic Regression**

In the present study, a binomial logistic regression was applied to the data to test the theory that psychopathy, intelligence and abusive history would be uniquely associated with alleged sexual violence in youth. Contrary to the first hypothesis, there was no indication that youth higher in psychopathy were more likely to be charged with a sexual crime. Further, neither IQ nor experience of abuse was associated with sexual charges. Our second and third hypotheses were not supported, as no combinations of two predictor variables were

responsible for changes in the outcome variable (e.g., psychopathy and intelligence, regardless of abuse).

As mentioned above though, intriguingly, the three-way interaction between total PCL-YV score, intelligence and abuse emerged as having a significant association with presence of sexual charge in partial support of the fourth hypothesis. For the purposes of the present study, we have decided to decipher the three-way interaction as spurious such that the statistical significance of the model with the three-way-interaction could not be meaningfully interpreted but rather the contrasting directionality of specific relationships influenced results. Assuming the three-way interaction *was* statistically significant in a meaningful way, we would anticipate seeing statistical significance as we unpacked the relationship. However, after breaking down the sample into abused vs. non-abused youth and replicating the analysis, psychopathy and IQ did not emerge as significant independently or as an interaction, as would be expected.

One interpretation of our findings is that psychopathic traits, intelligence, and abuse are in no way associated with alleged sexually violent offending in this sample. More specifically, it does not appear that psychopathy is related to alleged sexual offending, nor moderated by intelligence and aversive childhood experiences. This aligns with limited past literature that suggests, surprisingly given adult findings, that young sexual offenders do not differ from other young offenders based on psychopathic traits, regardless of self-report or clinical measure (Boonmann et al., 2015). Findings are also consistent with research that has noted no association between IQ and psychopathy (e.g., Hare & Neumann, 2008), or between psychopathy and abuse (e.g., Poythress et al., 2006). It is also possible that psychopathy is better associated with violent offending in general than specifically sexual offending, and

that other individual factors (e.g., broader personality traits, sexual history, substance use, brain structure, and genetics) come into play to impel sexual violence.

However, there is a considerable body of research showing support for heightened psychopathic traits in sexually violent offenders, compared to nonsexually violent offenders (e.g., Porter et al., 2011; Woodworth et al., 2013), and the traits associated with psychopathy such as lack of empathy and thrill-seeking do theoretically align with the motives and behaviours of a sexual offender. There is still much room to better understand how psychopathic traits in youth influence criminal sexual behaviour. Further, research has historically and recently highlighted intelligence (e.g., Farrington, 2000; Hirschi & Hindelang, 1977), and tumultuous upbringing (e.g., Staff, Whichard, Siennick, & Maggs, 2015; Watts & McNolty, 2013) as key influences in delinquency. Despite the current findings, there is arguably reason to wonder what role exactly personality and intelligence play in criminal decision-making. For example, past findings have also suggested that those high in psychopathic traits *may* have superior general and verbal intelligence (Salekin et al., 2004; Vitacco et al., 2008). Contradictory findings in samples of sexual offenders suggest that intelligence may vary across samples of young sexual offenders and their control groups (e.g., Guay et al., 2005; Nijman & Cima, 2009; Seto & Lalumière, 2010). Such a complex body of theoretical and empirical support pertaining to motivations of sexually violent offending in adults and youth should not be ignored but rather expanded upon through replication. Seeking larger sample sizes may help produce statistically meaningful analyses in future.

The present exploratory study joins a body of literature of collectively mixed findings attempting to understand and better explain juvenile sexual behaviour. However, it in no way

suggests that individual differences in youth cannot, and will not, be found one day contribute to our understanding of sexual and nonsexual violent crimes. Rather, the level of disagreement across research if anything is more encouraging of future study and empirical inquiry.

### **4.3 Supplementary Understanding of Individual Differences**

While not directly pertinent to the hypotheses of the present study, supplementary analyses added considerable substance to our understanding of the sample, particularly of the role childhood maltreatment may play on criminal behaviour. As aforementioned, despite not being related to *type* of violent offending (sexual vs. nonsexual), there was an inverse relationship between total IQ (including its subscales) and number of violent charges obtained by the youth. This finding is congruent with past literature that has found a relationship between low IQ and adult violent behavior in multiple settings (e.g., prison; Diamond, Morris, & Barnes, 2012; intimate partner violence; Theobald & Farrington, 2012), and violent behavior specifically in adolescent years (e.g., Farrington, 2000). Theoretically, it is therefore likely that low IQ, or more specifically the effects of low IQ, is in some way related to affinity for violence. For example, one large-scale research study has found that young male offenders with low IQ demonstrated significantly more impulsivity than those with above-average IQ (Koolhof, Loeber, Wei, Pardini, D'escury, 2007), which would help explain the increasing quantity of violence with a decrease in IQ. However, when the youth were divided based on experience of childhood abuse, a surprising finding occurred. Of particular interest was the discovery that in youth who were *not* abused, verbal intelligence negatively correlated with number of sexual offences and number of violent offences. This would suggest that youth who were not victims of abuse, and who scored lower in verbal

intelligence had more sexual and generally violent charges. The experience of abuse however, made it so that the relationship between verbal intelligence and number of sexual or violent charges did not emerge. One interpretation of this finding may be that verbal intelligence does indeed have some special role, albeit irresolute in this study, in violent offending. For example, it has been found that higher verbal intelligence in male youth is protective against aversive outcomes of conduct disorder (e.g., delinquency; Lahey, Loeber, Burke, & Rathouz, 2002), and lower verbal intelligence is linked to onset of first-time offending and repeat offending (Gibson, Piquero, & Tibbetts, 2001; Lynam et al., 1993; Vermeiren et al., 2002). More pertinent to our findings however is the possibility that the consequences of exposure to or avoidance of childhood abuse in some way moderate the relationship between verbal intelligence and offending, with higher verbal IQ acting as a sort of buffer to offending only for individuals who did not experience abuse. Future inquiry will be needed to understand this prospective relationship.

Follow-up analysis enabled the division of the sample into groups dependent on presence of abuse, upper or lower IQ, and mod/high or low psychopathy. As depicted in Figures 2-5, only one category of psychopathy and IQ reported more abuse than denied abuse; those who fell into the lower half of total intelligence (below 91), and the mod/high range of PCL-YV score (at or above 22). From this one can deduce that in larger samples, it is still worth exploring the relationship between personality, intelligence, and maltreatment.

#### **4.4 Implications**

##### **4.4.1 Assessment.**

The present study was not designed to test the validity or reliability of the PCL-YV for use in adolescents. However, findings do suggest that the PCL-YV was useful for capturing apparent dark personality traits throughout the sample. Factor 1 and Factor 2 scores

strongly correlated with each other and with total PCL-YV score, as they should. Further, the present study suggests that youth alleged to behave in nefarious and violent ways do display abnormal personality traits beyond what would be considered typical adolescent qualities. This was evidenced by mean scores that were on par with institutionalized adolescent sexual and violent offenders, and roughly 16 to 17 points higher than adolescent community samples (Forth et al., 2003).

The current thesis also draws attention to the tools used in the assessment of dark personality traits in even younger demographics, such as children. For example, Salekin (2016) points out that diagnostic tools such as the DSM-5 severely lack the consideration of all psychopathic traits in the diagnosis of conduct disorder in children and adolescents under 18. He argues that callous and unemotional (CU) traits represent merely a fraction of psychopathic traits, and our perception, measurement and description of childhood psychopathy should include other traits more broadly (e.g., grandiose-manipulative and daring-impulsive qualities). Given the potential ramifications of labelling at a young age (e.g., negative perceptions; Boccaccini et al., 2008; self-fulfilling prophecy), it is vital to pursue a well-rounded understanding of how to best capture and represent psychopathic traits in youth. This will ensure that disorders that encompass psychopathic traits as symptoms can be accurately measured and diagnosed more precisely.

As indicated in the methodology, for purposes of the present study, a median split was performed on PCL-YV scores using a cut-off of 22. This score in no way reflects a suggested cut-off score for clinical psychopathy in youth, but was useful for capturing youth above or below the sample mean. As Cale and colleagues (2015) contend, conclusions drawn from comparisons do depend largely on the different cut-off scores used in analysis. Given

that there is no suggested cut-off score for diagnosing adolescent psychopathy, researchers have more flexibility in delineating what constitutes lower and higher scores. The extensive and diverse histories and individual differences of the youth examined in this study have fostered a recommendation. The PCL-YV appears to accurately capture dark personality traits, but scores for decision-making purposes (e.g., sentencing, treatment) should be considered carefully in conjunction with supporting evidence, as individual differences (e.g., familial environment and support) may influence the outcome of those decisions.

#### **4.4.2 Considerations for Programming**

The present study aimed to glean important insights into youth sexual offending by considering a combination of personality, childhood experience, and intelligence. The lack of statistical findings from the logistic regression model is in and of itself germane to our understanding of how we should perhaps approach youth who perpetrate sexual violence. The findings of the present study undoubtedly highlight the heterogeneity of young offenders and the need to further consider individual differences in future studies and clinical programming. Rather than focusing on how youth are similar to adults, there is evidence to suggest that researchers need pay attention to how youth are distinct even within their own demographic, and subsequently apply that knowledge for practical usage.

With the ultimate goal of prevention, findings of the present study may prove useful to front-line workers (e.g., teachers, social workers, counsellors) who routinely assess and are familiar with youth behaviour. Findings of the present study do suggest that there are potential red flags behind adolescent violence, as evidenced by our considerable prevalence of childhood abuse within the entire sample, as well as elevated psychopathy scores and low IQ. Despite no differences in the individual differences of our sexual and nonsexual offenders, our goal remains to aid workers in the application of early intervention and

research-guided best practice. There are concerns that applying a punitive, rather than a preventative, approach may unintentionally induce a self-fulfilling prophecy in youth, or introduce them to a criminal lifestyle that will influence later outcome. To prohibit this from occurring, researchers can play a vital role in unearthing options for best practice in treatment, programming and prevention tactics that will optimize youth outcomes and maximize their chances of success. For example, past research has found that – given that adolescence is a time for sexual exploration (Kar, Choudhury, & Singh, 2015) - maximizing a healthy understanding of sexual activity through consistent, extended, multi-setting education and discussion is successful in reducing juvenile sexual violence (Lundgren & Amin, 2015).

The current study found that number of alleged sexual offences positively correlated with number of total offences, such as that as number of sexual charges increased, so did total number of violent charges. Notably, sexual offending in the state of Oklahoma (and an increasing number of places elsewhere) is considered violent in and of itself, likely contributing to the emergence of this relationship. Nonetheless, the relationship between two different types of violent offending suggests that there is room for further exploration in terms of what this may mean for preventative or intervention programs. For example, it has been found that dating violence prevention program (*Safe Dates*) was also successful in reducing general acts of violence in youth (e.g., weapon carrying; Foshee et al., 2014). Including sexual violence awareness in general violence awareness programs, and vice versa, would almost certainly prove useful in collective prevention.

In terms of treatment and intervention programming for youth accused or adjudicated for sexual crimes, the present sample offers support for a multi-systemic approach given the

considerable diversity evidenced by the presence and variety of individual difference variables. This flexible treatment strategy has been demonstrated to be highly cost effective (Borduin & Dopp, 2015), and more successful in reducing both sexual and nonsexual recidivism than community services (over a nine year span; Borduin, Schaeffer, & Heiblum, 2009). The theoretical basis behind multi-systemic therapy (MST) is that youth who engage in criminal sexual behavior experience turmoil and dysfunction in numerous facets of their life. For example, these youth may have been raised in a turbulent household (e.g., abusive parent), which may warrant the consideration of traumatic experiences of PTSD. Further, these youth may experience scholastic difficulties or struggle to make healthy connections within their peer group (Borduin, Henggeler, Blaste, & Stein, 1990; Borduin & Schaeffer, 2002). IQ is typically noted as a strength or weakness and integrated into the therapy (Borduin et al., 1990), and in standard MST, cognitive processes and respective deficits (e.g., empathy) are also taken into consideration and targeted (Borduin et al., 1990). Given that our findings noted (a) high prevalence of abuse (b) a relationship between lower IQ and higher number of violent charges, and (c) arguably higher level of dark personality traits, it would appear that a MST model that takes into account and accommodates diversity (e.g., abilities) is well-suited for dealing with violent youth, not exclusive to sexual offending.

#### **4.4.3 Need for Future Research.**

It is also worth considering implications that pertain to the origination of this endeavour. As outlined earlier, researchers at the University of British Columbia were contacted by employees at the Oklahoma Office of Juvenile Affairs and offered the opportunity to collect and analyze data on young offenders. The initiative taken by these front-line workers in and of itself demonstrates the perceived need and demand for empirical inquiry, education, and research-informed practice. Moreover, it does reflect the desire from

within particular organizations to share information with qualified researchers (and vice versa), a relationship that to date has been relatively deficient as reflected in the lack of available youth-oriented data. The scarcity of young offender samples also helps illuminate the opportunity afforded to study the youth in the current thesis. It is the recommendation that researchers seek and nurture connections with institutions working closely with young offenders. Only then may we expect to see a full body of methodologically sound and generalizable literature pertaining to the violent behaviours of adolescents.

#### **4.5 Limitations**

The findings of this study must be framed in the context of several limitations that will help guide the present researchers and future researchers in follow-up endeavours. First, despite the special opportunity to obtain this data, it is ultimately a relatively small and specialized sample. While there was little to no record of adjudication for these alleged crimes, charges are typically laid following the careful consideration of condemning evidence. The number of youth however did consequently restrict our ability to compare offending behaviour by specific type of abuse, which could have impacted or expanded the scope of findings. Further, as aforementioned, power became an issue in statistical analysis. A larger sample would have increased the chances of procuring statistically significant and meaningful results. For example, in the initial logistic regression analysis the  $\text{Exp}(\beta)$  value of abuse in the model was high, but is likely explainable by small group size. Missing data throughout (argued to be problematic for logistic regression analysis; Field, 2009) is inherently evidence to the challenges of accessing youth data for this line of inquiry. We heed caution in generalizing our findings to other jurisdictions or the wider juvenile offender population. Second, one may inquire as to the cut-off points we chose for IQ and PCL-YV scores. For example, is someone who scores at 21 genuinely distinguished from someone

who scores at 22? Alternative approaches could have included eliminating mid-range scores to work with the lower and higher ends of PLC-YV scores, or to use a cut-off of 25 or 30 as seen in adult literature. Third, the juveniles in this sample had a mean age of approximately 17, which is considered to be a different developmental stage than earlier adolescence (age 13 for example). This does raise the issue that the PCL-YV may not have been the best measure of psychopathic traits given that some professionals would prefer to use a PCL-R on those aged 18-19 (Castellana, de Barros, Serafim, & Filho, 2014). While confident in the results, the above considerations prompted us to carefully interpret findings of our logistic regression, and to encourage future researchers to consider these limitations in their own studies examining these types of variables.

#### **4.6 Future Research**

It is hoped that future research endeavours can both account for the aforementioned limitations as well as answer lingering research questions roused by the present study. For example, future researchers may wish to network with respective law enforcement and other legitimate agencies to obtain sizeable, full-bodied data. In addition, the sample utilized in the current study will also continue to grow in numbers as more files are added to the data base, fostering what is intended to be a large-scale, multidisciplinary endeavour to better cognize youth who enter the criminal justice system.

Future researchers should also consider the impact of type of abuse in relation to violent offending and psychopathic traits, as is intended for the present sample following further data extraction. While most of the focus in the literature remains on contact abuse (physical or sexual), recent findings have suggested that emotional neglect (when compared to physical or sexual abuse), is associated with heightened Factor 1 traits of psychopathy in adolescents (Ometto et al., 2016). As mentioned earlier this is an elevation documented in

sexual offenders as well (Brown et al., 2015; Porter et al., 2000). It also remains possible that traumatic early sexual experiences (i.e., sexual abuse) contribute to early onset of sexualization, which appears to manifest in criminal sexual behaviour (Morais, Alexander, Fix, & Burkhart, 2015). Better understanding the intricate consequences of abuse type and its relation to personality and behaviour is a crucial next step, given that its role – albeit undetermined – is conspicuous.

Related to aversive childhood experiences, the present study showed no apparent relationship between Factor 2 scores and report of childhood maltreatment. Contrary to previous literature on secondary psychopathy (Anestis et al., 2009; Deen et al., 2013; Porter, 1996), the current study did not find a clear distinction between primary and secondary psychopathy. Interestingly, Lee, Salekin, and Iselin (2010) have demonstrated there may be little support for the division of psychopathy by type in youth samples, but this remains relatively unexplored in recent literature. Better understanding the origin of psychopathic traits (genetic vs. environmentally induced) in a youth sample will undoubtedly aid in understanding differences between youth who may have an identical PCL-YV score, but differing deficits. Indeed, two youth could score exactly the same on the PCL- YV but have markedly different scores on each of the 4 facets that compiled would equal the same overall score.

Further, future researchers may wish to better recognize, depending on the breadth of their sample, in terms of the heterogeneity within sexual offences themselves. For example, there is anticipated disparity in victim age, victim relationship, motivation for the crime, and type of sexual assault perpetrated (e.g., lewd proposal vs. sodomy), a luxury of information not available in the present study. Descriptive findings alone may prove useful in identifying

preferences amongst adolescent offenders, and contribute towards an applicable typology for the benefit of law enforcement.

The present study offered a snapshot of what is undoubtedly a much broader image. Longitudinal data is drastically lacking in literature regarding youth violent offenders (Burton, 2000), yet holds substantial promise in understanding onset, duration of, and rehabilitation from crime (or recidivism) throughout the lifespan. To gauge the full scope of youth offending, there is a need for extensive and longitudinal research endeavours.

#### **4.7 Conclusion**

The thesis detailed herein is one principal step towards a better understanding of youth who perpetrate violent and sexually violent crimes. In the wake of a lack of youth-oriented literature it was exploratory in nature, and the four main hypotheses were not supported. Nonetheless, the nature of the thesis allowed for the acquisition of a valuable and difficult to obtain sample of violent youth, and is a project that will continue. Further, there is newfound knowledge and ideas on which to base additional research questions. For example, the emergence of verbal intelligence as inversely associated with number of sexual and nonsexual violent crimes in youth who were not abused is intriguing. The findings emphasize the need to clarify the relationship between various types of intelligence (rather than only considering general intelligence) and how it may influence decisions around whether to engage in (and what type of) criminal activity. Further, total psychopathy score was indicative of number of violent crimes and showcases that similar to adults, dark personality trait in youth contributes to a criminal lifestyle and is important to consider in the study of delinquent behaviour. Hence, the present study served to demonstrate the value of clinical assessment, which was advantageous in capturing traits that may connect violent juveniles.

The scope of our understanding of youth offending has been broadened, which achieves the ultimate goal of the project from both an empirical and applied perspective. Indeed, one particular benefit is the professional relationship developed between front-line workers in the United States and Canadian researchers with the sample considered in the current thesis. This can hopefully foster future collaborations and encourage the same amongst others. With critical thinking, discussion, and empirically-guided practice, a multi-disciplinary approach is our best hope for understanding and aiding youth, ideally preventing their induction into the criminal justice system. For those already in the system, the present study corroborates that there is much to consider in terms of the *individual* and that youth deserve to be understood as opposed to be merely quantified. For example, we now understand that within the unique sample provided by the OOJA for this thesis, there is mass diversity in terms of familial history and experiences (e.g., exposure to violence, neglect, verbal/emotional abuse) that undoubtedly impacts other aspects of life (e.g., academics, peer relations, mental health). The movement to accept and work with the heterogeneity of young offenders, while also exploring the influence of such diverse youth, should be a united effort moving forward.

## Tables

Table 1

*Psychopathy Score by Facets 1-4 for Youth Charged with Sexual and Non-Sexual Crimes*

Charge	Facet			
	Interpersonal	Affective	Behavioural	Antisocial
<b>Sexual</b>				
<i>M</i>	4.57	4.62	6.38	5.71
<i>SD</i>	2.50	1.91	1.99	2.88
<i>n</i>	21	21	21	21
<b>Non Sexual</b>				
<i>M</i>	3.61	4.35	5.92	5.27
<i>SD</i>	2.38	2.38	2.21	2.62
<i>n</i>	90	90	89	90
<b>Overall</b>				
<i>M</i>	3.79	4.40	6.01	5.35
<i>SD</i>	2.42	2.30	2.17	2.67
<i>n</i>	111	111	110	111

Table 2

*Bivariate Correlations for Main Variables, Full Sample*

Variables	1	2	3	4	5	6	7	8
1. IQ	--							
2. Verbal	.88**	--						
3. Perform	.88**	.74**	--					
4. PCL-YV	-.06	-.05	.03	--				
5. Factor 1	-.05	-.14	.002	.85**	--			
6. Factor 2	-.07	.005	-.02	.87**	.53**	--		
7. Abuse	.06	.14	.12	.13	.05	.16	--	
8. Sex Charge	.003	-.03	.12	.14	.12	.09	.17	--

*Note.* \*  $p < .05$ , \*\*  $p < .001$

Table 3

*Binary Logistic Regression With Outcome of Sexual Charge*

Variable	Exp( $\beta$ )	Wald	$\Delta R^2$	95% CI
Psychopathy	1.01	.04	.03	[.94, 1.08]
IQ	.99	.20	.03	[.95, 1.03]
Abuse	2.41	2.39	.04	[.79, 7.33]
Psychopathy X IQ	1.00	.02	.02	[1.00, 1.01]
Psychopathy X Abuse	1.00	.01	< .01	[.86, 1.15]
Abuse X IQ	1.01	.14	< .01	[.93, 1.11]
Psychopathy X IQ X Abuse	.98*	5.54	< .01	[.96, 1.00]

*Note.* CI = Confidence interval for Exp( $\beta$ ); IQ = total intelligence

\*  $p < .05$

## Figures

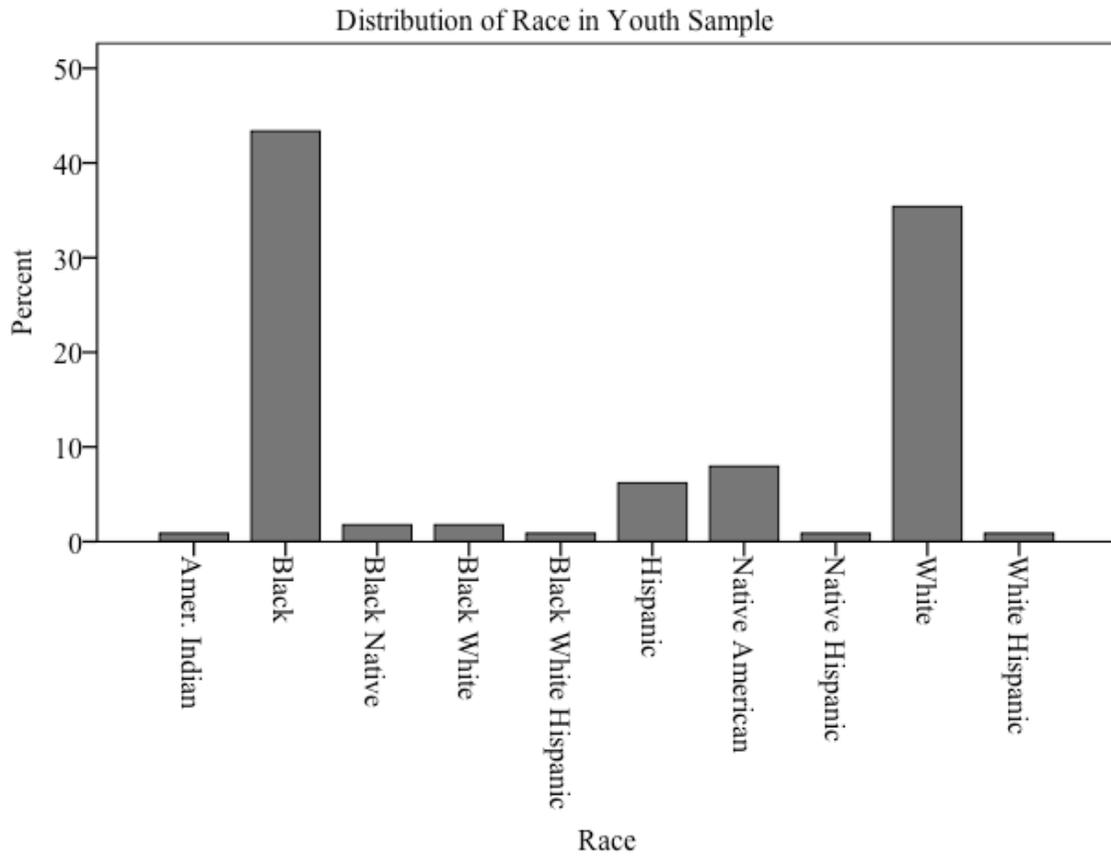


Figure 1. Percentage of youth identified by category of race.

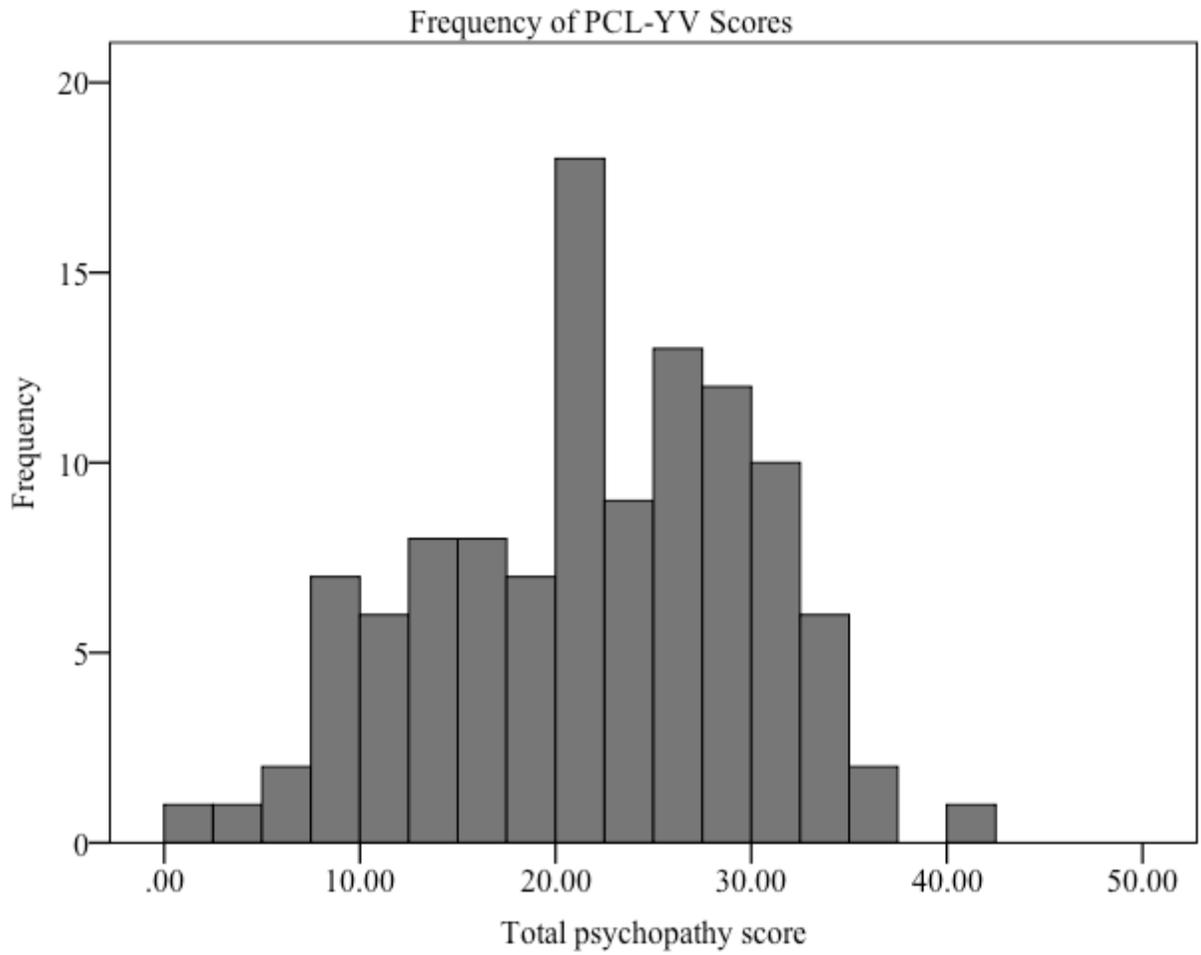
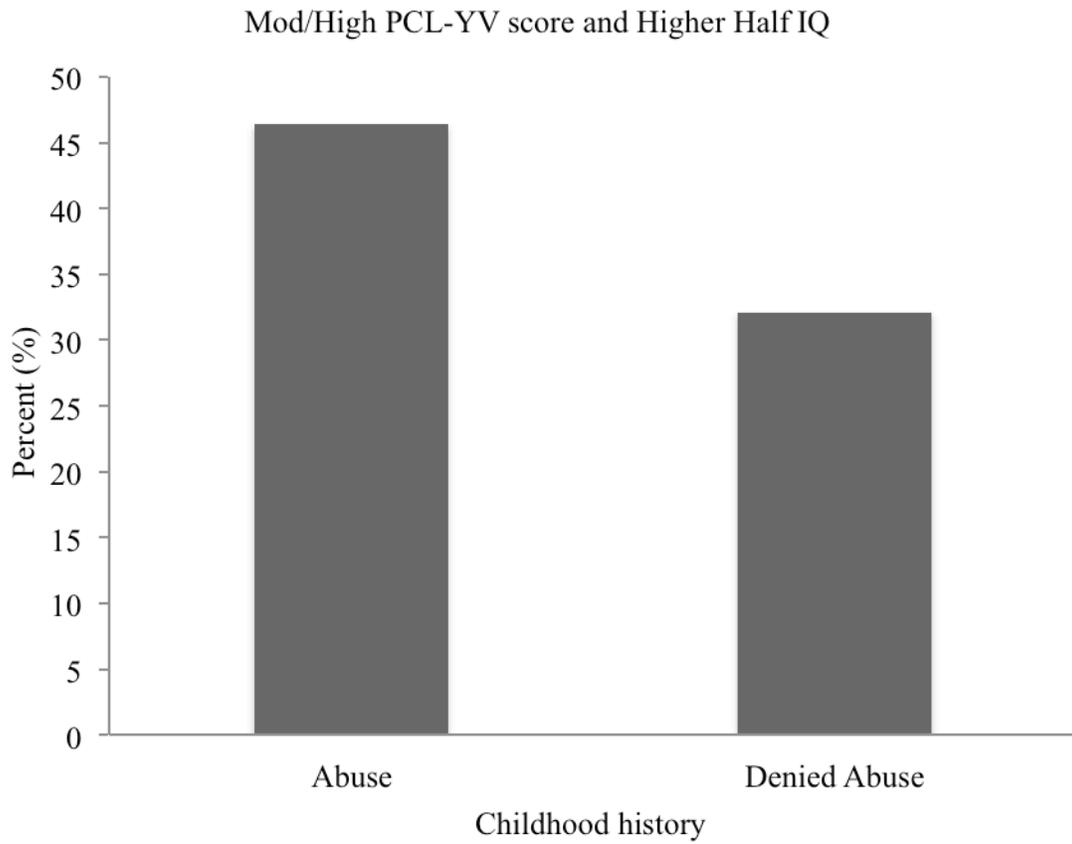
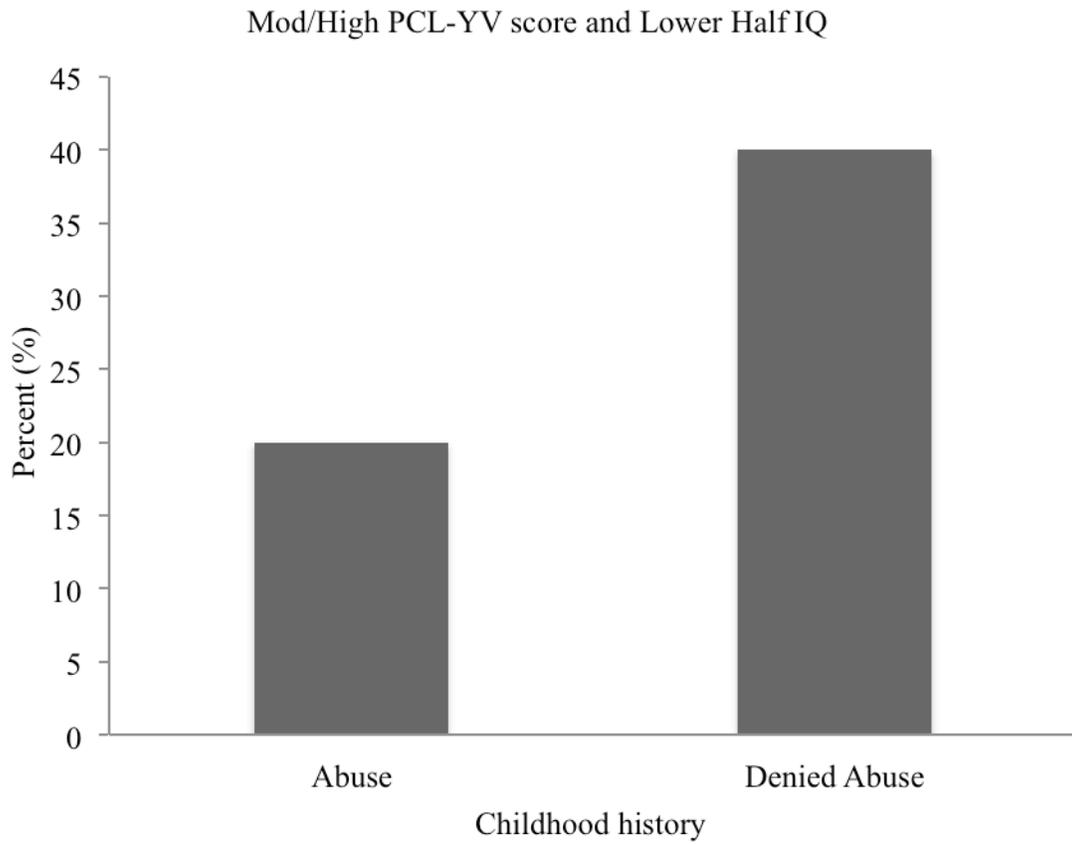


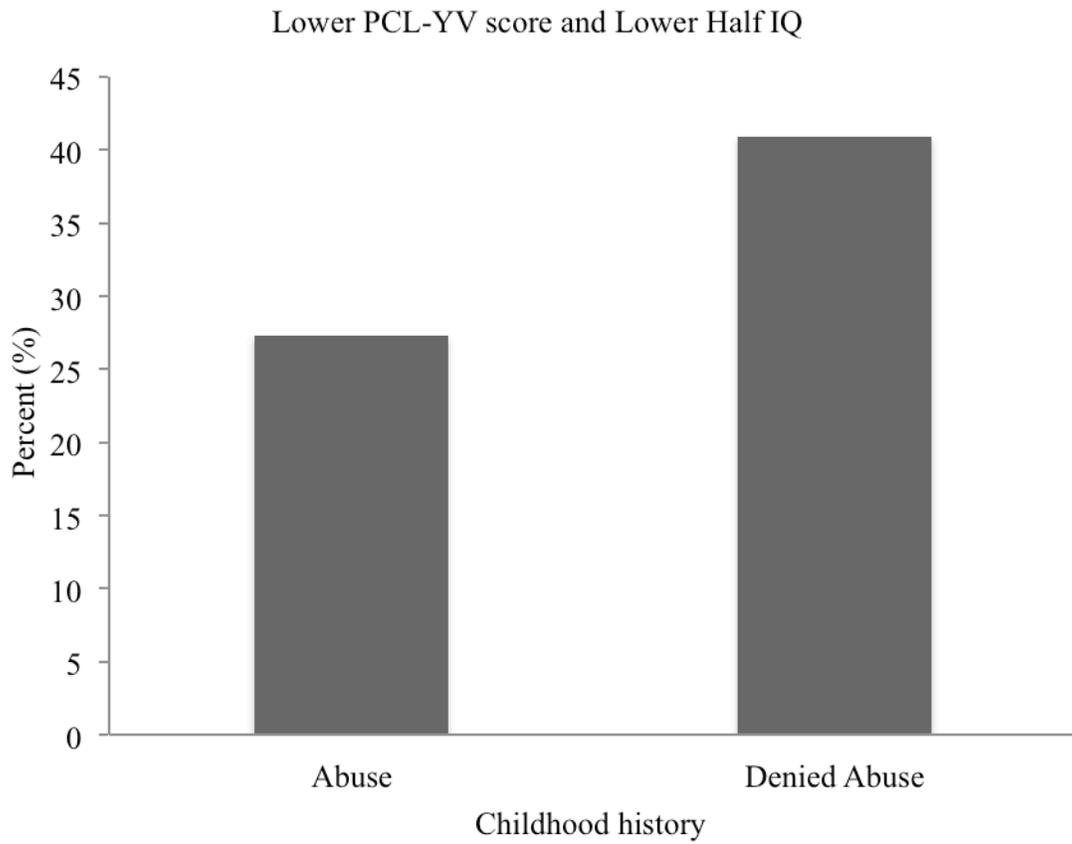
Figure 2. Frequency of PCL-YV scores across youth sample



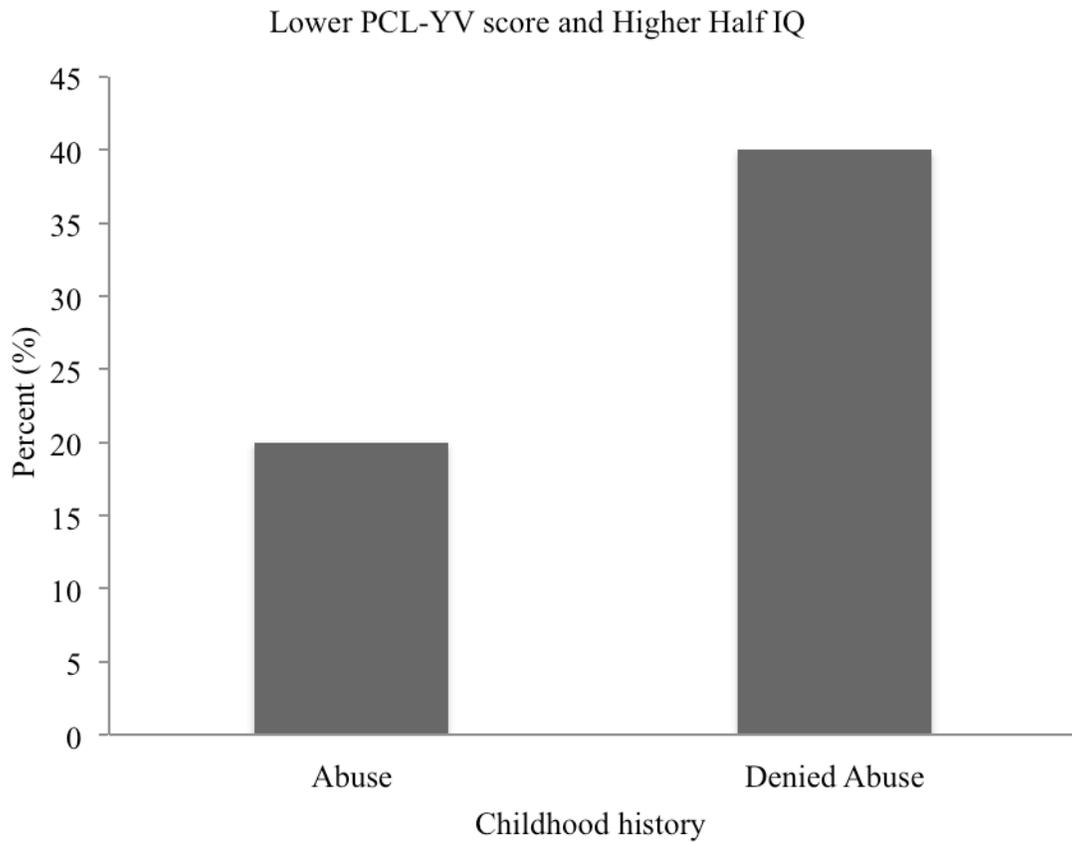
*Figure 3.* Percentage of youth abused, mod/high in psychopathic traits, and an IQ score above the median split.



*Figure 4.* Percentage of youth abused, mod/high in psychopathic traits, and IQ score below the median split.



*Figure 5.* Percentage of youth abused, lower in psychopathic traits with an IQ score below the median split.



*Figure 6.* Percentage of youth abused, lower in psychopathic traits, with an IQ score above the median split.

## References

- Abel, G. G., Osborn, C. A., & Twigg, D. A. (1993). Sexual assault through the life span: Adult offenders with juvenile histories. In H. E. Barbaree, W. L. Marshall, S. M. Hudson, H. E. Barbaree, W. L. Marshall, & S. M. Hudson (Eds.), *The Juvenile Sex Offender* (pp. 104-117). New York, NY: Guilford Press.
- Abel, G. G., & Rouleau, J. L. (1990). Male sex offenders. In M. E. Thase, B. A. Edelstei, & M. Hersen (Eds.), *Handbook of Outpatient Treatment of Adults* (pp. 271-290). New York, NY: Plenum.
- Allen, M., & Superle, T. (2014). *Youth crime in Canada, 2014*. Retrieved from Statistics Canada website: <http://www.statcan.gc.ca/pub/85-002-x/2016001/article/14309-eng.htm>
- Andershed, H., Hodgins, S., & Tengström, A. (2007). Convergent validity of the youth psychopathic traits inventory (YPI) association with the psychopathy checklist: Youth version (PCL: YV). *Assessment, 14*, 144-154.  
doi:10.1177/1073191106298286
- Anestis, M. D., Anestis, J. C., & Joiner, T. E. (2009). Affective considerations in antisocial behavior: An examination of negative urgency in primary and secondary psychopathy. *Personality and Individual Differences, 47*, 668-670.  
doi:10.1016/j.paid.2009.05.013
- Apsche, J. A., Evile, M. M., & Murphy, E. (2004). The thought change system an empirically based cognitive behavioural therapy for male juvenile sexual offenders: A pilot study. *The Behavioral Analyst Today, 5*, 101-107. doi:10.1037/h0100136

- Awad, G. A., & Saunders, E. B. (1991). Male adolescent sexual assaulters: Clinical observations. *Journal of Interpersonal Violence, 6*, 446-460.  
doi:10.1177/088626091006004004
- Aylwin, S. A., Clelland, S. R., Kirkby, L., Reddon, J. R., Studer, L. H., & Johnston, J. (2000). Sexual offense severity and victim gender preference: A comparison of adolescent and adult sex offenders. *International Journal of Law and Psychiatry, 23*, 113-124. doi:10.1016/S0160-2527(99)00038-2
- Babiak, P., & Hare, R. D. (2006). *Snakes in suits: When psychopaths go to work*. New York, NY: Regan Books.
- Bandura, A. (1978). Social learning theory of aggression. *Journal of Communication, 28*, 12-29. doi:10.1111/j.1460-2466.1978.tb01621.x
- Barnett, G., & Mann, R. E. (2013a). Empathy deficits and sexual offending; A model of obstacles to empathy. *Aggression and Violent Behaviour, 18*, 228-239.  
doi:10.1016/j.avb.2012.11.010
- Barnett, G., & Mann, R. E. (2013b). Cognition, empathy, and sexual offending. *Trauma, Violence, and Abuse, 14*, 22-33. doi:10.1177/1524838012467857
- Barry, C. T., Frick, P. J., DeShazo, T. M., McCoy, M., Ellis, M., & Loney, B. R. (2000). The importance of callous-unemotional traits for extending the concept of psychopathy to children. *Journal of Abnormal Psychology, 109*, 335.  
doi:0.1037//0021-843X.109.2.335

- Basto-Pereira, M., Miranda, A., Ribeiro, S., & Maia, Â. (2016). Growing up with adversity: From juvenile justice involvement to criminal persistence and psychosocial problems in young adulthood. *Child Abuse & Neglect*, *62*, 63-75.  
doi:10.1016/j.chiabu.2016.10.011
- Bate, C., Boduszek, D., Dhingra, K., & Bale, C. (2014). Psychopathy, intelligence and emotional responding in a non-forensic sample: An experimental investigation. *The Journal of Forensic Psychiatry & Psychology*, *25*, 600-612.  
doi:10.1080/14789949.2014.943798
- Becker, J. D. V., Hall, S. S. R., & Stinson, J. D. (2001). Female sexual offenders: Clinical, legal and policy issues. *Journal of Forensic Psychology Practice*, *1*, 31-53.  
doi:10.1300/J158v01n03\_02
- Becker, J. V., & Hicks, S. J. (2003). Juvenile sexual offenders. *Annals of the New York Academy of Sciences*, *989*(1), 397-410. doi:10.1111/j.1749-6632.2003.tb07321.x.
- Beggs, S. M., & Grace, R. C. (2008). Psychopathy, intelligence, and recidivism in child molesters: Evidence of an interaction effect. *Criminal Justice and Behavior*, *35*, 683-695. doi:10.1177/0093854808314786
- Blackburn, R. (1975). An empirical classification of psychopathic personality. *The British Journal of Psychiatry*, *127*, 456-460. doi:10.1192/bjp.127.5.456
- Blair, R. J. R. (1995). A cognitive developmental approach to morality: Investigating the psychopath. *Cognition*, *57*, 1-29. doi:10.1016/0010-0277(95)00676-P
- Boccaccini, M. T., Murrie, D. C., Clark, J. W., & Cornell, D. G. (2008). Describing, diagnosing, and naming psychopathy: How do youth psychopathy labels influence jurors? *Behavioral Sciences & The Law*, *26*, 487-510. doi:10.1002/bsl.821

- Bogaert, A. F., Friesen, C., & Klentrou, P. (2002). Age of puberty and sexual orientation in a national probability sample. *Archives of Sexual Behavior, 31*, 73-81.  
doi:10.1023/A:1014083218773
- Book, A. S., Costello, K., & Camilleri, J. A. (2013). Psychopathy and victim selection: The use of gait as a cue to vulnerability. *Journal of Interpersonal Violence, 28*, 2368-2383. doi:10.1177/0886260512475315
- Boonmann, C., Jansen, L. M. C., t' Hart-Kerkhoffs, L. A., Vahl, P., Hillege, S. L., Doreleijers, T. A. H., & Vermerien, R. R. J. M. (2015). Self-reported psychopathic traits in sexually offending juveniles compared with generally offending juveniles and general population youth. *International Journal of Offender Therapy and Comparative Criminology, 59*, 85-95. doi:10.1177/0306624X13508612
- Bordiun, C. M., & Dopp, A. R. (2015). Economic impact of multisystemic therapy with juvenile sexual offenders. *Journal of Family Psychology, 29*, 687-696.  
doi:10.1037/fam0000113
- Borduin, C. M., Henggeler, S. W., Blaske, D. M., & Stein, R. J. (1990). Multisystemic treatment of sexual offenders. *International Journal of Offender Therapy and Comparative Criminology, 34*, 105-113. doi:10.1177/0306624X9003400204
- Borduin, C. M., & Schaeffer, C. M. (2002). Multisystemic treatment of juvenile sexual offenders: A progress report. *Journal of Psychology & Human Sexuality, 13*, 25-42.  
doi:10.1300/J056v13n03\_03

- Borduin, C. M., Schaeffer, C. M., & Heiblum, N. (2009). A randomized clinical trial of multisystemic therapy with juvenile sexual offenders: effects on youth social ecology and criminal activity. *Journal of Consulting and Clinical Psychology, 77*, 26-37. doi:10.1037/a0013035
- Borum, R., Bartel, P. A., & Forth, A. E. (2005). Structured assessment of violence risk in youth. In T. Grisso, G. Vincent, D. Seagrave, T. Grisso, G. Vincent, D. Seagrave (Eds.), *Mental health screening and assessment in juvenile justice* (pp. 311-323). New York, NY: Guilford Press.
- Brennan, S. (2011). *Police-reported crime statistics in Canada, 2011*. Retrieved from Statistics Canada website: <http://www.statcan.gc.ca/pub/85-002-x/2012001/article/11692-eng.htm>
- Brinkley, C. A., Newman, J. P., Widiger, T., & Lynam, D. (2004). Two approaches to parsing the heterogeneity of psychopathy. *Clinical Psychology: Science and Practice, 11*, 69-94. doi:10.1093/clipsy/bph054
- Brook, M., Brieman, C. L., & Kosson, D. S. (2013). Emotion processing in Psychopathy Checklist-assessed psychopathy: A review of the literature. *Clinical Psychology Review, 33*, 979-995. doi:10.1016/j.cpr.2013.07.008
- Brook, M., & Kosson, D. S. (2013). Impaired cognitive empathy in criminal psychopathy: Evidence from a laboratory measure of empathic accuracy. *Journal of Abnormal Psychology, 122*, 156-166. doi:10.1037/a0030261

- Brown, A. R., Dargis, M. A., Mattern, A. C., Tsonis, M. A., & Newman J. P. (2015). Elevated psychopathy scores among mixed sexual offenders: Replication and extension. *Criminal Justice and Behavior*, *42*, 1032-1044.  
doi:10.1177/0093854815575389
- Burton, D. L. (2000). Were adolescent sexual offenders children with sexual behaviour problems? *Sexual Abuse: A Journal of Research and Treatment*, *12*, 37-48.  
doi:10.1177/107906320001200105
- Byrd, A. L., Hawes, S. M., Loeber, R., & Pardini, D. A. (2016). Interpersonal callousness from childhood to early adolescence: Developmental trajectories and early risk factors. *Journal of Clinical Child and Adolescent Psychiatry*.  
doi:10.1080/15374416.2016.1144190
- Butler, S. M., & Seto, M. C. (2002). Distinguishing two types of adolescent sex offenders. *Journal of the American Academy of Child & Adolescent Psychiatry*, *41*, 83-90. doi:10.1097/00004583-200201000-00015
- Caldwell, M. F. (2016). Quantifying the decline in juvenile sexual recidivism rates. *Psychology, Public Policy, and Law*, *22*, 414-426. doi:10.1037/law0000094
- Cale, J., Lussier, P., McCuish, E., & Corrado, R. (2015). The prevalence of psychopathic personality disturbances among incarcerated youth: Comparing serious, chronic, violent and sex offenders. *Journal of Criminal Justice*, *43*, 337-344.  
doi:10.1016/j.jcrimjus.2015.04.005

- Camp, J. P., Skeem, J. L., Barchard, K., Lilienfeld, S. O., & Poythress, N. G. (2013). Psychopathic predators? Getting specific about the relation between psychopathy and violence. *Journal of Consulting and Clinical Psychology, 81*, 467-480. doi:10.1037/a0031349
- Campbell, M. A., Porter, S., & Santor, D. (2004). Psychopathic traits in adolescent offenders: An evaluation of criminal history, clinical, and psychosocial correlates. *Behavioral Sciences & The Law, 22*, 23-47. doi:10.1002/bsl.572
- Cashwell, C. S., & Caruso, M. (1997). Adolescent sex offenders: Identification and intervention strategies. *Journal of Mental Health Counseling, 19*, 336-348. Retrieved from [https://www.researchgate.net/profile/Craig\\_Cashwell/publication/268041810\\_Adolescent\\_Sex\\_Offenders\\_Identification\\_and\\_Intervention\\_Strategies/links/5853de5d08aef7d030a79513.pdf](https://www.researchgate.net/profile/Craig_Cashwell/publication/268041810_Adolescent_Sex_Offenders_Identification_and_Intervention_Strategies/links/5853de5d08aef7d030a79513.pdf)
- Castellana, G. B., de Barros, D. M., Serafim, A. D. P., & Filho, G. B. (2014). Psychopathic traits in young offenders vs. non-offenders in similar socioeconomic condition. *Revista Brasileira de Psiquiatria, 36*, 241-244. doi:10.1590/1516-4446-2013-1127
- Child maltreatment 2015 (2017). Retrieved from the Children's Bureau: An Office of the Administration for Children and Families website: [Chttps://www.acf.hhs.gov/cb/resource/child-maltreatment-2015](https://www.acf.hhs.gov/cb/resource/child-maltreatment-2015)
- Christiansen, A. R., & Thyer, B. A. (2002). Female sexual offenders: A review of empirical research. *Journal of Human Behavior in the Social Environment, 6*, 1-16. doi:10.1300/J137v06n03\_01

- Christiansen, A. K., & Vincent, J. P. (2013). Characterization and prediction of sexual and nonsexual recidivism among adjudicated juvenile sexual offenders. *Behavioral Sciences & the Law*, 31, 506-529. doi:10.1002/bsl.2070
- Chu, C. M., & Thomas, S. D. (2010). Adolescent sexual offenders: The relationship between typology and recidivism. *Sexual Abuse*, 22, 218-233.  
doi:10.1177/1079063210369011
- Cleckley, H. (1974). *The mask of sanity*. St. Louis, MO: CV Mosby.
- Cornell, D. G., Warren, J., Hawk, G., Stafford, E. Oram, G. & Pine, D. (1996). Psychopathy in instrumental and reactive violent offenders. *Journal of Consulting and Clinical Psychology*, 64, 783-790. doi:10.1037/0022-006.X.64.4783
- d'Acremont, M., & Van der Linden, M. (2005). Adolescent impulsivity: Findings from a community sample. *Journal of Youth and Adolescence*, 34, 427-435.  
doi:10.1007/s10964-005-7260-1
- Dean, A. C., Altstein, L. L., Berman, M. E., Constans, J. I., Sugar, C. A., & McCloskey, M. S. (2013). Secondary psychopathy, but not primary psychopathy, is associated with risky decision-making in noninstitutionalized young adults. *Personality and Individual Differences*, 54, 272-277.
- Declercq, F., Willemsen, J., Audenaert, K., & Verhaeghe, P. (2012). Psychopathy and predatory violence in homicide, violent, and sexual offences: Factor and facet relations. *Legal and Criminological Psychology*, 17, 59-74.  
doi:0.1348/135532510X527722

- DeLisi, M., Vaughn, M. G., Beaver, K. M., & Wright, J. P. (2010). The Hannibal Lecter myth: Psychopathy and verbal intelligence in the MacArthur violence risk assessment study. *Journal of Psychopathology and Behavioral Assessment, 32*, 169-177. doi:10.1007/s10862-009-9147-
- DeSorcy, D. R., Olver, M. E., & Wormith, J. S. (2017). Working alliance and psychopathy: Linkages to treatment outcome in a sample of treated sexual offenders. *Journal of Interpersonal Violence*. Advanced online publication. doi:10.1177/0886260517698822
- Diamond, B., Morris, R. G., & Barnes, J. C. (2012). Individual and group IQ predict inmate violence. *Intelligence, 40*, 115-122. doi:10.1016/j.intell.2012.01.010
- Dopp, A. R., Bourdion, C. M., & Brown, C. E. (2015). Evidence-based treatments for juvenile sexual offenders: Review and recommendations. *Journal of Aggression, Conflict and Peace Research, 7*, 223-236.
- Edens, J. F., Skeem, J. L., Cruise, K. R., & Cauffman, E. (2001). Assessment of “juvenile psychopathy” and its association with violence: A critical review. *Behavioural Sciences & the Law, 19*, 53–80. doi:10.1002/bsl.425
- Edens, J. F., Skopp, N. A., & Cahill, M. A. (2008). Psychopathic features moderate the relationship between harsh and inconsistent parental discipline and adolescent antisocial behavior. *Journal of Clinical Child & Adolescent Psychology, 37*, 472-476. doi:10.1080/15374410801955938
- Farrington, D. P. (2000). Psychosocial predictors of adult antisocial personality and adult convictions. *Behavioral Sciences & the Law, 18*, 605-622. doi:10.1002/1099-0798

Farrington, D. P., & Loeber, R. (1999). Transatlantic replicability of risk factors in the development of delinquency. In P. Cohen, C. Slomkowski, L. N. Robins, P. Cohen, C. Slomkowski, & L. N. Robins (Eds.), *Historical and geographical influences on psychopathology* (pp. 299-329). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Field, A. (2009). *Discovering statistics using SPSS* (3<sup>rd</sup> Edition). London: Sage Publications.

Fiscal year 2015-2016 annual report (2016). Retrieved from Oklahoma Office of Juvenile Affairs website:

<https://www.ok.gov/oja/documents/2016%20OJA%20Annual%20Report.pdf>

Flight, J. I., & Forth, A. E. (2007). Instrumentally violent youths: The roles of psychopathic traits, empathy, and attachment. *Criminal Justice and Behavior*, *34*, 739-751.

doi:10.1177/0093854807299462

Fontaine, N., Barker, E. D., Salekin, R. T., & Viding, E. (2008). Dimensions of psychopathy and their relationships to cognitive functioning in children. *Journal of Clinical Child & Adolescent Psychology*, *37*, 690-696. doi:10.1080/15374410802148111

Fontaine, N. M., Rijdsdijk, F. V., McCrory, E. J., & Viding, E. (2010). Etiology of different developmental trajectories of callous-unemotional traits. *Journal of the American Academy of Child & Adolescent Psychiatry*, *49*, 656-664.

doi:10.1016/j.jaac.2010.03.014

Forsman, M., Lichtenstein, P., Andershed, H., & Larsson, H. (2008). Genetic effects explain the stability of psychopathic personality from mid- to late adolescence. *Journal of Abnormal Psychology*, *117*, 606-617. doi:10.1037/0021-843X.117.3.606

- Forth, A. E., Kosson, D., & Hare, R. D. (2003). *The Hare Psychopathy Checklist: Youth Version*. New York, NY: Multi-Health Systems.
- Forth, A. E. (1995). Psychopathy in adolescent offenders: Assessment, family background, and violence. *Issues in Criminological and Legal Psychology, 24*, 42-44. Retrieved from [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)2044-8333](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)2044-8333)
- Foshee, V. A., Reyes, L. M., Agnew-Brune, C. B., Simon, T. R., Vagi, K. J., Lee, R. D., & Suchindran, C. (2014). The effects of the evidence-based Safe Dates dating abuse prevention program on other youth violence outcomes. *Prevention Science, 15*, 907-916. doi:10.1007/s11121-014-0472-4
- Fox, B., & DeLisi, M. (2017). From criminological heterogeneity to coherent classes: Developing a typology of juvenile sex offenders. *Youth Violence and Juvenile Justice*. Advanced online publication. doi:10.1177/1541204017699257
- Frick, P. J., Kimonis, E. R., Dandreaux, D. M., & Farrell, J. M. (2003). The 4 year stability of psychopathic traits in non-referred youth. *Behavioral Sciences & The Law, 21*, 713-736. doi:10.1002/bsl.568
- Gao, Y., Raine, A., Chan, F., Venables, P. H., & Mednick, S. A. (2010). Early maternal and paternal bonding, childhood physical abuse and adult psychopathic personality. *Psychological Medicine, 40*, 1007-1016. doi:10.1017/S0033291709991279
- Gatner, D. T., Douglas, K. S., & Hart, S. D. (2016). Examining the incremental and interactive effects of boldness with meanness and dishinhibition with the triarchic model of psychopathy. *Personality Disorders: Theory, Research, and Treatment, 7*, 259-268. doi:10.1037/per0000182

- Geier, C. F., Terwilliger, R., Teslovich, T., Velanova, K., & Luna, B. (2010). Immaturities in reward processing and its influence on inhibitory control in adolescence. *Cerebral Cortex, 20*, 1613-1629. doi:10.1093/cercor/bhp225
- Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works. *Criminology, 34*, 575-608. doi:10.1111/j.1745-9125.1996.tb01220.x
- Gibson, C. L., Piquero, A. R., & Tibbetts, S. G. (2001). The contribution of family adversity and verbal IQ to criminal behavior. *International Journal of Offender Therapy and Comparative Criminology, 45*, 574-592. doi:10.1177/0306624X01455004
- Gordon, M. (1990). Males and females as victims of childhood sexual abuse: An examination of the gender effect. *Journal of Family Violence, 5*, 321-332.
- Gottfredson, D. C., & Soulé, D. A. (2005). The timing of property crime, violent crime, and substance use among juveniles. *Journal of Research In Crime and Delinquency, 42*, 110-120. doi:10.1177/0022427804266563
- Gregory, S., Blair, R. J., Simmons, A., Kumari, V., Hodgins, S., & Blackwood, N. (2015). Punishment and psychopathy: A case-control functional MRI investigation of reinforcement learning in violent antisocial personality disordered men. *The Lancet Psychiatry, 2*, 153-160. doi:10.1016/S2215-0366(14)00071-6
- Gretton, H. M., McBride, M., Hare, R. D., O'Shaughnessy, R., & Kumka, G. (2001). Psychopathy and recidivism in adolescent sex offenders. *Criminal Justice and Behavior, 28*, 427-449. doi:10.1177/009385480102800403

- Groth, A. N., Longo, R. E., & McFadin, J. B. (1982). Undetected recidivism among rapists and child molesters. *Crime & Delinquency*, *28*, 450-458.  
doi:10.1177/001112878202800305
- Guay, J. P., Ouimet, M., & Proulx, J. (2005). On intelligence and crime: A comparison of incarcerated sex offenders and serious non-sexual violent criminals. *International Journal of Law and Psychiatry*, *28*, 405-417. doi:10.1016/j.ijlp.2004.03.010
- Hall, G. C. N., & Hirschman, R. (1991). Toward a theory of sexual aggression: A quadripartite model. *Journal of Consulting and Clinical Psychology*, *59*, 662-669.  
doi:10.1037/0022-006X.59.5.662
- Hall, G. N., & Hirschman, R. (1992). Sexual aggression against children: A conceptual perspective of etiology. *Criminal Justice and Behavior*, *19*, 8-23.  
doi:10.1177/0093854892019001003
- Hampton, A. S., Drabick, D. A., & Steinberg, L. (2014). Does IQ moderate the relation between psychopathy and juvenile offending? *Law and Human Behavior*, *38*, 23-33.  
doi:10.1037/lhb0000036
- Hare, R. D. (1991). *The Hare Psychopathy Checklist—Revised*. Toronto, ON: Multi-Health Systems.
- Hare, R. D. (1999). *Without conscience: The disturbing world of the psychopaths among us*. New York, NY: Guilford Press.
- Hare, R. D., & Neumann, C. S. (2008). Psychopathy as a clinical and empirical construct. *Annual Review of Clinical Psychology*, *4*, 217-246.  
doi:10.1146/annurev.clinpsy.3.022806.091452

- Harris, G. T., Rice, M. E., Hilton, N. Z., Lalumière, M. L., & Quinsey, V. L. (2007). Coercive and precocious sexuality as a fundamental aspect of psychopathy. *Journal of Personality Disorders, 21*, 1-27. doi:10.1521/pedi.2007.21.1.1
- Hart, S. D., & Dempster, R. J. (1997). Impulsivity and psychopathy. In C. D., Webster & M. A. Jackson (Eds), *Impulsivity: Theory, assessment, and treatment* (212-232), New York: The Guilford Press.
- Hastings, M. E., Tangney, J. P., & Stuewig, J. (2008). Psychopathy and identification of facial expressions of emotion. *Personality and Individual Differences, 44*(7), 1474-1483. doi:10.1016/j.paid.2008.01.004
- Hein, S., Barbot, B., Square, A., Chapman, J., Geib, C. F., & Grigorenko, E. L. (2017). Violent offending among juveniles: A 7-year longitudinal study of recidivism, desistance, and associations with mental health. *Law and Human Behavior, 41*, 273-283. doi:10.1037/lhb0000241
- Hilterman, E. L., Nicholls, T. L., & van Nieuwenhuizen, C. (2014). Predictive validity of risk assessments in juvenile offenders: Comparing the SAVRY, PCL-YV, and YLS/CMI with unstructured clinical assessments. *Assessment, 21*, 324-339. doi:10.1177/1073191113498113
- Hirschi, T., & Hindelang, M. J. (1977). Intelligence and delinquency: A revisionist review. *American Sociological Review, 42*, 571-587. doi:10.2307/2094556
- Hodsoll, S., Lavie, N., & Viding, E. (2014). Emotional attentional capture in children with conduct problems: The role of callous-unemotional traits. *Frontiers in Human Neuroscience*. Advanced online publication. doi:10.3389/fnhum.2014.00570

- Irby, S. M., & Floyd, R. G. (2013). Review of Wechsler Abbreviated Scale of Intelligence, Second Edition. *Canadian Journal of School Psychology, 28*, 295-299.  
doi:10.1177/0829573513493982
- Johansson, P., & Kerr, M. (2005). Psychopathy and intelligence: A second look. *Journal of Personality Disorders, 19*, 357–369. doi:10.1521/pedi.2005.19.4.357
- Jonason, P. K., Li, N. P., Webster, G. D., & Schmitt, D. P. (2009). The dark triad: Facilitating a short-term mating strategy in men. *European Journal of Personality, 23*, 5-18. doi:10.1002/per.698
- Kar, S. K., Choudhury, A., & Singh, A. P. (2015). Understanding normal development of adolescent sexuality: A bumpy ride. *Journal of Human Reproductive Sciences, 8*, 70-74. doi:10.4103/0974-1208.158594
- Kaufman, A. S., & Kaufman, N. L. (2004). *Kaufman Brief Intelligence Test, Second Edition*. Bloomington, MN: Pearson, Inc.
- Kimonis, E. R., Frick, P. J., Cauffman, E., Goldweber, A., & Skeem, J. (2012). Primary and secondary variants of juvenile psychopathy differ in emotional processing. *Development and Psychopathology, 24*, 1091-1103.
- Kaltiala-Heino, R., Kosunen, E., & Rimpelä, M. (2003). Pubertal timing, sexual behaviour and self-reported depression in middle adolescence. *Journal of Adolescence, 26*, 531-545. doi:10.1016/S0140-1971(03)00053-8
- Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical types: The symptomatic and the idiopathic. *Journal of Criminology and Psychopathology, 3*, 112–137.

- Koolhof, R., Loeber, R., Wei, E. H., Pardini, D., & D'escury, A. C. (2007). Inhibition deficits of serious delinquent boys of low intelligence. *Criminal Behaviour and Mental Health, 17*(5), 274-292. doi:0.1002/cbm.661
- Korponay, C., Pujara, M., Deming, P., Phillipi, C., Decety, J., Kosson, D. S., Kiehl, K. A., & Koenigs, M. (2017). Impulsive-antisocial psychopathic traits linked to increased volume and functional connectivity within prefrontal cortex. *Social Cognitive and Affective Neuroscience, 12*, 1169-1178. doi:10.1093/scan/nsx042
- Kosson, D. S., Cyterski, T. D., Steuerwald, B. L., Neumann, C. S., & Walker-Matthews, S. (2002). The reliability and validity of the Psychopathy Checklist: Youth Version (PCL:YV) in nonincarcerated adolescent males. *Psychological Assessment, 14*, 97-109. doi:10.1037/1040-3590.14.1.97
- Kosson D., Suchy, Y., Mayer, A., & Libby, J. (2002). Facial affect recognition in criminal psychopaths. *Emotion, 2*, 398-411. doi:10.1037/1528-3542.2.4.398
- Lalumière, M. L., & Quinsey, V. L. (1996). Sexual deviance, antisociality, mating effort, and the use of sexually coercive behaviors. *Personality and Individual Differences, 21*, 33-48. doi:10.1016/0191-8869(96)00059-1
- Lang, S., af Klinteberg, B., & Alm, P. O. (2002). Adult psychopathy and violent behavior in males with early neglect and abuse. *Acta Psychiatrica Scandinavica, 106*, 93-100. doi:10.1034/j.1600-0447.106.s412.20.x
- Långström, N., & Grann, M. (2000). Risk for criminal recidivism among young sex offenders. *Journal of Interpersonal Violence, 15*, 855-872. doi:10.1177/088626000015008005

- Långström, N., & Grann, M. (2002). Psychopathy and violent recidivism among young criminal offenders. *Acta Psychiatrica Scandinavica*, *106*, 86-92. doi:10.1034/j.1600-0447.106.s412.19.x
- Långström, N., & Lindblad, F. (2000). Young sex offenders: Background, personality, and crime characteristics in a Swedish forensic psychiatric sample. *Nordic Journal of Psychiatry*, *54*, 113-120. doi:10.1080/080394800427401
- Langton, C. M., Barbaree, H. E., Harkins, L. & Peacock, E. J. (2006). Sex offenders' response to treatment and its association with recidivism as a function of psychopathy. *Sexual Abuse: Journal of Research and Treatment*, *18*, 99-120. doi:10.1177/107906320601800107
- Lansford, J. E., Miller-Johnson, S., Berlin, L. J., Dodge, K. A., Bates, J. E., & Pettit, G. S. (2007). Early physical abuse and later violent delinquency: A prospective longitudinal study. *Child Maltreatment*, *12*, 233-245. doi:10.1177/1077559507301841
- Laurell, J., Belfrage, H., & Hellström, A. (2014). Deceptive behaviour and instrumental violence among psychopathic and non-psychopathic violent forensic psychiatric patients. *Psychology, Crime and Law*, *20*, 467-479. doi:10.1080/1068316X.2013.793341
- Lahey, B. B., Loeber, R., Burke, J., & Rathouz, P. J. (2002). Adolescent outcomes of childhood conduct disorder among clinic-referred boys: Predictors of improvement. *Journal of Abnormal Child Psychology*, *30*(4), 333-348. doi:0091-0627/02/0800-0333/0

- Lee, Z., Salekin, R. T., & Iselin, A. M. R. (2010). Psychopathic traits in youth: Is there evidence for primary and secondary subtypes? *Journal of Abnormal Child Psychology*, *38*, 381-393. doi:10.1007/s10802-009-9372-7
- Levenson, J. S., & Socia, K. M. (2016). Adverse childhood experiences and arrest patterns in a sample of sexual offenders. *Journal of Interpersonal Violence*, *31*, 1883-1911. doi:10.1177/0886260515570751
- Loney, B. R., Taylor, J., Butler, M. A., & Iacono, W. G. (2007). Adolescent psychopathy features: 6-year temporal stability and the prediction of externalizing symptoms during the transition to adulthood. *Aggressive Behavior*, *33*, 242-252. doi:10.1002/ab.20184
- Lundgren, R., & Amin, A. (2015). Addressing intimate partner violence and sexual violence among adolescents: Emerging evidence of effectiveness. *Journal of Adolescent Health*, *56*, 42-50. doi:10.1016/j.jadohealth.2014.08.012
- Lynam, D. R. (2002). Fledgling psychopathy: A view from personality theory. *Law and Human Behavior*, *26*, 255-259. doi:10.1023/A:1014652328596
- Lynam, D. R., Caspi, A., Moffitt, T. E., Loeber, R., & Stouthamer-Loeber, M. (2007). Longitudinal evidence that psychopathy scores in early adolescence predict adult psychopathy. *Journal of Abnormal Psychology*, *116*, 155-165. doi:10.1037/0021-843X.116.1.155
- Lynam, D. R., Loeber, R., & Stouthamer-Loeber, M. (2008). The stability of psychopathy from adolescence into adulthood: The search for moderators. *Criminal Justice and Behavior*, *35*, 228-243. doi:10.1177/0093854807310153

- Lynam, D., Moffitt, T., & Stouthamer-Loeber, M. (1993). Explaining the relation between IQ and delinquency: Class, race, test motivation, school failure, or self-control? *Journal of Abnormal Psychology, 102*, 187-196. doi:10.1037/0021-843X.102.2.187
- Maccow, G. (2011). Overview of WASI-II. In P. C. C. Service (Ed.): Pearson Corporation.
- Margari, F., Lecce, P. A., Craig, F., Laforzezza, E., Lisi, A, Pinto, F., & Grattagagliano, I. (2015). Juvenile sex offenders: Personality profile, coping styles and parental care. *Psychiatry Research, 229*, 82-88. doi:10.1016/j.psychres.2015.07.066
- Marshall, W. L., & Barbaree, H. E. (1990). Outcome of comprehensive cognitive-behavioral treatment programs. In W. L. Marshall, D. R. Laws & H. E. Barbaree (Eds.), *Handbook of sexual assault* (pp. 363-385). New York, NY: Springer US.
- Marshall, W. L., & Marshall, L. E. (2000). The origins of sexual offending. *Trauma, Violence, & Abuse, 1*, 250-263. doi:10.1177/1524838000001003003
- McCuish, E. C., Cale, J., & Corrado, R. R. (2017). Abuse experiences of family members, child maltreatment, and the development of sex offending among incarcerated adolescent males: Differences between adolescent sex offenders and adolescent non-sex offenders. *International Journal of Offender Therapy and Comparative Criminology, 61*, 127-149. doi:10.1177/0306624X15597492
- McCuish, E. C., Lussier, P., & Corrado, R. R. (2015). Examining antisocial behavioural antecedents of juvenile sexual offenders and juvenile non-sexual offenders. *Sexual Abuse: A Journal of Research and Treatment, 27*, 414-438. doi:10.1177/1079063213517268

- McMahon, R. J., Witkiewitz, K., & Kotler, J. S. (2010). Predictive validity of callous-unemotional traits measured in adolescence with respect to multiple antisocial outcomes. *Journal of Abnormal Psychology, 119*, 752-763. doi:10.1037/a0020796
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*, 674-701. doi:10.1037/0033-295X.100.4.674
- Moffitt, T. E., Caspi, A., Harrington, H., & Milne, B. J. (2002). Males on the life-course-persistent and adolescence-limited antisocial pathways: Follow-up at age 26 years. *Development and Psychopathology, 14*, 179-207.  
doi:10.1017/S0954579402001104
- Morrell, L. M., & Burton, D. L. (2014). An exploration of psychopathy in self-report measures among juvenile sex offenders. *International Journal of Offender Therapy and Comparative Criminology, 58*, 550-566. doi:10.1177/0306624X13479186
- Muñoz, L. C., Frick, P. J., Kimonis, E. R., & Aucoin, K. J. (2008). Verbal ability and delinquency: Testing the moderating role of psychopathic traits. *Journal of Child Psychology and Psychiatry, 49*, 414-421. doi:10.1111/j.1469-7610.2007.01847.x.
- Murrie, D. C., & Cornell, D. G. (2002). Psychopathy screening of incarcerated juveniles: A comparison of measures. *Psychological Assessment, 14*, 390-396. doi:10.1037/1040-3590.14.4.390
- Nijman, H., Merckelbach, H., & Cima, M. (2009). Performance intelligence, sexual offending and psychopathy. *Journal of Sexual Aggression, 15*, 319-330.  
doi:10.1080/13552600903195057

- Odgers, C. L., Reppucci, N. D., & Moretti, M. M. (2005). Nipping psychopathy in the bud: An examination of the convergent, predictive, and theoretical utility of the PCL-YV among adolescent girls. *Behavioral Sciences & The Law, 23*, 743-763.  
doi:10.1002/bsl.664
- Olver, M. E., & Wong, S. P. (2009). Therapeutic responses of psychopathic sexual offenders: Treatment attrition, therapeutic change, and long-term recidivism. *Journal of Consulting and Clinical Psychology, 77*, 328-336. doi:10.1037/a0015001
- Olver, M. E., & Wong, S. C. (2015). Short-and long-term recidivism prediction of the PCL-R and the effects of age: A 24-year follow-up. *Personality Disorders: Theory, Research, and Treatment, 6*(1), 97. doi:10.1037/per0000095
- Pardini, D. A., Raine, A., Erickson, K., & Loeber, R. (2014). Lower amygdala volume in men is associated with childhood aggression, early psychopathic traits, and future violence. *Biological Psychiatry, 75*, 73-80. doi:10.1016/j.biopsych.2013.04.003
- Parks, G. A., & Bard, D. E. (2006). Risk factors for adolescent sex offender recidivism: evaluation of predictive factors and comparison of three groups based upon victim type. *Sexual Abuse, 18*, 319-342. doi:10.1007/s11194-006-9028-x
- Patrick, C. J., Fowles, D. C., & Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: developmental origins of dishinhibition, boldness, and meanness. *Developmental Psychopathology, 21*, 913-938. doi:10.1017/S0954579409000492
- Patrick, C. J., & Zempolich, K. A. (1998). Emotion and aggression in the psychopathic personality. *Aggression and Violent Behavior, 3*, 303-338. doi:10.1016/S1359-1789(97)00003-7

- Perreault, S. (2014). *Criminal victimization in Canada, 2014*. Retrieved from Statistics Canada website: <http://www.statcan.gc.ca/pub/85-002-x/2015001/article/14241-eng.htm>
- Plummer, M., & Cossins, A. (2017). The cycle of abuse: when victims become offenders. *Trauma, Violence, & Abuse*. Advanced online publication.  
doi:10.1177/1524838016659487
- Porter, S. (1996). Without conscience or without active conscience? The etiology of psychopathy revisited. *Aggression and Violent Behavior, 1*, 179-189.  
doi:10.1016/1359-1789(95)00010-0
- Porter, S., Birt, A. R., & Boer, D. P. (2001). Investigation of the criminal and conditional release profiles of Canadian federal offenders as a function of psychopathy and age. *Law and Human Behavior, 25*, 647-661. doi:10.1023/A:1012710424821
- Porter, S., Campbell, M. A., Woodworth, M., & Birt, A. (2001). A new psychological conceptualization of the sexual psychopath. In F. Columbus (Eds.), *Advances in psychology research, Volume 7* (pp. 21-36). New York, NY: Nova Science.
- Porter, S., Demetriooff, S., & ten Brinke, L. (2010). Sexual psychopath: Current understanding and future challenges. In A. Schlank (Eds.), *The sexual predator – Volume IV* (pp. 13-1 – 13-12). Kingston, NJ: Civic Research Institute.
- Porter, S., Drugge, J., Fairweather, D., Hervé, H., Birt, A. R., & Boer, D. (2000). Profiles of psychopathy in incarcerated sex offenders. *Criminal Justice and Behavior, 27*, 216-233. doi:10.1177/0093854800027002005

- Porter, S., ten Brinke, L., & Wilson, K. (2009). Crime profiles and conditional release performance of psychopathic and non-psychopathic sexual offenders. *Legal and Criminological Psychology, 14*, 109-118. doi:10.1348/135532508X284310
- Porter, S., & Woodworth, M. (2006). Psychopathy and aggression. In C. Patrick (Eds.), *Handbook of psychopathy* (pp. 481-494). New York, NY: Guilford Press.
- Porter, S., Woodworth, M., Earle, J., Drugge, J., & Boer, D. (2003). Characteristics of sexual homicides committed by psychopathic and nonpsychopathic offenders. *Law and Human Behaviour, 27*, 459-470. doi:10.1023/A:1025461421791
- Poythress, N. G., Skeem, J. L., & Lilienfeld, S. O. (2006). Associations among early abuse, dissociation, and psychopathy in an offender sample. *Journal of Abnormal Psychology, 115*, 288-297. doi:10.1037/0021-843X.115.2.288
- Puzzanchera, C. (2009). Juvenile arrests 2008. *Juvenile Justice Bulletin*.
- Puzzanchera, C. (2010). *Juvenile Arrests (2007)*. DIANE Publishing.
- Robertiello, G., & Terry, K. J. (2007). Can we profile sex offenders? A review of sex offender typologies. *Aggression and Violent Behavior, 12*, 508-518.  
doi:10.1016/j.avb.2007.02.010
- Ryan, E. P. (2016). Juvenile sexual offenders. *Child Adolescent Psychiatric Clinic of North America, 25*, 81-97. doi:10.1016/j.chc.2015.08.010
- Salekin, R. T. (2016). Psychopathy in childhood: Why should we care about grandiose-manipulative and daring-impulsive traits. *The British Journal of Psychiatry, 209*, 189-191. doi:10.1192/bjp.bp.115.179051

- Salekin, R. T., Neumann, C. S., Leistico, A. M. R., & Zalot, A. A. (2004). Psychopathy in youth and intelligence: An investigation of Cleckley's hypothesis. *Journal of Clinical Child and Adolescent Psychology, 33*, 731-742.  
doi:10.1207/s15374424jccp3304\_8
- Salihovic, S., Özdemir, M., & Kerr, M. (2013). Trajectories of psychopathic traits. *Journal of Psychopathology and Behavioral Assessment, 36*, 47–59. doi:10.1007/s10862-013-9375-0.
- Schmidt, F., Campbell, M. A., & Houlding, C. (2011). Comparative analyses of the YLS/CMI, SAVRY, and PCL: YV in adolescent offenders: A 10-year follow-up into adulthood. *Youth Violence and Juvenile Justice, 9*, 23-42.  
doi:10.1177/1541204010371793
- Schmidt, F., McKinnon, L., Chattha, H. K., & Brownlee, K. (2006). Concurrent and predictive validity of the Psychopathy Checklist: Youth version across gender and ethnicity. *Psychological Assessment, 18*, 393-401. doi:10.1037/1040-3590.18.4.393
- Serin, R. C. (1996). Violent recidivism in criminal psychopaths. *Law and Human Behavior, 20*, 207-217. doi:10.1007/BF01499355
- Seto, M. C., & Lalumière, M. L. (2010). What is so special about male adolescent sexual offending? A review and test of explanations through meta-analysis. *Psychological Bulletin, 136*, 526–575. doi:10.1037/a0019700
- Sexual Assault in Canada. (2014). *Sexual assault statistics in Canada*. Retrieved from <http://www.sexassault.ca/statistics.htm>

- Shepherd, S. M., & Strand, S. (2016). The utility of the Psychopathy Checklist: Youth Version (PCL: YV) and the Youth Psychopathic Trait Inventory (YPI): Is it meaningful to measure psychopathy in young offenders? *Psychological Assessment, 28*, 405-415. doi:10.1037/pas0000182
- Shulman, E. P., Monahan, K. C., & Steinberg, L. (2017). Severe violence during adolescence and early adulthood and its relation to anticipated rewards and costs. *Child Development, 88*, 16-26. doi:10.1111/cdev.12684
- Skeem, J. L., & Cauffman, E. (2003). Views of the downward extension: Comparing the youth version of the Psychopathy Checklist with the Youth Psychopathic Traits Inventory. *Behavioral Sciences & The Law, 21*, 737-770. doi:10.1002/bsl.563
- Skeem, J., Johansson, P., Andershed, H., Kerr, M., & Louden, J. E. (2007). 'Two subtypes of psychopathic violent offenders that parallel primary and secondary variants.' Correction to Skeem et al. (2007). *Journal of Abnormal Psychology, 116*, 853. doi:10.1037/0021-843X.116.4.853
- Skovran, L. C., Huss, M. T., & Scalora, M. J. (2010). Sexual fantasies and sensation seeking among psychopathic sexual offenders. *Psychology, Crime & Law, 16*, 617-629. doi:10.1080/10683160902998025
- Staff, J., Whichard, C., Siennick, S. E., & Maggs, J. (2015). Early life risks, antisocial tendencies, and preteen delinquency. *Criminology: An Interdisciplinary Journal, 53*, 677-701. doi:10.1111/1745-9125.12093
- Theobald, D., & Farrington, D. (2012). Child and adolescent predictors of male intimate partner violence. *Journal of Child Psychology and Psychiatry, 53*, 1242-1249. doi:10.1111/j.1469-7610.2012.02577.x

- Thijssen, S., & Kiehl, K. A. (2017). Functional connectivity in incarcerated male adolescents with psychopathic traits. *Psychiatry Research: Neuroimaging*, *265*, 35-44.  
doi:10.1016/j.psychresns.2017.05.005
- Tuvblad, C., Fanti, K., Andershed, H., Colins, O., & Larsson, H. (2017). Psychopathic personality traits in 5 year old twins: The importance of genetic and shared environmental influences. *European Child & Adolescent Psychiatry*, *26*, 469-479.  
doi:10.1007/s00787-016-0899-1
- Vaughn, M. G., Edens, J. F., Howard, M. O., & Toney Smith, S. (2009). An investigation of primary and secondary psychopathy in a statewide sample of incarcerated youth. *Youth Violence and Juvenile Justice*, *7*, 172-188.  
doi:10.1177/1541204009333792
- Vaughn, M. G., Howard, M. O., & DeLisi, M. (2008). Psychopathic personality traits and delinquent careers: An empirical examination. *International Journal of Law And Psychiatry*, *31*, 407-416. doi:10.1016/j.ijlp.2008.08.001
- Vaughn, M. G., Salas-Wright, C. P., DeLisi, M., & Maynard, B. R. (2014). Violence and externalizing behavior among youth in the United States: Is there a severe 5%? *Youth Violence and Juvenile Justice*, *12*, 3-21. doi:10.1177/1541204013478973
- Vermeiren, R., Schwab-Stone, M., Ruchkin, V., De Clippele, A., & Deboutte, D. (2002). Predicting recidivism in delinquent adolescents from psychological and psychiatric assessment. *Comprehensive Psychiatry*, *43*, 142-149. doi:10.1053/comp.2002.30809
- Viding, E., Blair, R. R., Moffitt, T. E., & Plomin, R. (2005). Evidence for substantial genetic risk for psychopathy in 7-year-olds. *Journal of Child Psychology and Psychiatry*, *46*, 592-597. doi:10.1111/j.1469-7610.2004.00393.x

- Viljoen, J. L., Elkovitch, N., Scalora, M. J., & Ullman, D. (2009). Assessment of reoffense risk in adolescents who have committed sexual offenses: Predictive validity of the ERASOR, PCL:YV, YLS/CMI, and Static-99. *Criminal Justice and Behavior*, *36*, 981-1000. doi:10.1177/0093854809340991
- Vincent, G. M., Odgers, C. L., McCormick, A. V., & Corrado, R. R. (2008). The PCL: YV and recidivism in male and female juveniles: A follow-up into young adulthood. *International Journal of Law and Psychiatry*, *31*, 287-296. doi:10.106/j.ijlp.2008.04.012
- Vitacco, M. J., Neumann, C. S., & Wodushek, T. (2008). Differential relationships between the dimensions of psychopathy and intelligence replication with adult jail inmates. *Criminal Justice and Behavior*, *35*, 48-55. doi:10.1177/0093854807309806
- Vitacco, M. J., & Vincent, G. M. (2006). Understanding the downward extension of psychopathy to youth: Implications for risk assessment and juvenile justice. *Systems and Psychosocial Advances Research Center Publications and Presentations*, *5*, 29-38.
- Wall, T. D., Sellbom, M., & Goodwin, B. E. (2013). Examination of intelligence as a compensatory factor in non-criminal psychopathy in a non-incarcerated sample. *Journal of Psychopathology and Behavioral Assessment*, *35*, 450-459. doi:10.1007/s10862-013-9358-1
- Walters, G. D., & DeLisi, M. (2015). Psychopathy and violence: Does antisocial cognition mediate the relationship between PCL-YV factor scores and violent offending. *Law and Human Behaviour*, *39*, 350-359. doi:10.1037/lhb0000123

- Ward, T., & Beech, A. (2006). An integrated theory of sexual offending. *Aggression and Violent Behavior, 11*, 44-63. doi:10.1016/j.avb.2005.05.002
- Ward, T., & Gannon, T. A. (2006). Rehabilitation, etiology, and self-regulation: The comprehensive good lives model of treatment for sexual offenders. *Aggression and Violent Behavior, 11*(1), 77-94. doi:10.1016/j.avb.2005.06.001
- Ward, T., Fisher, S., & Beech, A. (2016). An integrated theory of sexual offending. In A. Phoenix, & H. M. Hoberman (Eds.), *Sexual offending: Predisposing antecedents, assessments and management* (1-11). New York: Springer New York.
- Watts, S. J., & McNulty, T. L. (2013). Childhood abuse and criminal behavior: Testing a general strain theory model. *Journal of Interpersonal Violence, 28*, 3023-3040. doi:10.1177/088626051388696
- Weiler, B. L., & Widom, C. S. (1996). Psychopathy and violent behaviour in abused and neglected young adults. *Criminal Behaviour and Mental Health, 6*, 253-271. doi:10.1002/cbm.99
- Weschler, D. (2011). *Wechsler Abbreviated Scale of Intelligence, Second Edition (WASI-II)*. San Antonio: NCS Pearson.
- Weschler, D. (2008). *Wechsler Fundamental: Academic Skills (WFAS)*. San Antonio: NCS Pearson.
- Wettstein, M., Tauber, B., Kuźma, E., & Wahl, H. W. (2017). The interplay between personality and cognitive ability across 12 years in middle and late adulthood: Evidence for Reciprocal Associations. *Psychology and Aging, 32*, 259-277. doi:10.1037/pag0000166

- White, J. L., Moffitt, T. E., & Silva, P. A. (1989). A prospective replication of the protective effects of IQ in subjects at high risk for juvenile delinquency. *Journal of Consulting and Clinical Psychology, 57*, 719-724. doi:10.1037/0022-006X.57.6.719
- Widom, C. S., & Massey, C. (2015). A prospective examination of whether childhood sexual abuse predicts subsequent sexual offending. *JAMA Pediatrics*. Advanced online publication. doi:10.1001/jamapediatrics.2014.3357
- Wieckowski, E., Hartsoe, P., Mayer, A., & Shortz, J. (1998). Deviant sexual behavior in children and young adolescent: Frequency and patterns. *Sexual Abuse: Journal of Research and Treatment, 10*, 293-303. doi:10.1023/A:1022194021593
- Willoughby, M. T., Waschbusch, D. A., Moore, G. A., & Propper, C. B. (2011). Using the ASEBA to screen for callous unemotional traits in early childhood: Factor structure, temporal stability, and utility. *Journal of Psychopathology and Behavioral Assessment, 33*, 19-30. doi:10.1007/s10862-010-9195-4
- Woodworth, M., Freimuth, T., Hutton, E. L., Carpenter, T., Agar, A. D., & Logan, M. (2013). High-risk sexual offenders: An examination of sexual fantasy, sexual paraphilia, psychopathy, and offence characteristics. *International Journal of Law and Psychiatry, 36*, 144-156. doi:10.1016/j.ijlp.2013.01.007
- Woodworth, M., & Porter, S. (2002). In cold blood: Characteristics of criminal homicides as a function of psychopathy. *Journal of Abnormal Psychology, 111*, 436-445. doi:10.1037/0021-843X.111.3.436

- Wootton, J. M., Frick, P. J., Shelton, K. K., & Silverthorn, P. (1997). Ineffective parenting and childhood conduct problems: The moderating role of callous-unemotional traits. *Journal of Consulting and Clinical Psychology, 65*, 301-308. doi:10.1037//0022-006X.65.2.292.b
- Worling, J. R. (1995). Sexual abuse histories of adolescent male sex offenders: differences on the basis of the age and gender of their victims. *Journal of Abnormal Psychology, 104*, 610-613. doi:10.1037//0021-843X.104.4.610
- Worling, J. R., & Långström, N. (2006). Risk of sexual recidivism in adolescents who offend sexually: Correlates and assessment. In H. Barbaree & W. Marshall (Eds.), *The juvenile sex offender* (2nd ed. pp. 219–247). New York, NY: Plenum.
- Yildirim, B. O., & Derksen, J. J. (2015). Clarifying the heterogeneity in psychopathic samples: Towards a new continuum of primary and secondary psychopathy. *Aggression & Violent Behavior, 24*, 9-41. doi:10.1016/j.avb.2015.05.001