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Post-Traumatic Stress Disorder in Crossover Youth: The Pathway to Development and the Relationship with Life-Time Offending

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Abstract

A large portion of justice-involved youth have previously been involved with the child welfare system; termed crossover youth. What is less understood is the trajectory of crossing over and the potential role of mental health problems. Using the theories of developmental traumatology and Moffitt's developmental taxonomy of antisocial behaviour, the present study investigated the ability of several factors to distinguish and predict crossover youth who develop posttraumatic stress disorder (PTSD). In this study of 299 justice-involved youth, chi-squared analyses found that several factors were able to differentiate youth with PTSD and/or associated symptoms from those without. Logistic regression indicated that the number of maltreatment types significantly contributed to the prediction of clinically diagnosed PTSD, while the number of maltreatment types and the presence of sexual abuse significantly contributed to the prediction of a diagnosis or symptoms. The clinical and policy relevance for working with crossover youth is discussed.

Keywords

Crossover youth, maltreatment, delinquency, PTSD, age of onset of offending, justice-involved youth, antisocial behaviour, offending, child welfare, developmental traumatology, developmental taxonomy of antisocial behaviour.

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Introduction

In western culture, it is believed that the family is the best place to socialize and care for children. There are times, however, when a member of the family intentionally causes harm to a child. When this occurs, the Child Welfare System (CWS) conducts an investigation. In 2013, approximately 125,281 child welfare investigations were conducted in Ontario. Of these investigations, 78% were related to a concern of abuse or neglect and 22% were concerns regarding risk of future maltreatment (Fallon et al., 2015). An estimated 43,067 child investigations were substantiated, meaning that the evidence accumulated indicated that abuse or neglect occurred in 35% of all maltreatment-related investigations. Approximately 6,000 investigations, 5% of all investigations, were suspected, which means there was insufficient evidence to substantiate maltreatment but maltreatment remained suspected (Fallon et al., 2015).

Although the CWS aims to promote the wellbeing of children, it is well documented in the literature that outcomes are poorer for youth who are in the care of the CWS compared to youth who are not in care (Bala, Finlay, De Filippis, & Hunter, 2015; Corrado, Freedman, & Blatier, 2011; Finlay, 2003). Experiences related to being in care, the occurrence of maltreatment, and other risk factors have led some youth to engage in delinquency. Maltreated youth who misbehave can become involved in the Youth Justice System (YJS), which emphasizes accountability for their actions. When this happens, the youth *crosses over* from a system that acknowledges their trauma history to one that focuses on their current criminality. The term *crossover youth* refers to the cross over

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between systems of care, reflecting the complex dynamic between child maltreatment and delinquency (Scully & Finlay, 2015).

There have been various explanations proposed as to why youth engage in delinquency and criminality. One theory of antisocial behaviour emerged in the research over twenty years ago, which stated there are two distinct groups of offenders; those who persist throughout the life course and those who only engage in conduct disorder during adolescence (Moffitt, 1993). Moffitt proposed that the pathway to a life-long trajectory of offending is influenced by neuropsychological vulnerabilities and a criminogenic environment. Early experiences of abuse and neglect can interact with biological predispositions and create neuropsychological problems that have the potential to initiate the risk of engaging in antisocial behaviour throughout the life-course. The field of *Developmental Traumatology* (DT) provides further insight to the ways in which interpersonal trauma affects several areas of functioning (De Bellis, 2001). An assumption of DT is that the biological stress response system becomes dysregulated and as a result, an individual is at an increased risk for the development of psychopathology.

Posttraumatic stress disorder (PTSD) is one form of psychopathology that has been found to develop following trauma. A traumatic experience may be the occurrence of childhood maltreatment, and this has been found to be the most frequent cause of PTSD in children and youth (De Bellis, 2002). Although PTSD may be an outcome after the experience of abuse in childhood, not all victims develop this disorder or experience the pervasive symptoms. Risk factors for the development of PTSD have been noted in the literature, but direct comparisons between maltreated youth with PTSD and those without has received less attention. The first purpose of this study will be to evaluate

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several factors related to the elevated risk of PTSD and determine whether they are able to differentiate maltreatment victims with PTSD from those without.

One consequence of maltreatment that has been supported in the literature is delinquency and criminality. Maltreated youth in the CWS who cross over to the YJS have all engaged in some type of offence. Thus, all crossover youth have behaved in a delinquent or criminal manner. This represents a distinct subset of maltreatment victims, as not all victims engage in these behaviours. Crossing over from the welfare system to the justice system can look markedly different from one youth to another. For example, one youth may have been placed in foster care following a substantiated maltreatment investigation. This youth had never engaged in drug use before, but one night decided to experiment as all the other foster children in the home were smoking marijuana. Due to policies at the foster home, the police were called which resulted in a charge. Another youth may enter the justice system as a result of a malicious attack on another individual, something that is not out of the norm for them and represents a pattern of behaviour that has been present since they were five years of age. So although crossover youth may be distinct from other maltreatment victims who don't offend, they are also distinct from one another. The second purpose of this study is to evaluate offending behaviours of crossover youth with PTSD and those without to determine whether this mental health disorder is able to differentiate those who will engage in criminality throughout the lifespan from those who only engage situationally and would have naturally desisted when adolescence was over. The first section will first give a brief introduction to childhood maltreatment and crossover youth, which will be followed by a description of the two theoretical frameworks that will guide the current study; Moffitt's (1993)

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developmental taxonomy of antisocial behaviour and Developmental Traumatology. This literature review chapter will end with a review of PTSD and several factors that heighten the risk of onset following childhood maltreatment.

Literature Review

Child maltreatment occurs when a parent or caregiver behaves in a manner that causes harm, the possibility of harm, or threat of harm to a child, regardless if harm was intended. The forms of maltreatment that have been widely recognized include sexual abuse, physical abuse, psychological/emotional abuse, neglect, and exposure to domestic violence (Gilbert, Widom, Browne, Fergusson, Webb, & Janson, 2009). Sadly, the experience of one form of abuse does not always occur in isolation from others. It has been found that children who experience one form of maltreatment often experience other types (Gilbert et al., 2009; Kinard, 1994). This phenomenon has been termed multitype abuse and/or multiple victimization (Higgins & McCabe, 2000; Rossman, Hughes, & Hanson, 1998). The extent of multiple victimization has been demonstrated through the findings of Higgins and McCabe (2000), who found that in a community sample of 175 adults, 24.0% experienced one form of maltreatment, whereas 43.4% experienced between two and five forms. Research has shown that for some cases, outcomes are worse for multitype abuse compared to a single form (English, Graham, Litrownik, Everson, & Bangdiwala, 2005; Lau et al., 2005; Schneider, Baumrind, & Kimerling, 2007).

The experience of childhood maltreatment can result in psychological and biological effects on the victim (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola,

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2005). It has been found that victims of childhood maltreatment experience more mental health problems and psychological distress, behave in an antisocial manner, and have higher rates of delinquency, crime, and substance use (Baglivio et al., 2015; Briere, 1992; De Bellis, 2001; Mersky, Topitzes, & Reynolds, 2012). Although the risk of adverse outcomes is elevated, the symptomatology associated with maltreatment is not the same for every victim. The individual differences in symptom presentation and outcomes can be influenced by numerous factors, such as the nature and severity of abuse. One variation in the mental health sequelae of maltreatment victims is the development of PTSD. Not all individuals who experience abuse in childhood or adolescence subsequently develop PTSD. Widom (1999) found that 37.5% of childhood victims of sexual abuse, 32.7% of victims of physical abuse, and 30.6% of victims of neglect met diagnostic criteria for lifetime PTSD. The experiences of abuse and neglect in childhood independently contribute to an individual's risk of PTSD, even after controlling for other known risk factors. Although maltreatment increases the risk of PTSD, victimization alone is not a sufficient condition in the development of the disorder. Family, individual, and lifestyle risk factors (e.g., families with alcohol and drug problems, large families, low levels of education) also relate to the increased risk for PTSD (Widom, 1999). Thus, the increased risk of PTSD for some maltreatment victims may be related to experiencing a combination of other risk factors, not solely their maltreatment experience.

An important finding from Widom's (1999) research was that childhood behaviour problems were found to be a significant risk factor for the development of PTSD diagnosis and symptoms. According to Moffitt (1993), individuals exhibiting antisocial behaviour early in life represent a unique subset of individuals who will engage

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in delinquency and crime throughout the life span. Thus, further evaluation of the relationship between childhood behaviour problems and PTSD has implications for the identification of youth most likely to develop PTSD following maltreatment and those that are most likely to continuously engage in antisocial behaviours. This is particularly important for crossover youth, as they all have engaged in some form of delinquency, but undoubtedly the criminal trajectory for these youths may be substantially different from one another. The ability to differentiate crossover youth who are most likely to continuously offend from those who will not has implications for the provision of treatment and services for maltreated youth entering the justice system. This chapter will now provide a description of some of the literature on crossover youth.

Crossover Youth

When there is a report of abuse or neglect, the child welfare system (CWS) performs an investigation. Although every situation is different, this is typically the first contact most families have with the CWS (Public Health Agency of Canada, 2010). The CWS provides a range of services aimed at protecting and caring for the child: counselling, supervision, arranging adoption, supervision of out-of-home care (Public Health Agency of Canada, 2010). Although these services are focused on the best interest of the child, it has been found that children in the care of the CWS can experience poorer outcomes compared to youth who are not in care (Corrado, Freedman, & Blatier, 2011). Data has taught us that, for a number of children, CWS involvement is associated with later antisocial behaviour, as a disproportionate number of youth in the CWS have later contact with the YJS (Finlay, 2003). The term 'crossover youth' characterizes this dynamic whereby a young person, due to their antisocial behaviour, moves from the

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CWS, where the intent is to provide parental care and supervision, to the accountability focused YJS (Bala, Finlay, De Filippis, & Hunter 2015).

The question as to why youth cross over from the CWS to the YJS has remained largely unanswered. Corrado et al. (2011) hypothesized that this relationship may be explained by the similarities in risk profiles for antisocial behavior between children in care and those not in care. Corrado and colleagues compared education and health risk factors that have an empirical basis for criminal justice involvement, with a comparison of criminal justice involvement between children in care and children not in care. Some of the risk factors they evaluated were mental health issues, exposure to maltreatment and antisocial parents, substance abuse, and special education needs. Although their hypothesis was supported, the study was descriptive in nature, and relying on descriptive data and drawing inferences to explain justice system involvement for children in care is neither sufficient nor adequate to understand the complexity of the issue.

While evaluating the multifaceted nature of the relationship between child welfare involvement and youth justice involvement quantitatively has great merit, it undoubtedly misses the perspective of youth. Finlay (2003) captured youths' perspectives on the events that influenced the commission of their first offence and subsequent entry into the young offender system. Some of the prominent themes Finlay (2003) found were the feeling of loss as a result of multiple movements in the welfare system, hopelessness regarding their families, group homes leading to charged offences, and trauma leaving home. Finlay's (2003) study provided some rich context surrounding feelings and perspectives on moving between systems. The themes that emerged in this study may have influenced the commission of their first offence, but they also could have a

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psychological impact. An understanding of mental health symptoms within this group of maltreatment victims would potentially provide a deeper understanding of crossover youth.

Although this study was unique in providing a perspective of system involvement from the voice of youth, the generalizability of this study to other crossover youth is limited given the research setting was a secure custody facility and five male youth were included. Youth placed in this setting typically have more serious offences and a longer history of justice system involvement. A young person could cross over from the CWS to the justice system for a property offence, but they would have been excluded from the aforementioned analysis. This highlights the fact that offence types and patterns of offending behaviour may differ for crossover youth. There may be two distinct groups of offenders in this population that relates to their duration of offending, which is something that has not been previously studied in this context. The application of Moffitt's (1993) dual taxonomy of antisocial behaviour has the potential to achieve this aim.

Dual Taxonomy of Antisocial Behaviour

Moffitt (1993) asserted there are differences in the way some adolescents engage in antisocial behaviour: for some it is only temporary and depends on specific contexts; for others it is persistent and stable over time. Moffitt (1993) termed the former, adolescence-limited offenders, and the latter, life-course-persistent offenders. As the name suggests, life-course-persistent is a group who engage in some form of antisocial behaviour at every stage in their life. This may begin as hitting and biting when they are four years of age, but by the time they are 30 they may be perpetrators of child abuse

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(Moffitt, 1993). The stable nature of their antisocial behaviour is a result of the interaction between genes and environment. The life-course-persistent offender will have experienced neuropsychological variations in functioning of the nervous system while in infancy, resulting from circumstances such as maternal drug abuse, complications during delivery leading to brain injury, poor prenatal nutrition, and child abuse and neglect (Moffitt, 1993). When these neuropsychological dysfunctions are present in an infant within an adverse rearing context, particularly a criminogenic social environment, the risk for a pattern of antisocial behaviour spanning across the life-course is initiated. Moffitt (1993) believed crimes occurring later in life and violence against another person would be committed by life-course-persistent offenders.

Adolescence-limited offenders characterize a much larger group of individuals, and their engagement in crime and antisocial behaviour is temporary and contextual (Moffitt, 1993). Unlike life-course-persistent offenders, there is no evidence of history of antisocial behaviour in childhood. Moffitt (1993) theorized that their delinquent behaviour begins through social mimicry of the antisocial behaviour of life-course-persistent youths because they believe this behaviour allows them to attain a certain reputation and prestige amongst their peers. This behaviour is motivated through a need to achieve status since the duration of adolescence is extended, delaying their entrance into adulthood. The crimes this group would engage in is related to their desire for privilege and power. These crimes include substance abuse, vandalism, and theft (Moffitt, 1993). As these youths become older and more legitimate adult roles are available, there is a loss of motivation for antisocial behaviour and they gradually desist (Moffitt, 1993). There is a clear difference between the age at which these two groups

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begin to behave antisocially; one beginning early in life (before the age of 12) and the other beginning in adolescence (after the age of 12). Identifying the age of onset of antisocial behaviour has important implications for determining the duration of delinquency and criminality and the nature of offences that will be committed. One explanation for the neuropsychological variations in functioning for life-course-persistent offenders is early experiences of interpersonal trauma. The field of DT provides a more in-depth description of the psychobiological impact of trauma and maltreatment (for full review see De Bellis, 2000; De Bellis et al., 1999a; De Bellis et al., 1999b).

Developmental Traumatology

DT examines the psychobiological and psychiatric impact of chronic and overwhelming interpersonal stress on the developing child. The nature of the stressor is a traumatized and dysfunctional interpersonal relationship (De Bellis, 2001). This emphasizes that the experience of trauma is impacted by more than the physical (or psychological) act of maltreatment; it is also influenced by the dynamics of the relationship between the victim and the one who inflicted the harm. When a stressor is interpersonal in nature, frequently involving a trusted family member, the child often loses faith and trust in this person. As a result, the ability to form meaningful attachments and relationships may be disturbed, leading them to have a harder time developing and maintaining healthy social relationships (De Bellis, 2001). Through DT we see how maltreatment impacts an individual's ability to form relationships, and how this inability has the potential to be associated with further subsequent negative outcomes.

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The chronic and acute stress that is associated with maltreatment impacts several, closely interconnected neurobiological systems, and adversely influences neurological development. The changes that occur in the biological stress systems can produce psychiatric symptoms, particularly symptoms of PTSD (De Bellis, 2001). The field of DT has given particular attention to PTSD for maltreatment victims. When there is the absence of PTSD symptoms following a traumatic stressor, DT asserts there will be only a modest degree of psychopathology for this individual. Alternatively, if a child experiences PTSD after a stressor they will have an increased likelihood of suffering from chronic PTSD, other psychosocial and cognitive consequences, and other psychopathology (De Bellis, 2001). Thus, children who experience a posttraumatic stress response following their maltreatment are at an increased risk for poor outcomes.

When the biological stress response system is dysregulated, it is common that psychiatric symptoms of PTSD and mood and anxiety disorders are present. With this increased vulnerability to psychiatric disorders, there is also an increased vulnerability for alcohol and substance abuse due to using substances to reduce psychiatric symptoms and effects related to the dysregulated biological stress systems (De Bellis, 2002). The use of alcohol and illicit substances can cause further dysregulation. When this happens, there is often failures in the prefrontal and frontal cortex, potentially leading to issues in self-regulation and an increase in impulsive behaviours (De Bellis, 2002). Evaluating the impact of childhood maltreatment from a DT framework emphasizes the importance of evaluating PTSD diagnosis and symptomatology, and the contribution of this mental health outcome for further psychopathology and substance use and abuse.

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Posttraumatic Stress Disorder

A large majority of Canadians experience exposure to a traumatic event at some point in their life. Van Ameringen, Mancini, Patterson, and Boyle (2008) found that 75.9% of their respondents to a nationwide telephone survey reported lifetime exposure to at least one traumatic event, with the majority reporting multiple events. Despite this high prevalence, a lifetime rate of PTSD was 9.2%, with the current rate of PTSD being 2.4%. This highlights the fact that experiencing a traumatic event does not always lead to the subsequent development of PTSD and related symptoms; some people are able to effectively manage this experience. One type of trauma that results in PTSD is childhood maltreatment, which is likely due to the nature of this trauma exposure; it can involve invasive contact, whether it be injurious, sexual, or coercive, and it can include physical violence (Davis & Siegel, 2000; Koenen, Moffit, Poulton, Martin, & Caspi, 2007). Van Ameringen and colleagues (2008) found that among Canadian respondents who met the criteria for lifetime PTSD, a large portion had a history of childhood maltreatment. It was found that 61% reported a history of childhood sexual or physical abuse.

Following childhood maltreatment, an individual may appraise the experience as highly threatening in combination with negative posttraumatic cognitions, such as excessive re-experiencing, arousal, depersonalization, de-realization, emotional numbing, and anxiety (Kleim, Ehring, & Ehlers, 2012; Lanius, Paulsen, & Corrigan, 2014). Trauma symptoms in some maltreated children can be pervasive and meet the clinical threshold for a diagnosis of PTSD. The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM) included a new developmental subtype which recognizes the occurrence of PTSD in children. Diagnostic criteria for PTSD includes symptoms from

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each of four symptom clusters: re-experiencing, avoidance, negative cognitions and mood, and arousal (American Psychiatric Association, 2013). Individuals diagnosed with PTSD have been found to be at a high risk of experiencing other psychiatric disorders, such as anxiety disorders, depression, and substance use disorders (Breslau, Davis, Andreski, & Peterson, 1991; De Bellis et al., 1999a). These mental health disorders have received empirical support as outcomes of maltreatment (Briere & Runtz, 1988; Browne & Finkelhor, 1986; Comijs et al., 2013; Elliott & Briere, 1992; Fergusson, Boden, & Horwood, 2008; Moore et al., 2015). Whether this is partially explained by the development of PTSD has not received much attention. Differentiation of maltreatment victims based on PTSD has the potential to discern those most adversely impacted by their maltreatment experience and at risk for subsequent negative outcomes.

Typology of Maltreatment Victims on the Basis of PTSD

The proposed research study aims to review data on two groups of maltreatment victims, those with PTSD and those without, to determine whether they are distinct from one another in terms of gender, characteristics of the trauma, mental health problems, substance abuse, and the age of onset of offending-like behaviours.

Gender

A common finding throughout the literature is a gender disparity for risk of PTSD following a traumatic event. Females have been found to be more likely to develop PTSD after experiencing trauma (Breslau, 2009; Moore, Gaskin, & Indig, 2013). Furthermore, a gender disparity has also been found in regards to maltreatment severity. Moore et al. (2013) found that females were more likely to report three or more subtypes of

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maltreatment in the severe to extreme range compared to males. These findings suggest that it may be possible to differentiate maltreatment victims who develop PTSD from those who do not based on gender.

Characteristics of Maltreatment

The literature has suggested that particular characteristics of maltreatment, such as severity and type, are risk factors for the development of PTSD. In general population samples, a more extensive maltreatment history has been found to be associated with PTSD. For victims of childhood sexual abuse, higher rates of PTSD and posttraumatic symptoms were found for victims who also experienced other forms of abuse (i.e., community violence, physical abuse, physical assault; Breslau, Chilcoat, Kessler, & Davis, 1999). More specific to child maltreatment, rather than abuse generally, Schneider and colleagues (2007) found that experiencing any two forms of maltreatment doubled the risk of subsequent PTSD compared to the experience of one type of maltreatment. The forms of maltreatment they evaluated were childhood sexual abuse, physical abuse, and emotional abuse. Furthermore, it was found that when all three types of abuse were experienced the risk of PTSD was increased 23-fold (Schneider et al., 2007).

Various studies comparing the different forms of maltreatment and their association with PTSD have found that childhood sexual abuse is related to more severe PTSD symptoms, both overall and across symptom clusters, and has the strongest prospective relationship with PTSD (Higgins & McCabe, 2000; Widom, 1999; Wilson & Scarpa, 2014). It has also been found that childhood sexual abuse is associated with experiencing other forms of maltreatment such as emotional abuse, physical abuse, and

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physical and emotional neglect (Dong, Anda, Dube, Giles, & Felitti, 2003). These findings suggest that not only is sexual abuse related to greater trauma symptoms, but it is also associated with experiencing more forms of abuse, which has also been shown to increase posttraumatic symptoms. Thus, it is not enough to simply look at youth as abused or not abused, attention needs to be given to the characteristics of their trauma, as these are indicators of the severity of impact.

Mental Health Sequelae

The relationship between maltreatment, mental health sequelae, and PTSD has received more attention than the other factors previously discussed. Of the 55 maltreated youth in Linning and Kearney's (2004) study, approximately 64% met criteria for PTSD. Those maltreated youths who had PTSD were also found to have significantly more comorbid diagnoses when compared to maltreated youths who didn't have PTSD. This finding was especially prominent for anxiety disorder, dysthymia, and major depressive disorder. Reports utilizing prospective and retrospective data has found the risk for major depression strikingly elevated in individuals with a trauma history and PTSD diagnosis (Breslau, Davis, Peterson, & Schultz, 2000). Furthermore, when evaluating the risk of major depression between trauma-exposed individuals without a diagnosis of PTSD and individuals without a trauma history, no difference was found (Breslau et al., 1997; Breslau et al., 2000). This finding is supported by Danielson and colleagues (2010) who compared major depression for sexually abused youth with a history of PTSD with those without. Adolescents who developed PTSD following their sexual abuse were found to be at greater risk for past year and lifetime major depression. For those adolescents who had PTSD, major depression was present in roughly 80% of youth. Conversely, for those

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sexual abuse victims who did not have PTSD, the rate of major depression was only approximately 20% (Danielson et al., 2010).

Substance Abuse

The relationship between childhood maltreatment and substance and alcohol abuse has been strongly supported in the literature (Fergusson, Boden, & Horwood, 2008; Harrison, Fulkerson, & Beebe, 1997; Rogosch, Oshri & Cicchetti, 2010; Wilson & Widom, 2011). DT asserts that the heightened vulnerability for adolescent and adult substance use disorders is due to the changes that happen in the biological stress response systems as a result of traumatic stress in childhood (De Bellis, 2002). When these disorders or pervasive symptoms occur, such as PTSD, depression, and/or anxiety, one may respond by self-medicating with illicit substances and alcohol (De Bellis, 2002). Another way the risk of problematic substance use is heightened is through an increase in impulsive behaviours.

Comparing trauma victims with PTSD and those without on later onset drug abuse and nicotine dependence, Breslau, Davis, and Schultz (2003) found that there was an increased risk for these substance behaviours for individuals who had PTSD. Findings from this study and DT suggest that the relationship found between maltreatment and substance use may be elevated for those individuals who developed PTSD following their maltreatment. Thus, this may be a factor that can differentiate these two groups of maltreatment victims.

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Delinquency

Engaging in antisocial and criminal behaviour following the experience of childhood maltreatment has been well documented in the literature (Siegel & Williams, 2003; Smith & Thornberry, 1995; Topitzes et al., 2011). What is less understood is the potential role of PTSD in this relationship. Evaluating the presence of risky behaviours for sexually abused adolescents with and without a history of lifetime PTSD, Danielson and colleagues (2010) found that the risk for engaging in delinquent behavour at some point in their lifetime was greater for youth with PTSD. They found that more than 50% of youth who experienced sexual abuse reported a lifetime history of both PTSD and delinquent behaviour (Danielson et al., 2010). One limitation of the study was the inability to highlight which one of these conditions came first; was it delinquency increasing the risk of development of PTSD, or PTSD contributing to delinquent behaviour?

Early childhood temperament and behaviour characteristics have been found to increase the risk of developing PTSD. Children characterized by difficult temperament and antisocial behaviour have an elevated risk of subsequently developing PTSD (Koenen, Moffitt, Poulton, Martin, & Caspi, 2007). According to Moffitt's (1993) theory of antisocial behaviour, these youths who behave this way prior to age 12 are the individuals who will continue to engage in various sorts of antisocial behaviour across the lifespan. This suggests that early antisocial behaviour precedes the development of PTSD, and these individuals may represent life-course-persistent offenders. The present research intends to contribute to the knowledge of a youths' trajectory to criminal behaviour by determining if the age of onset of offending-like behaviours is related to

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PTSD following maltreatment. By applying Moffitt's (1993) dual taxonomy of antisocial behaviour and evaluating the age of onset, there is the potential to be able to identify youth most at risk for a lifetime of engaging in criminality and delinquency from those that would engage situationally as a normative part of adolescence.

The Current Study

One purpose of the current research is to contribute to an understanding of the dynamic whereby maltreatment results in the presence or absence of PTSD for crossover youth. Following a traumatic experience, several factors have been found to be related to the development of PTSD. This research aims to evaluate whether maltreatment victims with PTSD are different from those without in regards to their gender, nature of their maltreatment experience, comorbid psychiatric problems, and engagement in substances and alcohol.

As crossover youth partially represents a subset of maltreatment victims who turn to delinquency and crime, the present research will also review whether a relationship exists between PTSD and age of onset of offending-like behaviours. According to Moffitt (1993), evaluating the age of onset of antisocial behaviour has important implications for determining the length of criminal involvement and the nature of the crimes committed. It is believed that delinquency in adolescence can reflect a normative process whereby a youth is influenced by their peers and engages in order to gain status and legitimacy. Conversely, beginning offending-like behaviours early in life is influenced by neuropsychological variations and a criminogenic environment, and it is believed to be continuously engaged in throughout life. Applying this theoretical framework to the

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evaluation of offending behaviours within a sample of crossover youth is a context this theory has never been applied to before and has important implications for the trajectory of offending.

The provision of services for youths who situationally and temporarily engage in delinquency and crime may be different from those youths who have displayed a pattern of offending behaviours since early childhood. One goal of this research is to contribute to the knowledge of early identification of adolescents who are most likely to offend throughout their life. An association between the experience of maltreatment, the development of PTSD, and a persistent trajectory of offending would signify the need for trauma-informed interventions for this particular subset of youth, with the potential of not only alleviating the negative mental health sequelae following maltreatment, but also contributing to the reduction or cessation of delinquency and offending. To achieve this aim, the current study's research questions are: do crossover youth with and without PTSD differ on their gender, the characteristics of their maltreatment, mental health problems, and substance use? Does the presence or absence of PTSD in crossover youth relate to persistent or limited offending? Can gender, characteristics of maltreatment, mental health problems, substance use, and/or age of onset of offending behaviours predict PTSD in a sample of crossover youth?

From the theoretical frameworks of Developmental Traumatology and Moffitt's (1993) Dual Taxonomy of Antisocial Behaviour, and the literature reviewed, some hypotheses are made for the subset of youth who developed PTSD following their maltreatment experience: (a) they will more likely be female; (b) they will have experienced multitype abuse, including the experience of sexual victimization; (c) they

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will have comorbid psychiatric diagnoses, particularly anxiety and depression; and (e) they will engage in substance use to a larger degree than their non-PTSD counterparts. Furthermore, it is hypothesized that a PTSD diagnosis in this crossover youth sample will be related to an earlier age of onset of antisocial behaviour, thus suggesting a continued path of delinquency and criminality. Lastly, it is hypothesized that the aforementioned factors will aid in the prediction of PTSD.

Method

Participants

Participants in the present study were 299 young offenders between 12 and 23 years of age[1]. These youths have been referred for a court-ordered assessment at an urban-based court clinic in a large southwestern Ontario community between the years 2010 and 2016. The youth were referred by a youth court judge as outlined in Section 34 of the *Youth Criminal Justice Act*. The intention of this psychological assessment is to generate recommendations that may be used throughout the court proceedings. Out of the 299 young offenders, 84.3% (n = 252) had a current or past child welfare system involvement, rendering them the designation of crossover youth.

[1] While youth are more likely to be seen at the LFCC who are between the ages of 12-18 years, certain youth over the age of 18 years can still appear in youth court if the date of their offense was prior to their 18th birthday

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Measures

File-Based Data

At the court clinic, files were created on each youth and family who were referred for assessment. The source of data for this study was the youth's immensely detailed file. The information contained in the file includes an intake form, psychological assessment, risk assessment, and information from outside agencies. This information has come from multiple sources; self, parent, agency, school, and medical- and psychological-based reports. Thus, the file serves as both primary and secondary sources of information. The majority of the information for the current study was found within two sources of data; the intake form and the clinical findings report. The intake form is completed by a youth's parent or guardian, and when completed, provides information regarding social relationships, past court involvement, school history, developmental history, presenting problem, and family/parental history. The clinical findings report is completed by clinicians employed at the urban-based court clinic and is a detailed report on a number of areas in the youth's life, including school history, psychological history, family life, and current and past court charges. These reports were informed from a variety of sources and were used with the intake form to ensure the most accurate depiction of the youth's past and current circumstances.

DRI

A Data Retrieval Instrument (DRI) was created as a guide to extract information from the files (see Appendix A). The DRI reflects all relevant information to be drawn from the clinical file including: charges/court involvement, social behaviours/peer

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relationships, agency involvement, family life, developmental history, parental history, mental health status, and presenting problem(s), for example. Variables in the DRI are dichotomous, polychotomous, and continuous.

Procedure

Inter-Rater Reliability

Two researchers working on independent projects reviewed the files from the court clinic for the 2016 year. In order to determine consistency in the coding of the files, inter-rater reliability was completed. Three files were selected and both researchers independently reviewed the files. Using the DRI, the researchers extracted pertinent information from the files which was the inserted into a data analysis program, the *Statistical Package for the Social Sciences* (SPSS). The two researchers decided on 10 variables within the DRI, selecting a range of dichotomous, polychotomous, and continuous variables. The level of agreement on these ten items was 86.67%.

Data Collection

This study was a descriptive field study using archival data. Ethical approval was not necessary because the research used secondary data (see Appendix B for the letter from the Research Ethics Board). Before data collection began, the two researchers involved in the research process obtained a Vulnerable Sector Police Record Check and signed a Confidentiality Agreement at the court clinic. Once this process insuring confidentiality was completed, along with inter-rater reliability, case files of consenting youth referred to the court clinic in 2016 were reviewed. The DRI was used to draw

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information from the files which was then put into an SPSS dataset file. As part of a broader and larger study, case files from 2010 to 2015 were already reviewed. Both review processes used the same DRI manual. All the cases over the six-year period were used in the current study. The demographic statistics for justice involved youth from 2010 to 2016 is presented in Table 1. Table 2 contains information pertaining to offending behaviour and involvement in the YJS. As the current study will focus on the subset of youth who crossed over from the CWS to the YJS, a breakdown of CWS involvement for male and female crossover youth is presented in Table 3.

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Table 1

Descriptive Statistics for Youth Involved in the Justice System

Variable	Crossover (*n* = 252) *n* (%)	Non-crossover (*n* = 47) *n* (%)	Overall (*n* = 299) *n* (%)
Age (years)	15.83	16.66	15.96
Gender			
Males	198 (78.6)	44 (93.6)	242 (80.9)
Females	51 (20.2)	2 (4.3)	53 (17.7)
Ethnicity			
Euro-Canadian	47 (18.7)	7 (14.9)	54 (18.1)
Native-Canadian	19 (7.6)	4 (8.5)	23 (7.7)
African-Canadian	6 (2.4)	1 (2.1)	7 (2.3)
Asian-Canadian	2 (0.8)	1 (0)	2 (0.7)
Hispanic-Canadian	6 (2.4)	1 (2.1)	7 (2.3)
Mixed Ethnicity	7 (2.8)	1 (2.1)	8 (2.7)
Not Stated	164 (65.3)	33 (70.2)	197 (66.1)
Currently Living			
Parents	93 (37.3)	29 (61.7)	122 (41.2)
Group Home	47 (18.9)	4 (8.5)	51 (17.2)
Foster Home	15 (6.0)	0 (0)	15 (5.1)
Homeless	1 (0.4)	0 (0)	1 (0.3)
Detention	59 (23.7)	10 (21.3)	69 (23.3)
Independent	6 (2.4)	1 (2.1)	7 (2.4)
Relatives Home	24 (9.6)	2 (4.3)	26 (8.8)
Shelter	3 (1.2)	1 (2.1)	4 (1.4)
Psychiatric Facility	1 (0.4)	0 (0)	1 (0.3)
Number of Moves			
Zero to Two	32 (14.3)	17 (36.9)	49 (18.3)
Three to Four	52 (23.3)	16 (34.8)	68 (25.3)
Five to Nine	91 (40.8)	6 (13.0)	97 (36.1)
Ten or More	39 (17.5)	5 (10.9)	44 (16.4)

Note: Not all percentages will add up to 100% in some cases due to missing data

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Table 2

Offender Statistics for Youth Involved in the Justice System

Variable	Crossover (n = 252)		Non-crossover (n = 47)		Overall (n = 299)	
	n (%)		n (%)		n (%)	
Time Involved in YJS						
< than a Year	117 (47.4)		25 (53.2)		142 (48.3)	
> than a Year	51 (20.6)		11 (23.4)		62 (21.1)	
> than Two Years	34 (13.8)		6 (12.8)		40 (13.6)	
> than Three Years	43 (17.4)		4 (8.5)		47 (16.0)	
First Charge						
Yes	97 (38.5)		21 (44.7)		118 (39.5)	
No	155 (61.5)		26 (55.3)		181 (60.5)	
Type of Offence						
Administration	126 (50.0)		22 (46.8)		148 (49.5)	
Property	127 (50.4)		25 (53.2)		152 (50.8)	
Violent	120 (47.6)		15 (31.9)		135 (45.2)	
Weapon	44 (17.5)		8 (17.0)		52 (17.4)	
Sex	27 (10.7)		6 (12.8)		33 (11.0)	
Disorderly	5.2 (5.2)		3 (6.4)		16 (5.4)	
Conduct						
Drug	11 (4.4)		4 (8.5)		15 (5.0)	
	M	*SD*	*M*	*SD*	*M*	*SD*
YJS History						
Charges	7.26	7.61	5.94	6.02	7.05	7.39
Guilty Charges	2.83	5.95	1.47	3.39	2.61	5.63
Police Involvement	25.72	25.84	14.09	13.66	23.71	24.55

Note: Not all percentages will add up to 100% in some cases due to missing data

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Table 3

CWS Involvement for Male and Female Crossover Youth

Agency	Male (n = 198) n (%)	Female (n = 51) n (%)
Counselling	30 (15.2)	10 (19.6)
Community Supervision	80 (40.6)	15 (29.4)
Temporary Care Agreement	49 (24.9)	18 (35.3)
Crown Ward Status	35 (17.7)	13 (25.5)
Kinship Care Arrangement	19 (9.6)	3 (5.9)
Adoption through CAS	12 (6.1)	3 (5.9)

Note: Not all percentages will add up to 100% in some cases due to missing data and small number of youth identifying as transgender and unsure of their gender.

Age and gender. The average age of participants was 15.96 years (SD = 1.48). Of these youths, 80.9% (n = 242) identified as male, 17.7% (n = 53) identified as female, 1.0% (n = 3) identified as transgender, and one responded that they were unsure of their gender.

Ethnicity. The majority of the files on the justice involved youth did not include information on their ethnicity (66.1%; n = 197). For those files that did include ethnicity information, the majority were Euro-Canadian (18.1%; n = 54). This was followed by Native-Canadian (7.7% n = 23), Mixed Ethnicity (2.7%; n = 8), African-Canadian (2.3%; n = 7), Hispanic-Canadian (2.3%; n = 7), and Asian-Canadian (0.7%; n = 2).

Living Arrangements. There were a variety of living arrangements for the justice involved youth at the time of referral. The largest portion resided with their parents (41.2%; n = 122), followed by a detention centre (23.3%; n = 69), group home (17.2%; n = 51), a relative's home (8.8%; n = 26), foster home (5.1%, n = 15), independently living

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(2.4%; *n* = 7), a shelter (1.4%, *n* = 4), homeless (0.3%, *n* = 1), and a psychiatric facility (0.3%, *n* = 1). For a majority of the youth their legal guardian was a biological parent (74.3%; *n* = 220). When looking at the number of moves in the youths' history, 36.1% (*n* = 97) had moved five to nine times, 25.3% (*n* = 68) had moved three to four times, 18.3% (*n* = 49) moved zero to two times, and 16.4% (*n* = 44) moved ten or more times.

Offending History. A large portion of the youth had previous charges (60.5%; *n* = 181), while 39.5% (*n* = 118) entered the youth justice system for the first time. For the time involved in the justice system prior to the current charge, 48.3% (*n* = 142) had been involved less than a year, while 21.1% (*n* = 62) were involved for more than a year, 16.0% (*n* = 47) more than three years, and 13.6% (*n* = 40) more than two years. The number of charges in a youth's YJS history ranged from 1 to 65 (*M* = 7.05, *SD* = 7.39) and the number of guilty charges ranged none to 65 (*M* = 2.61, *SD* = 5.63). The number of police involvements ranged from none to 182 (*M* = 23.71, *SD* = 24.55).

Offences were categorized into seven groups: administration, property, violent, weapon, sex, disorderly conduct, and drug. Administration offences include failure to comply, failure to attend, breach of probation, and truancy. Property offences include theft under $5,000, theft over $5,000, mischief, attempted theft, robbery, fraud, break and enter, fire setting, possession over $5,000, and possession under $5,000. Violent offences include uttering death or harm threat, assault causing harm, uttering threat of bodily harm, general assault, murder in the first degree, murder in the second degree, and assault with a weapon. A weapon offence is the charge of possession of a weapon for a dangerous purpose. Sex offences include sexual assault, sexual interference, and prostitution. Disorderly conduct offences include loitering, causing a disturbance,

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stalking, and obstructing police. Drug offences include possession of illegal substance and substance abuse trafficking. Many youth coming to the court clinic for an assessment had more than one type of offence. Half of the participants currently had a property offence (50.8%, n = 152). Furthermore, 49.5% (n = 148), had an administration offence, 45.2% (n = 135) had a violent offence, 17.4% (n = 52) had a weapon offence, 11.0% (n = 33) had a sex offence, 5.4% (n = 16) had a disorderly conduct offence, and 5.0% (n = 15) had a drug offence.

Child Welfare Involvement. Of the 299 justice involved youth referred for assessment at the court clinic between the years 2010 and 2016, 252 (84.3%) were crossover youth, meaning they had past CWS involvement. The CWS involvement that was most common for females was a temporary care agreement (35.3%, n = 18), followed by community supervision (29.4%, n = 15), crown ward status (25.5%; n = 13), counselling (19.6%, n = 10), placement in a kinship care arrangement (5.9%, n = 3), and adoption through Children's Aid Society (CAS; 5.9%; n = 3). For males, the most frequent CWS involvement differed from the female crossover youth. Males were most often receiving community supervision (40.6%, n = 80), and this was followed by a temporary care agreement (24.9%, n = 24.9), crown ward status (17.5%, n = 35), counselling (15.2%, n = 30), kinship care arrangement (9.6%, n = 19), and adoption through CAS (6.1%, n = 12).

Results

The analyses for the current study focused on the potential development of PTSD following childhood maltreatment in a sample of justice involved youth. The study aimed

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to better understand the role of a number of factors in differentiating maltreatment victims who do and do not experience PTSD in a sample of crossover youth. Specifically, analysis focused on the potential degree to which gender, trauma characteristics, mental health problems, and substance abuse differentiate maltreatment groups who do and do not report symptoms consistent with PTSD. The study also examined whether crossover youth with PTSD differed from their non-PTSD counterparts in regards to the age at which they began their offending-like behaviours.

In the evaluation of the potential relationship between PTSD and a number of factors, multiple hypotheses were tested. Multiple testing frequency increases the probability of obtaining a significant result due to chance, thereby holding the potential of committing a Type I error. To protect against the possibility of statistical error, the current study calculated a Bonferroni Correction that generated an adjusted confidence interval of .0025, as there was 20 individual hypothesis tested.

PTSD and Trauma

Having a trauma history was classified as having a history of any of the following types of maltreatment: physical, emotional/psychological, sexual, and/or witnessing domestic violence. Seventy-eight percent (n = 232) of justice involved youth in the sample had a substantiated case of maltreatment, with the average number of maltreatment types being 2.3 (SD = 1.03). Of the 242 male participants, 75.0% (n = 180) had experienced at least one form of maltreatment, with the average being 2.19 (SD = .96). Of the 52 female participants, 92.3% (n = 48) had a history of maltreatment and the

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average number of maltreatment types was 2.69 (*SD* = 1.15). Table 4 provides a summary of the types of maltreatment.

Table 4

Types of Maltreatment Experienced by Crossover Youth

	Male (*N* = 180)	Female (*N* = 48)	Total Sample (*N* = 232)
Maltreatment Type	*N* (%)	*N* (%)	*N* (%)
Physical	115 (64.6)	34 (73.9)	151 (67.0)
Emotional/Psychological	127 (70.6)	40 (83.3)	170 (73.3)
Sexual	31 (17.2)	22 (47.8)	55 (23.9)
Witnessing domestic violence	122 (69.7)	33 (70.2)	158 (69.9)

Clinically Diagnosed PTSD. The current study examined the relationship between a diagnosis of PTSD and a history of trauma. Of the 64 justice involved youth without a trauma history, none had a diagnosis of PTSD. For the 232 youth who experienced some form of maltreatment, 9.9% (N = 23) had a formal diagnosis of PTSD.

PTSD Diagnosis and Associated Symptoms. A chi-square test was performed to examine the potential association between symptoms or a diagnosis of PTSD and a trauma history. Not all youth who come into contact with the YJS will have had access to a psychiatrist for a formal assessment for a diagnosis of PTSD, even if their symptomatology meets the clinical threshold. Symptoms of PTSD include the following: re-experiencing aspects of the trauma, increased arousal, emotional numbness, and avoidance. The presence of these symptoms were identified and documented by the psychologist during the course of completing the Section 34 Assessment. Thus, the incorporation of PTSD symptoms, in the absence of a formal clinical diagnosis, was used

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to reflect the potential of a posttraumatic stress response following maltreatment. There was a significant association between these variables, X^2 (1, N = 296) = 14.21, p < .001. A diagnosis of PTSD or symptoms consistent with PTSD was more often associated with a trauma history than the absence of such history.

PTSD and Gender

Clinically Diagnosed PTSD. The current study examined the relationship between a diagnosis of PTSD and gender. Of the 232 crossover youth, 23 had received a diagnosis of PTSD following their trauma experience. Thirteen of these youths identified as male (56.5%), eight (34.8%) as female, and two (8.7%) as transgender. Of the 209 crossover youth without the diagnosis of PTSD, 167 (79.9%) identified as male, 40 (19.1%) female, one (0.5%) transgender, and one (0.5%) said they were unsure.

PTSD Diagnosis and Associated Symptoms. The present study evaluated the association between PTSD diagnosis or symptoms and gender. Sixty-two crossover youth either had a diagnosis of PTSD or had the presence of PTSD symptoms. Of these youth, 40 (64.5%) identified as male, 20 (32.3%) as female, and two (3.2%) as transgender. Of the 232 crossover youth, 170 did not experience any PTSD symptoms or had a diagnosis. One-hundred and forty of these youth (82.4%) identified as male, while 28 (16.5%) identified as female, one (0.6%) as transgender, and one (0.6%) said they were unsure.

PTSD and the Nature of Maltreatment

Clinically Diagnosed PTSD and Sexual Abuse. The current study examined whether the presence of sexual abuse, in isolation or in combination with other forms of abuse, was related to the development of PTSD for crossover youth. A chi-square test

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was performed to examine the relationship between these two variables. Results revealed a significant association between a PTSD diagnosis and a history of sexual abuse, X^2 (1, N = 232) = 11.44, p < .001. Crossover youth who developed PTSD following their maltreatment were more likely to have a maltreatment history consisting of sexual abuse in comparison to a maltreatment history without sexual abuse.

PTSD Diagnosis and Associated Symptoms and Sexual Abuse. A chi-square test examined the relationship between a diagnosis and symptoms associated with PTSD and a maltreatment history consisting of sexual abuse. Results revealed a significant association, X^2 (1, N = 232) = 28.50, p < .001. Crossover youth with symptoms or a diagnosis consistent with PTSD were more likely to have a maltreatment history consisting of sexual abuse.

Clinically Diagnosed PTSD and the Number of Maltreatment Types. An independent samples t-test was conducted to compare the number of maltreatment types experienced by crossover youth with PTSD and those without. As predicted, a significant difference was found between the number of maltreatment types for crossover youth with PTSD (M = 3.17, SD = .83) and crossover youth without PTSD (M = 2.21, SD = 1.01), $t(29.54) = 5.14$, $p < .001$. These results suggest a relationship exists between the number of maltreatment types experienced and a diagnosis of PTSD. Specifically, the results imply that a trauma history characterized by multiple maltreatment types is associated with PTSD.

PTSD Diagnosis and Associated Symptoms and Number of Maltreatment Types. An independent samples t-test compared the number of maltreatment types

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experienced by crossover youth with symptoms or a diagnosis of PTSD and those without. A significant difference was found between the number of maltreatment types for crossover youth with a posttraumatic stress response ($M = 2.92$, $SD = .93$) and crossover youth without such diagnosis or symptoms ($M = 2.08$, $SD = .98$), $t(230) = 5.86$, $p < .001$. These results suggest that a diagnosis of PTSD or experiencing the associated symptoms is related to the number of maltreatment types. Specifically, having suffered more kinds of maltreatment is associated with experiencing PTSD symptoms or receiving a diagnosis.

PTSD and Mental Health

Clinically Diagnosed PTSD and Depression. Of the 23 crossover youth diagnosed with PTSD, nine youth (39.1%) also had a diagnosis of depression, while the remaining 14 (60.9%) did not. For the 209 crossover youth without a PTSD diagnosis, 25 (12.0%) had a diagnosis of depression while 184 (88.0%) did not.

Clinically Diagnosed PTSD and Depression Diagnosis and Associated Symptoms. The current study examined the association between clinically diagnosed PTSD and depression diagnosis or associated symptoms in a sample of crossover youth. Not all youth who come into contact with the YJS will have access to a psychiatrist to assess the potential presence of a diagnosis of depression, even if their symptomatology meets the clinical threshold. Thus, the incorporation of depressive symptoms was included to more fully reflect depressive symptomatology for justice involved youth who also have a trauma history. A chi-square test examined the relationship between PTSD and depression (diagnosis and symptoms). Results reflected a significant relationship

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between these variables, X^2 (1, N = 232) = 23.42, $p < .001$. Findings revealed that youth diagnosed with PTSD more often had depressive symptoms or a diagnosis of depression compared to the absence of this mental health problem.

PTSD Diagnosis and Associated Symptoms and a Depression Diagnosis. A chi-square test evaluated the relationship between the presence of PTSD symptoms or diagnosis and a diagnosis of depression. Results revealed there is no association between these variables, X^2 (1, N = 232) = 6.16, $p = .013$.

PTSD Diagnosis and Associated Symptoms and Depression Diagnosis and Associated Symptoms. A chi-square test was conducted to evaluate the relationship between PTSD (symptoms or diagnosis) and depression (symptoms or diagnosis). Results revealed a significant relationship between these two variables, X^2(1, N = 232) = 10.03, $p < .0025$. Crossover youth with symptoms or diagnosis of PTSD were more likely to have depressive symptoms or diagnosis.

Clinically Diagnosed PTSD and an Anxiety Diagnosis. Of the 23 crossover youth diagnosed with PTSD, nine (39.1%) also had a diagnosis of anxiety, while the remaining 14 (60.9%) did not. For the 209 crossover youth without a diagnosis of PTSD, 38 (18.2%) had a diagnosis of anxiety, while the remaining 171 (81.8%) did not.

Clinically Diagnosed PTSD and Anxiety Diagnosis and Associated Symptoms. A chi-square test examined the relationship between a diagnosis of PTSD and a diagnosis of anxiety disorder or associated symptoms. Results revealed an absence of association between these variables, X^2 (1, N = 232) = 1.98, $p = .16$.

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PTSD Diagnosis and Associated Symptoms and an Anxiety Diagnosis. A chi-square test examined the relationship between symptoms or diagnosis of PTSD and a diagnosis of anxiety. Results revealed an absence of association between these variables, X^2 (1, N = 232) = .03, p = .87.

PTSD Diagnosis and Associated Symptoms and Anxiety Diagnosis and Associated Symptoms. A chi-square test examined the relationship between PTSD (symptoms or diagnosis) and anxiety (symptoms or diagnosis). Results revealed an absence of association between these variables, X^2 (1, N = 232) = .90, p = .34.

PTSD and Substance Use

Clinically Diagnosed PTSD. Of the 23 crossover youth diagnosed with PTSD, 20 (87.0%) had engaged in substance use either previously, currently, or had prior and current use. For the 209 youth without PTSD, 165 crossover youth (78.9%) engaged in substance use (prior, current, or prior and current), while the remaining 44 (21.1%) had no evidence of substance use.

PTSD Diagnosed and Associated Symptoms. A chi-square test was performed to examine the relationship between PTSD (diagnosis or symptoms) and substance use (prior, current, or prior and current). Results revealed an absence of relationship between these variables, X^2 (1, N = 232) = .04, p = .84.

PTSD and Age of Onset of Offending Behaviours

Clinically Diagnosed PTSD. A chi-square test was conducted to evaluate the relationship between PTSD and age of onset of offending-like behaviours (i.e., before 12

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years of age vs. after 12 years of age). Results revealed an absence of association between these two variables, $X^2(1, N = 231) = 3.97, p = .046$.

PTSD Diagnosis and Associated Symptoms. A chi-square test was performed to examine the relationship between PTSD (diagnosis or symptoms) and age of onset of offending behaviours (i.e., before 12 years of age vs. after 12 years of age). Results revealed an absence of a relationship between these variables, X^2 $(1, N = 231) = .458, p = .498$.

Factors Impacting PTSD

Prediction of Clinically Diagnosed PTSD. A logistic regression analysis was conducted to predict a diagnosis of PTSD following maltreatment for 232 crossover youth using gender, the presence of sexual abuse, number of maltreatment types, diagnosis of depression, diagnosis of anxiety, substance use, and age of onset of offending-like behaviours as predictors. A test of the full model against a constant only model was statistically significant, indicating that the predictors as a set reliably distinguished between crossover youth with a diagnosis of PTSD from those without, X^2 $(7, N = 232) = 29.55, p < .001$.

Nagelkerke's R^2 of .265 and Cox and Snell's R^2 of .122 indicates that between 12.2 and 26.5% of the variation in PTSD diagnosis can be explained by the model in block 1. The overall correct classification rate of PTSD remained at 90.7%, but the correct classification of a crossover youth having PTSD increased by the current model. The Wald criterion demonstrated that only the number of maltreatment types ($p > .01$) made a significant contribution to PTSD prediction. Substance use, age of onset of

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offending-like behaviours, depression diagnosis, anxiety diagnosis, gender, and presence of sexual abuse were not significant predictors. Exp(*B*) value indicates that when the number of maltreatment types increases by one unit (i.e., one abuse type) the odds ratio is 3.02 times as large, meaning that having a diagnosis of PTSD is 3.02 times more likely with every abuse type experienced.

Prediction of PTSD Diagnosis and Associated Symptoms. A logistic regression analysis was conducted to predict the diagnosis of PTSD or associated symptoms following a trauma history for 232 crossover youth using gender, the presence of sexual abuse, number of maltreatment types, diagnosis of depression, diagnosis of anxiety, substance use, and age of onset of offending-like behaviours as predictors. A test of the full model against a constant only model was statistically significant, indicating that the predictors as a set reliably distinguished between crossover youth with a diagnosis of PTSD from those without, X^2 (7, N = 232) = 38.93, $p < .001$.

Nagelkerke's R^2 of .231 and Cox and Snell's R^2 of .158 indicates that between 15.8 and 23.1% of the variation in PTSD symptoms or diagnosis can be explained by the model in block 1. The overall correct classification rate of PTSD increased by 3.1% to 77.1%. The Wald criterion demonstrated that the number of maltreatment types ($p > .01$) and the presence of sexual abuse ($p > .05$) made a significant contribution to PTSD prediction. Substance use, age of onset of offending-like behaviours, depression diagnosis, anxiety diagnosis, and gender were not significant predictors. Odds ratio for sexual abuse indicates that the presence of sexual abuse increases the likelihood of having symptoms or a diagnosis of PTSD by 2.4. Exp(*B*) value indicates that when the number of maltreatment types increases by one unit (i.e., one abuse type) the odds ratio is

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1.93 times as large, meaning that crossover youth are 1.93 times more likely to have a diagnosis of PTSD or associated symptoms with every maltreatment type experienced.

Summary of Major Findings

The current study examined the relationship between PTSD and a number of factors. There were two sets of analyses conducted; the first reflected the role of clinical diagnosis of PTSD and the second included posttraumatic stress symptoms that may or may not have met diagnostic requirements. Results indicated that clinically diagnosed PTSD was significantly associated with a history of sexual abuse, a diagnosis and/or symptoms of depression, and multiple maltreatment types. For crossover youth experiencing symptoms associated with PTSD, results revealed that these symptoms occurred more often for youth who had a trauma history and when a sexual abuse history was present. Furthermore, a diagnosis of PTSD or associated symptoms was associated with multiple types of maltreatment and the presence of a diagnosis of depression or associated symptoms. In the prediction of clinically diagnosed PTSD, the factor that contributed most significantly was the number of maltreatment types experienced. Lastly, in the prediction of a diagnosis of PTSD or associated symptoms, the number of maltreatment types and presence of sexual abuse most significantly contributed.

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Table 5

Summary of Findings

Relationship Tested	X^2	*t*	*p*
Clinically diagnosed PTSD			
Sexual abuse	11.44		< .001
Number of maltreatment types		5.14	< .001
Depression diagnosis and symptoms	23.42		< .001
Anxiety diagnosis and symptoms	1.98		*ns*
Age of onset of offending behaviours	3.97		*ns*
PTSD symptoms and diagnosis			
Trauma	14.21		< .001
Sexual abuse	28.50		< .001
Number of maltreatment types		5.86	< .001
Depression diagnosis	6.16		*ns*
Depression diagnosis and symptoms	10.03		< .0025
Anxiety diagnosis	.03		*ns*
Anxiety diagnosis and symptoms	.90		*ns*
Substance use	.04		*ns*
Age of offending behaviours	3.97		*ns*

Note: presented in the table are only hypotheses where statistical analyses were performed. There were cases where chi-square was not performed due to the violation of assumptions, and thus not included in the summary of findings.

Discussion

The current study examined the development of PTSD following childhood maltreatment in a sample of justice involved youth. More specifically, it evaluated the association between PTSD and gender, nature of maltreatment, mental health problems, substance use, and the age of onset of offending-like behaviour. Additionally, it examined the ability of these factors to predict the development of PTSD following childhood trauma. Two hundred and ninety-nine young offenders referred to the court clinic for a Section 34 assessment under the YCJA were included in this study. Extensive information was collected on the youth, but the data that was particularly relevant and

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analyzed for the current research was in regards to demographic information, psychological history, family and social life, current and past court charges, and involvement in the CWS. Of the youth involved in the court clinic due to contact with the YJS, an overwhelming majority (84.3%) had been involved in the CWS prior to the YJS, and over three-quarters (78.4%) had a documented history of at least one type of maltreatment.

Relevance to Previous Research

The interest in crossover youth that has emerged recently recognizes the large portion of justice involved youth who were previously or currently involved with the CWS, the vast majority of whom are for reasons related to childhood maltreatment. Childhood abuse and neglect is just one of the many traumas that can increase the risk of developing PTSD. Therefore, with a youth justice sample who have experienced various traumas, it is important to understand factors that relate to PTSD and its prediction.

The current study evaluated several factors related to PTSD in the context of previous literature (e.g., Breslau et al., 2000; De Bellis, 2002; Moffitt, 1993; Moore et al., 2013; Schneider et al., 2007; Widom, 1999), but extended the application to crossover youth. Findings from the current study should inform clinical and policy practices while working with crossover youth, particularly those with a diagnosis of PTSD, as their needs may be different from other justice-involved youth without a CWS or maltreatment history.

PTSD and Gender. Although statistical analysis could not be performed as a result of a small sample size, evaluating the proportion of males and females who

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developed PTSD following their trauma can provide meaningful insight to the potential relationship between gender and PTSD. As mentioned previously, females have been found to be more likely to develop PTSD after experiencing trauma (e.g., Breslau, 2009). Moore and colleagues (2013) replicated this finding with young offenders. Descriptive data from the current study suggests this may have been supported in the context of crossover youth if the sample was larger. This is based on the finding of the higher proportion of females diagnosed with PTSD compared to males. Of the 180 youth identified as male, 7.2% (n = 13) were diagnosed with PTSD, and of the 48 youth identified as female, 16.7% (n = 8) were diagnosed with PTSD. This gender disparity was also present in youth who experienced posttraumatic stress symptoms as identified through psychological testing. Of the 180 male-identified youth, 22.2% (n = 40) experienced symptoms, while 41.7% (n = 20) of the 48 female-identified youth experienced symptoms. Although being female has been identified as a factor heightening the risk for PTSD, this has not been evaluated in a crossover youth sample to our knowledge. This relationship warrants further attention with a larger sample size, although the descriptive results of the current study suggest this may be confirmatory.

PTSD and Characteristics of the Trauma. Consistent with previous literature (e.g., Wilson & Scarpa, 2014), results revealed that crossover youth diagnosed with PTSD or experienced associated symptoms were more likely to have experienced sexual abuse. The relationship between childhood sexual abuse and PTSD extends beyond adolescence. Sexual abuse in childhood, whether experienced in isolation or in combination with other forms of abuse, has been found to be associated with PTSD in adulthood (Hetzel & McCanna, 2005). This suggests that providing appropriate services

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and treatment following childhood sexual victimization has the potential to not only alleviate posttraumatic stress symptoms in the short-term, but also the long-term.

The current study evaluated whether there was a difference in the number of maltreatment types experienced between crossover youth with PTSD and related symptoms and those without. The results supported those cited in the literature, that experiencing more maltreatment types is associated with increased risk of diagnosis and symptoms of PTSD (Schneider et al., 2007). More specifically, the current study found that crossover youth diagnosed with PTSD had experienced significantly more maltreatment types than youth without such a diagnosis. These findings were mirrored for crossover youth experiencing posttraumatic stress symptomatology. The mean number of maltreatment types experienced by youth with a PTSD diagnosis was approximately three, which approximated those with posttraumatic stress symptomatology ($M = 3.17$ vs. $M = 2.92$). This is in line with previous evaluations that have found that a significant contributor in the development of PTSD is the experience of three or more kinds of childhood maltreatment (Moore et al., 2013).

PTSD and Mental Health Problems. Consistent with the hypotheses and previous literature (e.g., Linning & Kearney, 2004), the analyses including depressive symptoms and formal diagnosis was significantly related to PTSD diagnosis and symptoms. Maltreated youth at the clinical threshold for a diagnosis of PTSD have been found to have more diagnoses of depression compared to those maltreated youths without PTSD (Linning & Kearney, 2004). The current study extended these findings to a sample of crossover youth.

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Contrary to the hypothesis, the analysis of the association of PTSD diagnosis or associated symptoms and a formal diagnosis of depression was not significant. A potential explanation for this finding is that crossover youth in this sample who had symptoms related to PTSD were not at the clinical threshold for diagnosis. The relationship between depression and PTSD that has been supported in the literature has included maltreated youth meeting the diagnostic criteria for a diagnosis of PTSD. For example, the maltreated youth included in Linning and Kearney's (2004) evaluation met diagnostic criteria for PTSD, and those with a diagnosis of PTSD were more likely to be diagnosed with depression.

Symptoms of PTSD have been found to be prevalent following the experience of childhood maltreatment. In a sample of foster children exposed to neglect and physical abuse, Oswald, Fegert, and Goldbeck (2010) found that symptoms of re-experiencing and hyperarousal were significantly greater in youth with maltreatment histories. This suggests that symptoms related to PTSD may be common following the experience of maltreatment, but will not necessarily meet the clinical threshold for a diagnosis. Our analysis including both diagnosis and symptoms of PTSD may not be an accurate representation of maltreatment victims suffering from PTSD. Therefore, the absence of a relationship found with depression may be a result of the more lenient criteria used which included symptoms below diagnostic threshold.

Contrary to the hypotheses, no relationship was found between anxiety and PTSD when both symptoms and diagnosis were included. Due to the small sample size, the analysis of a formal diagnosis of PTSD and a formal diagnosis of anxiety was not completed. Previous literature has supported this relationship (e.g., Linning & Kearney,

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2004). Maltreated youth who were diagnosed with PTSD following maltreatment were found to be more likely to also be diagnosed with anxiety disorder (Linning & Kearney, 2004). Future research utilizing a larger sample should evaluate the relationship between PTSD and anxiety disorder within a crossover sample to determine if this relationship is supported.

A potential explanation of the findings that no relationship existed between PTSD and anxiety diagnosis and/or symptoms is that symptoms of anxiety are prevalent in a crossover youth sample. These youths are facing charges before the court and have previously experienced some form of maltreatment, both of which are anxiety provoking situations. For crossover youth with a diagnosis of PTSD or symptoms, 55.7% ($N = 34$) also suffer from anxiety symptoms. This is similar to the proportion of anxiety symptoms experienced by crossover youth ($N = 118$, 51.3%) and justice-involved youth at the court clinic ($N = 153$, 51.7%). Thus, the lack of relationship that was found in the current analysis could be related to the prevalence of anxiety symptoms in crossover youth.

PTSD and Substance Abuse. Developmental traumatology asserted that there is a heightened vulnerability for substance use in adolescence as a result of dysregulation in the biological stress response systems (De Bellis, 2002). Dysregulation is related to subsequent psychiatric disorders, including PTSD. The presence of these disorders and symptoms may lead to substance use in order to self-medicate (De Bellis, 2002). Despite this, the current study found no relationship between substance use and PTSD. One potential explanation for this finding is that self-medicating with substances was used for other psychiatric disorders. As mentioned above, symptoms of anxiety were prevalent in the crossover youth, regardless of PTSD. The use of substances to self-medicate anxiety

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symptoms, and/or other psychiatric symptoms, may have been common for crossover youth. This is supported by the research linking substance use with anxiety and other psychiatric disorders, and high rates of substance use with crossover youth (De Bellis, 2002; Herz, Ryan, & Bilchik, 2010).

Findings from the current study support the finding of high rates of substance use in crossover youth; 80.1% of crossover youth in this sample had prior use, current use, or both prior and current use. Seventy-seven point three percent of crossover youth with a diagnosis or symptoms of PTSD had substance use involvement, which is similar to the 77.8% of all justice-involved youth at the court clinic. From these descriptive statistics it appears as though previous and/or current substance use is high for the whole sample. Future research would benefit from evaluating this heightened vulnerability for substance use in a crossover youth sample.

PTSD and Age of Onset of Offending Behaviours. Previous research has identified difficult temperament and antisocial behaviour in childhood as two factors that increase the risk of developing PTSD (Koenen et al., 2007. According to Moffitt (1993), individuals who behave antisocially early in life (i.e., before the age of 12) are likely to continue engaging in a pattern of antisocial behaviour throughout the lifespan. Findings from those two studies suggest that adolescents who develop PTSD following maltreatment may represent a group of offenders who begin this pattern of behaviour prior to 12 years of age. Contrary to this hypothesis, the current analysis found that there is no association between PTSD and age of onset of offending behaviours. It is important to note however, that the relationship between a diagnosis of PTSD and age of onset of offending behaviours could have been statistically significant if fewer comparisons were

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evaluated and the Bonferroni correction was not applied. Although results of this study cannot determine whether this is a Type I error or a true relationship, future research should evaluate this further to obtain information on the presence or absence of an association.

The association of age of onset of offending behaviours and PTSD diagnosis or associated symptoms was not significant. It could be that the presence of PTSD symptoms as indicated through psychological testing is not an accurate indicator of youth suffering from PTSD. Posttraumatic stress symptoms in the current study were operationalized as the presence or absence of any symptoms. But experiencing a symptom in one of the symptom clusters does not represent the range of difficulties associated with PTSD. As a result, this could be a contributing factor as to why a formal diagnosis could have been significantly associated with age of onset of offending behaviours but PTSD diagnosis and/or symptoms was not.

Prediction of PTSD. The current study evaluated the aforementioned factors' ability to predict a diagnosis of PTSD following maltreatment. These analyses were exploratory in nature. The current study found that all factors as a set were able to aid in the prediction of clinically diagnosed PTSD, although the factor that contributed most significantly was the number of maltreatment types experienced. The likelihood of developing PTSD was found to increase when more types of abuse were experienced, which is consistent with previous literature (e.g., Schneider et al., 2007). In the prediction of a diagnosis of PTSD or associated symptoms, the current study found that the number of maltreatment types experienced and the presence of sexual abuse significantly contributed to the prediction. This suggests that sexual abuse, when experienced with

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multiple other forms of maltreatment, is more likely to result in a diagnosis of PTSD or related symptoms.

These findings are consistent with previous literature. Following abused and neglected children into adulthood, Widom (1999) evaluated the extent to which the relationship between childhood maltreatment and PTSD was a result of other risk factors. Particular individual, family, and lifestyle factors have been associated with childhood maltreatment and an increased risk of PTSD development (e.g., parents with alcohol and drug problems, large families, early behaviour problems, substance abuse problems). When these other factors were considered, Widom (1999) found that the experience of childhood maltreatment continued to significantly contribute to the prediction of PTSD, despite these covariates. When considering specific types of victimization, sexual abuse remained highly significant when including other risk factors (Widom, 1999).

Risk factors in the current study were different from those included in Widom's (1999) analysis, besides adolescent substance abuse, and several of these factors were highly prevalent in the overall crossover youth sample (e.g., anxiety symptoms, substance use). Thus, their ability to predict the development of PTSD would be low. This suggests that crossover youth with PTSD and those without may be similar in some ways, such as level of substance use, and anxiety and depressive symptoms, but they differ in terms of the abuse they experienced. Results from the current study suggest that a more severe maltreatment history (i.e., more types and sexual abuse) is most related to subsequent posttraumatic stress problems.

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Clinical Relevance

Results from the current study have potential to inform the practice of clinicians in order to improve the services offered to justice-involved youth. At this urban-based court clinic, 84.3% (*n* = 252) of the youth had a prior history with the CWS and 78.4% (*n* = 232) had a specified maltreatment history. This highlights the fact that many youth coming into contact with the YJS have previous or current involvement with the CWS and/or experienced maltreatment. The justice system needs to be adjusted in order to accommodate crossover youth and the presence of a trauma history. A trauma informed system is one that understands, recognizes, and responds to the effects of trauma (Child Welfare Committee, 2013). The justice system would be better equipped to respond to the individuals it serves if this perspective was adopted.

Currently, there are certain practices in juvenile detention and other residential settings (e.g., group homes) that are potentially re-traumatizing for children and youth (Child Welfare Committee, 2013). For example, seclusion could be traumatizing, especially if the youth had been neglected, restraint could also be traumatizing, particularly so for youth with a physical abuse history. Some other potentially traumatizing practices include routine room confinement, strip searches and pat-downs, witnessing physical altercations, and separation from family and community (Child Welfare Committee, 2013). Systems serving children and youth should be designed to help them recover from trauma, not provide them with triggers to impede this process. With the high prevalence of trauma found in this study's sample of justice-involved youth, which is consistent with other research (e.g., Abram, Teplin, Charles, Longworht,

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McClelland, & Dulcan, 2004), it would be favorable to adopt a trauma-informed approach and use trauma-informed practices with these youths.

As there is a high prevalence of youth known to both the child welfare and youth justice systems, we need to implement change that better address these youths and their needs. One way would be to use "two-hatter" judges, which are those who have a wealth of knowledge of both systems – child welfare and youth justice and sit in both courts (Scully & Finlay, 2015). Knowing both systems allows one judge, the same judge, to identify unique needs and provide solutions across systems. Without knowledge of the children's issues and welfare experience, opportunities could be missed to put youth in connection with resources that have the potential to divert a matter or keep them out of detention (Scully & Finlay, 2015). Results from the current study highlight the importance of using "two-hatter" judges.

Research has shown that female offenders differ significantly from male offenders in terms of their crime trajectories and personal histories (Belknap, 2001). Findings from this study suggest that one of the factors that is more prevalent in female offenders' personal history is maltreatment. When looking at all justice-involved youth at this court clinic, 78.4% (n = 232) have a history of maltreatment. When this is differentiated by gender, it appears that females more often have experienced abuse; 90.6% (n = 48) relative to males, 74.4% (n = 180). Thus, it is important that clinicians be aware of the likely trauma history young offenders have, especially females. It could be beneficial for clinicians to utilize services and programs that are specifically designed for females, as their unique needs are often overlooked in standard programs and services. It has been found that when women's particular needs and issues are a focus in addiction treatment,

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better results are found than when they receive traditional programs (Grella, 1999; Nelson-Zlupko, Dore, Kauffman & Kalterbach, 1996). Thus, selecting programs that are sensitive to the needs to female offenders could be most effective.

What should be taken into consideration while working with youth involved in the justice system is the nature of their maltreatment. This study found that the number of maltreatment types experienced and the presence of sexual abuse significantly contributed to the prediction of posttraumatic stress. Thus, when working with crossover youth, it is of value to be cognizant of whether they are a victim of sexual abuse and the number of maltreatment types that are present in their life histories, as this is a potential indicator of more severe mental health problems, particularly PTSD. These findings also have applicability to the CWS. If a youth entered into the care of the welfare system due to maltreatment within the home, attention should be given to the types of abuse they experienced. From here, individualized services could be provided which may act as a preventative tool from later mental health difficulties, perhaps even justice involvement.

Policy Relevance

The current study looked at several mental health outcomes following maltreatment in a sample of justice-involved youth; PTSD, depression, and anxiety. Symptoms and formal diagnoses of these disorders were present more often in the current sample relative to the general adolescent population. There is little current data on rates of PTSD in Canadian samples. Addressing this issue, Van Ameringen, Mancini, Patterson, and Boyle (2008) conducted an epidemiological study that found the current

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one-month rate was 2.4%. Within our sample of crossover youth, 9.9% had a current diagnosis of PTSD, almost four times higher than that of the general population.

This is echoed with depression and anxiety disorders as well. In Canada, results from the 2012 Canadian Community Health Survey – Mental Health (CCHS – MH) found that in the past year 4.7% Canadians aged 15 years of age and older were diagnosed with depression (Pearson, Janz, & Ali, 2013). In the current sample of crossover youth, 14.7% had a diagnosis of depression. The 2012 CCHS – MH found that 2.6% of respondents had an anxiety diagnosis, which is almost eight times lower than that of the current sample; 20.3% of crossover youth at this urban-based court clinic had a diagnosis of anxiety.

With rates of mental health difficulties seemingly higher than the general population, addressing the presence of these issues in the YJS would be beneficial. Some youth seen at this court clinic have proceeded through a specialized Court; the Youth Therapeutic Court (YTC). This Court recognizes the potential presence of mental health issues and takes this into consideration during the assessment and sentencing process. Findings from the current study suggest that high rates of youth coming into the YJS have mental health difficulties, and it is likely that going through the YTC would result in better outcomes for the youth than the formal Youth Court System as it takes more of a holistic approach, recognizing the existence and contribution of external challenges. Thus, the use of the YTC for youth coming into contact with the justice system should be utilized frequently, if not always, in order to properly address the full range of the youth's needs.

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Findings from the current study highlighted the predominant child welfare involvement in young offenders; 84.3% (n = 252) of justice-involved youth in this sample had current or previous involvement. The CWS would have pertinent information on the child that may be unknown to the YJS. Thus, collaboration between these systems would help to foster a complete understanding of the young person. Collaboration between agencies and service systems assisting the youth is a key component of a trauma-informed system (Child Welfare Committee, 2013). But it is not just collaboration between YJS and CWS, it includes collaboration with any other agency that has been involved with the young person. Furthermore, a partnership with the young person should also be established. Incorporating their voice in plans and decisions made about them helps us move away from a punitive and rigid approach to one that is more collaborative and understanding.

Limitations

Although findings from this study have meaningful implications for the field, it is not without limitations. The overall sample of justice-involved youth in the study was 299, and the number of crossover youth in this sample was 252. Despite being large, an increased sample size would have been beneficial as the study focused on PTSD, which has a low base rate. Thus, the sample of crossover youth with PTSD was relatively small (n = 23). For six of the analyses, assumptions of the analyses were violated and hence not carried out. Increasing the overall sample size would increase statistical power, thus raising the ability to detect an effect if it is present.

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With the focus on crossover youth, this study may not be representative of the broader population of youth involved with the justice system. Crossover youth are a distinct subgroup of the youth justice population. Thus, findings from this study might not be applicable to the broader justice-involved population. Furthermore, the larger sample of justice-involved youth at the court clinic used in this study were youth ordered by the Court to have a Section 34 assessment done under the YCJA. A Section 34 assessment yields a psychological report completed by a clinician at the court clinic which takes into account other factors besides the young person's offence. Compared to young persons who are not ordered to receive this assessment, those youths with Section 34 assessments completed may be different on a number of factors (e.g., more severe mental health problems, trauma history, developmental delays). Therefore, it is possible that the sample of justice-involved youth in this sample are not fully representative of all youth that come into contact with the justice system. Potential questions of representativeness also apply to a rural population of crossover youth and young offenders. This study was completed at an urban-based court clinic and findings from this may not apply to those from rural communities. Further attention to the questions raised in this study in various contexts will provide an understanding of the potential differences in crossover or justice-involved youth depending on some nuances (i.e., Section 34 assessment vs. no assessment, urban vs. rural).

Our sample was not equal in its gender distribution; it was predominantly male (80.8%, n = 242). Although this study would have benefited from the inclusion of more females, the justice system is typically male dominated. For example, in 2005 Statistics Canada found that males aged 12 and older accounted for 79% of persons accused of a

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criminal offence (Kong & AuCoin, 2008). Therefore, despite the lack of an even gender distribution in the sample, the sample appears to be consistent with the distribution of gender in the justice system. An additional limitation relates to the study's methodology, specifically the use of file-based data. Although there can be many benefits to using secondary data, evidentially the data is only as good as the information initially recorded. Lastly, although the inter-rater reliability between researchers in this study was high, 86.67%, it wasn't 100%. Despite several of these limitations, findings from the current study have meaningful implications for our work with crossover youth and future research.

Future Directions

Findings from the current study highlight several areas for future research. This study not only focused on a formal diagnosis of PTSD but also included symptoms of PTSD. This was done to be more inclusive and fully reflect those maltreated youth suffering from posttraumatic stress. It was postulated that some youth may not have had the opportunity to receive a formal diagnosis of PTSD, despite having the symptom profile. Several significant associations were found for both a formal diagnosis of PTSD and for PTSD and associated symptoms. This suggests that the inclusion of symptoms related to a disorder may be representative of a symptom profile at the diagnostic threshold. Future research could benefit from not only looking at mental health diagnoses, but also the presence of related symptoms.

Furthermore, when looking at traumatic stress following childhood abuse it would be advantageous of future research to include disorders and symptom presentations

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beyond PTSD. Although victims of child maltreatment display posttraumatic stress symptoms, their clinical profile has been found to be more complex than that outlined in the diagnosis of PTSD. Jonkman, Verlinden, Bolle, Boer, and Lindauer (2013) found that the criteria for PTSD more accurately reflects the subsequent outcome of a single traumatic event than the outcome of child maltreatment. Those children who experienced a single traumatic incident had their traumatic stress symptomatology confined to a clinical diagnosis of PTSD, while those children who experienced maltreatment displayed symptoms that were both related and unrelated to trauma (Jonkman et al., 2013). Thus, children who experience interpersonal violence in the context of their caregiving systems do not have their symptoms adequately reflected in a diagnosis of PTSD (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). Complex Traumatic Stress Disorder (CTSD) is believed by some to more effectively characterize the experience of victims who have faced prolonged and chronic victimization reflected in a loss or absence of control, disempowerment, and in inability to escape the victimization (van der Kolk et al., 2005). Thus, when research focuses on children who have experienced long-term maltreatment, applying CTSD may result in a more accurate picture of the psychiatric outcomes following the experience of victimization.

With the Bonferroni correction applied, two analyses were not supported but their significance level suggests the possibility of relationship. This is clinically meaningful as it highlights the need for further research into the area. This is particularly true for the age of onset of offending behaviours as Moffitt’s (1993) framework has not previously been applied to a sample of crossover youth, or those with PTSD. The importance of applying the theory of life-course-persistent and adolescent-limited offending to a sample of

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justice-involved youth is it could potentially imply which offenders are going to desist when adolescence is over and those that will persist. This could have implications for the nature of treatment provided to these young persons. Future research in this area would be beneficial. Furthermore, replication of current findings is needed as the relationships evaluated in this study in the context of crossover youth is novel.

As this evaluation of crossover youth is amongst the earliest studies, more research is needed in this area. Findings from this study demonstrate the large portion of crossover youth in the justice system, which is supported by other studies (e.g., Bala et al., 2015). More work is needed to understand what it is we need to be mindful of when working with these youths. With previous or current involvement with CWS, some of these youth may have been removed from the home or had decisions made for them that seemed out of their control. Conducting research that includes the voice of these youth would be particularly impactful as it would give them a sense of agency and control, something that is often lost with these youths. Thus, more qualitative research with crossover youth would be a great step moving forward.

More research is needed into learning about the pathways from the CWS to the YJS. Having a better understanding of this trajectory will help with intervention and prevention efforts. Furthermore, it would be beneficial to look at youth involved with the CWS who act out, but are not formally charged and involved with the justice system. Of course not all offending-like behaviour gets reported, thus some youth who don't cross between systems may have similar offending-like behaviours as those who did cross into the YJS. Furthermore, even youth who do have contact with police may not be subsequently charged or processed in the YJS. This is due to the principles and objectives

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of the *Youth Criminal Justice Act (YCJA)*, aiming to divert youth away from our formal youth justice court system. Demonstrating this, in 2014 it was found that 48% of youth accused of crime were actually charged by police (Allen & Superle, 2016). Future research should look at differences between these two groups of youth – delinquent youth in the CWS who enter YJS and delinquent youth in the CWS who do *not* enter the YJS.

Moreover, research should investigate what it is that protects some CAS involved youth from involvement in the justice system – does it have to do with parents/caregivers, quality of care, services they receive, resiliency? If it has to do with services, then this highlights a need to replicate these services and offer them to all maltreated/CWS involved youth. If it is resiliency, then perhaps efforts could be made to promote resiliency within this population – for example, more school-based programs that have components fostering resiliency. If we understand more of what keeps youth from the justice system, even after being in care of the CWS and experiencing early childhood adversity, then we can try and utilize this information to keep more youth from turning to a life of offending.

Summary

Notwithstanding the aforesaid limitations to the current study, the findings of this study are unique in that they contribute to our understanding of crossover youth, bringing attention to several factors related to PTSD following maltreatment. A diagnosis of PTSD was related to the nature of the maltreatment history. More specifically, a diagnosis was related to a greater likelihood of experiencing sexual abuse and multiple forms of maltreatment. Clinically diagnosed PTSD was also related to having a diagnosis of

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depression or related symptoms. These associations were also found for a diagnosis of PTSD and the inclusion of associated symptoms. The relationship between PTSD and age of onset of offending behaviours was clinically meaningful, although not significant. Findings suggested a relationship may exist; crossover youth with a diagnosis of PTSD as more likely to have begun their offending behaviours before the age of 12. This implies that those who may persist in the justice system longer are also suffering from PTSD related to early childhood trauma. This can have potential implications for the way we respond and treat these youth, ultimately influencing a life free of offending.

Results from the current study indicated that a diagnosis of PTSD and associated symptoms can be reliably predicted in a sample of crossover youth. Out of the factors included in the current analyses, the number of maltreatment types was the largest contributor in the prediction of clinically diagnosed PTSD, and the number of maltreatment types and sexual abuse were the largest contributors in the prediction of diagnosed PTSD and symptoms. This highlights the clinical relevance of the nature of maltreatment. When youth enter the care of the CWS with substantiated claims of maltreatment, attention needs to be given to the number of abuse types experienced and the presence of sexual abuse, as this indicates an increased likelihood to develop PTSD.

An important finding of the current study relates to the proportion of crossover youth in the justice system. The nearly 85% and 75% of justice-involved youth in this sample with a child welfare history and substantiated cases of maltreatment demonstrates not only the relationship between maltreatment and offending, but also the depth of the crossover issue. This study highlights the need to address the impact of early

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interpersonal trauma and experiences of being in care, especially if we want to lessen the amount of youth behaving antisocially and entering into the justice system.

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Appendices

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Appendix A – Data Retrieval at the London Family Court Clinic: Poverty Reduction Project

AGENCY INFORMATION - A

1. **ID – ID Number** [Numerical] (Var: 0000000)
2. **YrAss – Date Information was received:**
   [year] (Var: 2010; 2011; 2012; 2013; 2014; 2015; 2016; 2017; 2018; 2019; 2020)

IDENTIFYING INFORMATION - B

3. **Age – Age at time of assessment** [Numerical 00-99]
4. **Gender - at the Time of the Assessment – Gender**
   [1= male; 2=female, 3=unidentified; 4=transsexual; 5=intersex; 6=Unsure]
5. **SexOrien - Sexual Orientation at the Time of the Assessment–**
   [1=Heterosexual; 2=Homosexual; 3=Bi-Sexual; 4=Queer; 5=Pan Sexual; 6=Asexual; 7=Questioning; 8=Unidentified; 9=Not Stated]
6. **Preg - Pregnant?** [1=Past; 2=Current; 3=No; 4=N/A]
7. **Geo – Originates from Urban or Rural Area** [1=Urban; 2=Rural]
8. **Home – Currently living** [1=Parents; 2=Group Home; 3=Foster Home; 4=Homeless; 5=Detention; 6=Independent; 7=Relative's Home; 8 =Shelter]
9. **Lang – First Language** [1=English; 2=French; 3=Spanish; 4=Arabic 5=Farsi; 6=Chinese; 7=Polish; 8=Portuguese; 9=German; 10=Italian; 11=Korean; 12=Dutch; 13=Greek; 14=Other]
10. **Relig – Religion** [1= Non-religious; 2=Roman Catholicism; 3=Christian; 4=Islam; 5=Hinduism; 6=Mennonite; 7=Buddhism; 8=Indigenous Faith 9=Other; 10=Not Stated]
11. **Ethnicity –** [1= Euro-Canadian (Caucasian); 2= Native-Canadian; 3= Black/African; 4= Asian-Canadian; 5= Hispanic-Canadian; 6= Mixed Ethnicity; 7= Other; 8= Not Stated]
12. **Native – Native Heritage** [1=Aboriginal; 2=Metis; 3=Inuit; 4=Other; 5=N/A; 6=Not Stated]
13. **LegBio – Is legal guardian biological parent?** [1=Yes; 2=No]
14. **YEmploy - Youth employed?** [1=Yes; 2=No]
15. **YHomeless - Youth Ever Been Homeless?** [1=Yes; 2=No]

CHARGES AND COURT INVOLVMENT - C

Present Charge (type) – Most serious offense at the time of referral:

16. PCtheftu - Theft under 5,000.00 [1=Yes; 2=No]
17. PCthefto - Theft Over 5,000.00 [1=Yes; 2=No]
18. PCfailtocom - Failure to Comply [1=Yes; 2=No]
19. PCfailAtt - Failure to Attend Court [1=Yes; 2=No]
20. PCbreach - Breach of Probation [1=Yes; 2=No]
21. PCdt - Uttering a Death/Harm Threat [1=Yes; 2=No]
22. PCSexA - Sexual Assault [1=Yes; 2=No]
23. PCSexInt – Sexual Interference [1=Yes; 2=No]
24. PCLoit - Loitering [1=Yes; 2=No]
25. PCAssBH - Assault Causing Bodily Harm [1=Yes; 2=No]
26. PCMisch - Mischief [1=Yes; 2=No]

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27. PCAttThe - Attempt Theft [1=Yes; 2=No]
28. PCObstPol - Obstructing Police [1=Yes; 2=No]
29. PCPossWep - Possession of a Weapon for a Dangerous Purpose [1=Yes; 2=No]
30. PCCauDist- Causing Disturbance [1=Yes; 2=No]
31. PCUttThr - Uttering a Threat to Cause Bodily Harm [1=Yes; 2=No]
32. PCPossIS - Possession of an Illegal substance [1=Yes; 2=No]
33. PCSubAbT - Sub Ab Trafficking [1=Yes; 2=No]
34. PCProst - Prostitution [1=Yes; 2=No]
35. PCGenAss - General Assault [1=Yes; 2=No]
36. PCFirstMur - First Degree Murder [1=Yes; 2=No]
37. PCSecoMur - Second Degree Murder [1=Yes; 2=No]
38. PCAssWea - Assault with a Weapon [1=Yes; 2=No]
39. PCTruanc - Truancy [1=Yes; 2=No]
40. PCFireSett - Fire Setting [1=Yes; 2=No]
41. PCStalking - Stalking [1=Yes; 2=No]
42. PCRobbery - Robbery [1=Yes; 2=No]
43. PCFraud - Fraud [1=Yes; 2=No]
44. PCPosUn – Possession Under $5000 [1=Yes; 2=No]
45. PCPosOv – Possession Over $5000 [1=Yes; 2=No]
46. PCBreak – Breaking and Entering [1=Yes; 2=No]
47. PCOther – Other charge [1=Yes; 2=No]

Aggressive Offense against (Hands-on offenses only):

48. OffFam- family member [1=Yes; 2=No]

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49. OffFriend – friend [1=Yes; 2=No]

50. OffAcqu – acquaintance [1=Yes; 2=No]
51. OffStran – stranger [1=Yes; 2=No]
52. OffAuth- Authority [1=Yes; 2=No]
53. OffFos-Foster family member [1=Yes; 2=No]
54. OffGroup - Group Home resident [1=Yes; 2=No]

55. **CoOrLone - Co-offender or Lone offender for Current charge** [1=Co-offender; 2=Lone Offender]
56. **YouthResp - Youth's response to charge** [1=Evidence of Remorse; 2=Indifferent; 3=Defensive; 4=Denying Culpability; 5=Pride; 6=Blame the Victim; 7=No Response]
57. **ParResp - Parents response to** charge [1=Disappointed; 2=Indifferent; 3= Blame others; 4=Defensive; 5=Minimizing; 6=Threatened; 7= No Response]
58. **FirstChar - First charge** [1=Yes; 2=No]
59. **NumChar - How many previous and current charges?** [Numerical - 00-999]
60. **NumGuilt - Number of Previous and Current findings of guilt?** [Numerical - 00-999]
61. **PrevCoLone – Previous and current pattern of CJH suggests** [1=Co-offender; 2= Lone offender; 3=Both Co and Lone Offender; 4=N/A]
62. **InvolPol – Number of involvements with police** [Numerical 00-999]
63. **YrsYJS – Length of time involved in the YJS?**

    [1= <1 year; 2= >1 Year; 3= >2 years; 4= >3 years]

Previous Experience in YJS:

64. PrevAltMes - Alternative Measures [1=Yes; 2=No]

65. PrevComServ - Community Service Order [1=Yes; 2=No]
66. PrevProb - Probation [1=Yes; 2=No]
67. PrevCus - Custody [1=Yes; 2=No]
68. YTC - Mental Health Court [1=Yes; 2=No]
69. Det - Detention [1=Yes; 2=No]

Previous Placement in YJS:
70. PrevOpenD - Open Detention [1=Yes; 2=No]
71. PrevSecD - Secure Detention [1=Yes; 2=No]
72. PrevOpenC - Open Custody [1=Yes; 2=No]
73. PrevSecC - Secure Custody [1=Yes; 2=No]
74. YrsDet – Months spent in detention [Numerical 0-99]

SCHOOL HISTORY - D

75. School – Registered in school [1=Yes; 2=No]

76. **Grade – Present grade** [Numerical 00-12]
77. **CredsCom – High school, how many credits completed** [Numerical 00-99]

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78. **AttSchool – Does youth attend school** [1=Yes; 2=No]
79. **AbSchool – If no, why**?
    [1=Negative attitudes towards school; 2= Family Circumstances; 3= Suspended; 4=Family Not Encouraged 5= Psychological issues; 6= Other; 7=N/A]
80. **FailGr – Failed a grade** [1=Yes; 2=No]
81. **ReasFail – Reasons why failed?** [1= Not attending school; 2= Intellectual Disability; 3=Incomplete Work; 4=Transition; 5= Other; 6=N/A]
82. **AcadAss – Ever formally assessed academically** [1=Yes; 2=No]
83. **Excep – Identified as exceptional** [1=Yes; 2=No]

If yes to above was it:

84. **Gifted - Giftedness** [1=Yes; 2=No]
85. **LearnDis - Learning Disability** [1=Yes; 2=No]
86. **DevDis - Developmental** [1=Yes; 2=No]
87. **Behav - Behavioural** [1=Yes; 2=No]
88. **SpecEd – Special education program or specialized help?** [1=Yes; 2=No]
89. **SpecHelp – If so, describe (homework group, etc.)**

    [1= IEP; 2= homework group; 3= tutor; 4= EA; 5= N/A]
90. **SchoDif – Do you find school difficult** [1=Yes; 2 =No; 3 = Sometimes]
91. **WhySchoDif – If so, why?**
    [1= Intellectual Disability; 2= Trouble with Peers; 3= Difficulty with authority; 4=No Interest; 5= History of being Bullied; 6= Other; 7= School Hard; 8= N/A]
92. **NumSchAtt – Number of schools attended since kindergarten?**
    [Numerical 00-99]
93. **WhyNumSch – Primary reason for school changes?**
    [1= Family Moves; 2=Expelled; 3= Problems with Peers; 4=Victim of Bullying; 5=Involvement in Justice System, 6=Trauma; 7=N/A]
94. **DifTeach – Difficulty with teachers?** [1=Yes; 2=No]
95. **Suspend – Ever been suspended** [1=Yes; 2=No]

SOCIAL BEHAVIOURS / PEER RELATIONSHIPS – E

96. **Friend – Do you have friends?** [1=yes; 2=no]
97. **Older - Older friends** [1=yes; 2=no; 3 = N/A]
98. **Younger – Younger friends** [1=yes; 2=no; 3 = N/A]
99. **SameAge - Same age friends** [1=yes; 2=no; 3 = N/A]
100. **SameSex - Same sex friends** [1=yes; 2=no; 3 = N/A]
101. **OppSex - Opposite sex friends** [1=yes; 2=no; 3 = N/A]
102. **GoodInf- Good influence friends** [1=yes; 2=no; 3 = N/A]
103. **PoorInf- Poor influence friends** [1=yes; 2=no; 3 = N/A]
104. **IntPartner – Do they have an intimate partner** [1=yes; 2=no]
105. **LeadOrFoll – Youth a leader or follower?** [1=leader; 2=follower]
106. **SexConc – Concerns about sexual behaviour/attitudes?** [1=yes; 2=no]

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107. DesSexConc – Describe sexual concerns: [1=Prostitution; 2=Unprotected Sex; 3=Exposure to Pornography; 4=Inappropriate Sexualized Comments; 5=Sexual Preoccupation and Distress; 6=Promiscuity; 7= Other; 8= N/A]
108. OrganActi – Youth participates in organized activities? [1=yes; 2=no]
109. DesActNum – Describe activities: [Number of Activities] [00-99]
110. Hobbies – Hobbies or Interests? [1= yes; 2= no]
111. DesHobb – Describe Hobbies or Interests?
[1= Alone; 2= With Peers; 3=Family; 4=N/A]
112. FamTime – Spend time with family? [1= yes; 2=no]
113. DesFamTim – Describe family time?
[1= positive; 2=negative; 3=neutral; 4= N/A]
114. SocOfTies – Social ties outside family? [1=yes; 2=no]
115. KindOfTie – Social ties? [1= positive; 2= negative; 3= both; 4= N/A]
116. SibStatus - Sibling Status
[1= Youngest; 2= Eldest; 3= Middle Child; 4=Only Child]
117. SibAndLaw - Has sibling(s) been involved in the law [1=yes; 2=no; 3= N/A]
118. HalfSibLaw - Has half sibling(s) been involved in the law
[1=yes; 2=no; 3= N/A]

AGENCY INVOLVMENT – F

Ever involved with:
119. AgOut - Child/Youth Mental Health Agency (Outpatient) [1=Yes; 2=No]
120. AgIn - Child/Youth Mental Health Agency (Inpatient) [1=Yes; 2=No]
121. AgBoth- Child/Youth Mental Health Agency (In and Outpatient)
[1=Yes; 2=No]
122. AgProbatio - Previous Probation [1=Yes; 2=No]
123. AgDare - Project DARE [1=Yes; 2=No]
124. AgClinical - Clinical Supports Program [1=Yes; 2=No]
125. AgHosp - Hospital for mental health [1=Yes; 2=No]
126. AgGroup - Group Home [1=Yes; 2=No]
127. AgPolice - Police [1=Yes; 2=No]
128. AgChildWel – Child Welfare [1=Yes; 2=No]
129. AgAddict - Addiction Treatment Facility [1=Yes; 2=No]
130. AgDetent - Detention [1=Yes; 2=No]
131. AgComPsych – Community Psychiatrist [1=Yes; 2=No]
132. AgCommCouns – Community Counselling [1=Yes; 2=No]
133. AgDevDisabil – Developmental Disability Agency [1=Yes; 2=No]
134. AgResTSexD – Residential Treatment Sexual Disorder [1=Yes; 2=No]
135. Youth Treatment Court [1=Yes; 2=No]
136. CSCN – Community Services Coordination Network [1=Yes; 2=No]
137. AgTotalN [Numerical 00-99]

CHILD WELFARE SYSTEM INVOLVMENT – G

138. ChildWel - Child Welfare [1=Yes; 2=No]
If yes to Child welfare was it:

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139. CWelCouns – Counselling [1=Yes; 2=No; 3=N/A]
140. CWelComm - Community Supervision [1=Yes; 2=No; 3=N/A]
141. CWelTemp - Temporary Care Agreement [1=Yes; 2=No; 3=N/A]
142. CWelCrown - Crown Ward Status [1=Yes; 2=No; 3=N/A]
143. CWelKin - Kinship Care Arrangement [1=Yes; 2=No; 3=N/A]
144. AdoptCAS- Adoption through CAS [1=Yes; 2=No; 3=N/A]

FAMILY LIFE - H

145. FamCurLiv – Currently living with
[1 = mother; 2=father; 3=both; 4=common-law; 5=step mother; 6=step father; 7=Alone; 8=Extended Family Member; 9=Sibling; 10=N/A]
146. Moves – How many family moves since birth?

[1=1; 2=2; 3=3; 4=4; 5=5-9; 6=10>]

147. MoveThem – If more than 5, indicate theme?
[1= Occupation; 2= Economic; 3=Social Service transfer; 4= Removed from home; 5= Criminal Charges; 6=Evicted/Unsanitary; 7=Poor Housing Conditions; 8=Gang Influence; 9=Relationship Conflicts; 10=CAS Inter; 11=N/A]
148. Adopt – Adopted [1=Yes; 2=No]
149. Refugees - Refugee Status [1=Yes; 2=No]
150. FamVio - History of or current family violence [1=Yes; 2=No]
151. Shelter - Did family ever reside in a shelter [1=Yes; 2=No]
152. SeeViolen - Evidence of child being present at the time of partner violence [1=Yes; 2=No]
153. SexAbasPerp / Youth as Perpetrator - History of sexual abuse? [1= yes; 2=no]
154. SexAbasVict / Youth as Victim - History of sexual abuse? [1= yes; 2=no]
155. SexAbFam - sexual abuse intra- or extra-familial where youth is victim [1= intra; 2=extra; 3=both]
156. SexEx – Evidence of ever being sexually exploited/sex trade [1=Yes; 2=No]
157. Neglect - Evidence of neglect? [1=-yes; 2=no]
158. EmotTra - Evidence of emotional trauma [1=yes; 2=no]
159. PhysAbuse – Evidence of physical abuse? [1=yes; 2=no]
160. AgeConcern - Age at which parents first identified concern [Numerical 00-18]
161. PerOrLimOff - Persistent or limited offending (when did offending-like behaviours begin?) [1=persistent equal to or <12 age; 2=limited>age 12]

DEVELOPMENTAL HISTORY - I

162. DevStatus – Cognitive / Developmental Status [1= Low; 2= Moderate; 3= Severe; 4=Average Range; 5=Above Average; 6=N/A]

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163. SerChIll – Serious Childhood Illness [1= yes; 2=no]
164. SerChAcci – Serious Childhood Accidents [1= yes; 2=no]
165. HeadInj – Head Trauma / Injuries [1= yes; 2=no]
166. Hospital – Any Hospitalization [1= yes; 2=no]
If hospitalized, what for?
167. HospMental - Mental health reasons [1=Yes; 2=No]
168. HospPhys – Physical health reasons [1=Yes; 2=No]
169. HospBothMP – Both mental and physical health reasons [1=Yes; 2=No]
170. ComPregBir – Complications during pregnancy/birth of youth [1=Yes; 2=No]

MENTAL HEALTH STATUS INFORMATION - J

171. DiaFASD - Diagnosis of FASD [1=Yes; 2=No]
172. AgeFASD - If yes to FASD, at what age [Numerical 00-18]

Formal Psychiatric diagnoses:

173. ADHD [1=Yes; 2=No]

174. ODD [1=Yes; 2=No]
175. CD - Conduct Disorder [1=Yes; 2=No]
176. DiaAnxiety - Anxiety [1=Yes; 2=No]
177. DiaDepress - Depression [1=Yes; 2=No]
178. BPD - Bi Polar Disorder [1=Yes; 2=No]
179. PTSD [1=Yes; 2=No]
180. APD - Antisocial Personality Disorder [1=Yes; 2=No]
181. NARCISS - Narcissism [1=Yes; 2=No]
182. Psychosis [1=Yes; 2=No]
183. SleepCompl - Sleep Complaints [1=Yes; 2=No]
184. SchizoAff - Schizoaffective Disorder [1=Yes; 2=No]
185. DisrupMoodD - Disruptive Mood Dysregulation Disorder [1=Yes; 2=No]
186. TotDia - Total number of different diagnoses [Numerical 00-99]

Findings from Psychological Testing (Check as many as applicable – elevation noted in clinical report)

187. SocIn – Socially Inhibited [1=Yes; 2=No]

188. EmoIn – Emotionally Insecure [1=Yes; 2=No]

189. PWP – Problems with Peers [1=Yes; 2=No]

190. PsychAnx – Anxiety [1=Yes; 2=No]
191. PsychDep – Depression [1=Yes; 2=No]
192. SocAnx – Social Anxiety [1=Yes; 2=No]

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193. PoorSE – Poor Self Esteem [1=Yes; 2=No]
194. Suicide – Suicidal [1=Yes; 2=No]
195. Agg_Peers – Aggression towards peers [1=Yes; 2=No]
196. Agg_Adults – Aggression towards adults [1=Yes; 2=No]
197. Agg_Fam - Aggression towards family members [1=Yes; 2=No]
198. Agg_PA – Aggression towards peers and adults [1=Yes; 2=No]

199. Autism – Autism [1 = Low, 2 = Medium, 3 = High, 4 = None]

200. PsycPTSD – PTSD [1=Yes; 2=No]
201. Somatic – Somatic Complaints [1=Yes; 2=No]
202. CDTraum – Complex Developmental Trauma [1=Yes; 2=No]
203. PsychSubA - Substance Abuse [1=Yes; 2=No]
204. PreoccSexTh - Preoccupation with Sexual Thoughts [1=Yes; 2=No]
205. SocialInsens - Socially Insensitive [1=Yes; 2=No]
206. HomicIdea - Homicidal Ideation [1=Yes; 2=No]
207. PsychAPD - Antisocial Personality Disorder [1=Yes; 2=No]
208. PersonDis - Personality Disorder [1=Yes; 2=No]
209. SocioPTend - Sociopathic Tendencies [1=Yes; 2=No]
210. EatDisorder - Eating Disorder [1=Yes; 2=No]
211. NSSI-Non Suicidal Self Injury [1=Yes; 2=No]
212. Dysthymia - Dysthymia [1=Yes; 2=No]
213. SubInPsychD - Substance Induced Psychiatric Disorder [1 =Yes; 2=No]
214. AttachD - Attachment Disorder [1=Yes; 2=No]
215. AvoidPersD - APD-Avoidant Personality Disorder [1=Yes; 2=No]
216. BodyImageC - Body Image Concerns [1=Yes; 2=No]
217. Hypervigil – Hypervigilance [1=Yes; 2=No]
218. Apathy – Apathy [1=Yes; 2=No]
219. PsychTTotal – Total number of different psychological areas of concern
[Numerical 00-99]

220. MoodMed – Ever Prescribed Mood Alterant Medication [1=Yes; 2=No; 3=N/A]
If yes to mood alterant medication (current or past}, was it for:
221. MedADHD – ADHD [1=Yes; 2=No]
222. MedDep – Depression [1=Yes; 2=No]
223. MedAnx – Anxiety [1=Yes; 2=No]
224. MedBPD – Bi Polar Disorder [1=Yes; 2=No]
225. MedSD – Sleep Disorder [1=Yes; 2=No]
226. MedPsych – Psychosis [1=Yes; 2=No]
227. AgeofSym – Age when mental health symptoms were first identified
[Numerical 00-99]
228. AgeofDia – Age when first diagnosed with mental health disorder
[Numerical 00-99]

CAREGIVER HISTORY – J (Parent #1 – Most involved caregiver)

229. A_Relation – Relationship to youth
[1 = mother, 2= father, 3= Stepmother, 4 = Stepfather, 5 = foster mother, 6 = foster father, 7= grandparent, 8 = other family member, 9= other]
230. A_TeenPar – Teen Parent of the Child being Assessed

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[1 = Yes, 2 = No, 3 = N/A]

231. **A_TimeWCh – Length of time living with child (Years)** [Numerical 00-99]
232. **A_MarStat – Marital status** [1 = Married, 2 = Cohabiting 2 = Single]
233. **A_Divorce – Ever divorced** [1 = Yes, 2 = No]
234. **A_CEdu – Caregiver Education Completed** [1= None; 2= Elementary; 3= Highschool; 4 = Undergraduate; 5 = Above; 6= College]
235. **A_Employ – Caregiver Employed** [1=Yes; 2=No]
236. **A_Finance – Financial Support** [1 = EI, 2= OW, 3= ODSP, 4= Child Support]
237. **A_Youth - Financial support received by youth** [1 = EI, 2= OW, 3= ODSP, 4= Child Support]
238. **A_FreqInv – Frequency of Parental Involvement (Rated on scale of 1-5: 1=no-little involvement; 5= very involved)** [Numerical 1-5]
239. **A_DomVio – Domestic Violence** [1 = Yes, 2 = No]
240. **A_PhyAg – Physical Aggression** [1 = Yes 2 = No]
241. **A_VerbAg – Verbal aggression** [1 = Yes, 2= No]
242. **A_PolCall – Police being called** [1 = Yes, 2 = No]
243. **A_Crisis – Caregiver Personal Crises** [1 = Yes, 2 = No]

Was crisis a:

244. A_Death - Death [1 = Yes, 2 = No]
245. A_Sep - Separation [1 = Yes, 2 = No]
246. A_EmoIll - Emotional illness [1 = Yes, 2 = No]
247. A_PhysIll - Physical illness [1 = Yes, 2 = No]
248. A_Nerves - Problems with “nerves” [1 = Yes, 2 = No]
249. A_SubUse - Issues with drugs/alcohol [1 = Yes, 2 = No]
250. A_FinStra - Financial strain [1 = Yes, 2 = No]
251. A_Law - Conflict with the law [1 = Yes, 2 = No]
252. A_FamSep - Separation from family [1 = Yes, 2 = No]
253. A_MentalH – Presence of Mental Health History [1 = Yes, 2 = No]
254. A_FamMenH – Extended family mental health present [1 = Yes, 2 = No]
255. A_Med – Medications [1 = Yes, 2 = No]
256. A_Impact – Is it thought that crises has impacted youth? [1 = Yes, 2 = No]

CAREGIVER HISTORY – K (#2 – Second most involved caregiver)

257. **B_Relation - Relationship to youth** [1 = mother, 2= father, 3= Stepmother, 4 = Stepfather, 5 = foster mother, 6 = foster father, 7= grandparent, 8 = other family member, 9= other]
258. **B_TeenPar – Teen Parent of the Child being Assessed** [1 = Yes, 2 = No, 3 = NA]
259. **B_TimeWCh – Length of time living with child (Years)** [Numerical 00-99]
260. **B_MarStat – Marital** status [1 = Married, 2 = Cohabiting 3 = Single]
261. **B_Divorce – Ever divorced** [1 = Yes, 2 = No]
262. **B_CEdu – Caregiver Education Completed** [1 = None 2= Elementary, 3= Highschool 4 = Undergraduate 5 = Above; 6= College]
263. **B_Employ – Caregiver** Employmed [1=Yes; 2=No]
264. **B_Finance – Financial** Support [1 = EI, 2= OW, 3= ODSP, 4= Child Support]
265. **B_Youth - Financial support received by youth** [1 = EI, 2= OW, 3= ODSP, 4= Child Support]

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266. **B_FreqInv – Frequency of Parental Involvement - Rated on scale of 1-5: 1= no-little involvement; 5= very involved)** [Numerical 1-5]
267. **B_DomVio – Domestic Violence** [1 = Yes, 2 = No]
268. **B_PhyAg – Physical Aggression** [1 = Yes 2 = No]
269. **B_VerbAg – Verbal aggression** [1 = Yes, 2= No]
270. **B_PolCall – Police being called** [1 = Yes, 2 = No]

Caregiver Personal Crises:

271. **B_Death - Death** [1 = Yes, 2 = No]
272. **B_Sep - Separation** [1 = Yes, 2 = No]
273. **B_EmoIll - Emotional illness** [1 = Yes, 2 = No]
274. **B_PhysIll - Physical illness** [1 = Yes, 2 = No]
275. **B_Nerves - Problems with "nerves"** [1 = Yes, 2 = No]
276. **B_SubUse - Issues with drugs/alcohol** [1 = Yes, 2 = No]
277. **B_FinStra - Financial strain** [1 = Yes, 2 = No]
278. **B_Law - Conflict with the law** [1 = Yes, 2 = No]
279. **B_FamSep - Separation from family** [1 = Yes, 2 = No]
280. **B_MentalH –History of Mental Health Issues** [1 = Yes, 2 = No]
281. **B_FamMenH – Extended family mental health issues present** [1 = Yes, 2 = No]
282. **B_Med – Medications** [1 = Yes, 2 = No]
283. **B_Impact – Is it thought that caregiver crises have impacted youth?** [1 = Yes, 2 = No]

CAREGIVER HISTORY – L (*Absent or Noncustodial Parent*)

284. **C_Relation – Relationship to youth** [1 = mother, 2= father, 3= Stepmother, 4 = Stepfather, 5 = foster mother, 6 = foster father, 7= grandparent, 8 = other family member, 9= other, 10 = deceased parent]
285. **C_TeenP – Teen Parent of the Child being Assessed** [1 = Yes, 2 = No]
286. **C_MarStat – Marital status** [1 = Married, 2 = Cohabiting, 3 = Single]
287. **C_Edu – Caregiver Education Completed** [1 = None; 2= Elementary; 3= Highschool; 4 = Undergraduate; 5 = Above; 6= College]
288. **C_Employ – Caregiver Employment** [1 = Yes, 2 = No]
289. **C_Finance – Financial Support** [1 = EI, 2= OW, 3= ODSP, 4= Child Support]
290. **C_Impact – Crises of this parent thought to impact youth** [1 = Yes, 2 = No]
291. **C_MentalH – Presence or history of mental health issues** [1 = Yes, 2 = No]
292. **C_ConStop – Has contact stopped?** [1 = Yes, 2 = No]

PRESENTING PROBLEM LEADING TO THE LEGAL SYSTEM - M

Cause of Problem [Parent Perspective]:

293: MH – Mental health issues [1 = Yes, 2 = No]

294. Impuls - Impulsivity [1 = Yes, 2 = No]
295. DrugAlch - Drug and Alcohol [1 = Yes, 2 = No]
296. SexBeh - Inappropriate Sexual Behaviour [1 = Yes, 2 = No]
297. SchoInt - No interest in school [1 = Yes, 2 = No]
298. Neg_Peer - Negative Peers [1 = Yes, 2 = No]

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299. GangAct- Gang Activity [1 = Yes, 2 = No]
300. Account - Lack of Accountability [1 = Yes, 2 = No]
301. PSuper - Lack of Parental Supervision [1 = Yes, 2 = No]

What help parent(s) believe youth need:

302. Limits – Setting of limits (consequences) [1 = Yes, 2 = No]
303. Bound – Setting of boundaries [1 = Yes, 2 = No]
304. LawUnder - Clear understanding of the law [1 = Yes, 2 = No]
305. AggCons - Consequences for aggression [1 = Yes, 2 = No]
306. MH_Res - MH Residential Treatment [1 = Yes, 2 = No]
307. SubInter - Substance abuse interventions [1 = Yes, 2 = No]
308. Counsel - Ongoing Counselling [1 = Yes, 2 = No]
309. Mentor - Mentor [1 = Yes, 2 = No]
310. AppMed - Appropriate Medication [1 = Yes, 2 = No]
311. IDK - Doesn't know [1 = Yes, 2 = No]

Previous Unsuccessful Efforts:

312. PUEbadpeer - Staying Away from bad peers [1 = Yes, 2 = No]
313. PUEdrugs - Staying Away from Drugs [1 = Yes, 2 = No]
314. PUEcouns - Counselling [1 = Yes, 2 = No]
315. Drug – Drug Use [1 = Yes, 2 = No, 3=N/A]
316. Alch – Alcohol Use [1 = Yes, 2 = No]
317. Pyro – Fire Setting [1 = Yes, 2 = No]
318. Gang – Gang Activity [1 = Yes, 2 = No]
319. SexVict – Sexual Victimization [1 = Yes, 2 = No]
320. Bully – Bullying [1 = Yes, 2 = No]
321. EmoDist - Emotional Distress [1 = Yes, 2 = No]
322. Harm – Thoughts of Harming Self or Others
[1 = Self; 2 = Others; 3 = Self and Others; 4 = No]

<u>YOUNG OFFENDERS STRENGTHS - N</u>

323. StrenPhys - Physical [1 = Yes, 2 = No]
324. StrenSoc - Social /Interpersonal [1 = Yes, 2 = No]
325. StrenCog - Cognitive [1 = Yes, 2 = No]
326. StrenEmo - Emotional [1 = Yes, 2 = No]
327. StrenAcad - Academic [1 = Yes, 2 = No]
328. StrenProsoc - Prosocial Attitude/Behaviour [1 = Yes, 2 = No]
329. StrenPosAtt - Positive Attitude Towards Help Seeking [1 = Yes, 2 = No]
330. StrenOther - Other [1 = Yes, 2 = No]

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331. NumStren - Number of strength areas [Numerical 0-7]

ALCOHOL / SUBSTANCE USE INFORMATION - O

332. AlcAb – Is there the presence of alcohol abuse? [1= Prior Use; 2= Current Use; 3= Prior and Current Use; 4= No evidence of alcohol use]
333. SubA - Substance Use [1= Prior Use; 2= Current Use; 3= Prior and Current Use; 4= No evidence of substance use]

Drugs used:

334. Cannabis - Cannabis [1=Yes; 2=No]
335. Hash - Hashish [1=Yes; 2=No]
336. Cocaine - Cocaine [1=Yes; 2=No]
337. Meth - Methamphetamine [1=Yes; 2=No]
338. LSD - LSD [1=Yes; 2=No]
339. Heroine - Heroine [1=Yes; 2=No]
340. MDMA - MDMA [1=Yes; 2=No]
341. Steroids - Steroids [1=Yes; 2=No]
342. PresAbuse - Prescription Abuse [1=Yes; 2=No]
343. ntoxInhal - Intoxicative Inhalant [1=Yes; 2=No]
344. Oxy – Oxycodone(Oxtcontin) [1=Yes; 2=No]
345. TotDrugs - Total number of drugs used [Numerical 1-100]

RISK / NEED ASSESSMENT INFORMATION - P

346. RNA - Was there a RNA on file? [1=Yes; 2=No]
If yes to RNA complete the following:
347. RNAFam - Family Circumstance and Parenting [1= low; 2= med; 3=high; 4 = N/A]
348. RNAEd - Education [1= low; 2= med; 3=high; 4 = N/A]
349. RNAPRel - Peer Relations [1= low; 2= med; 3=high; 4 = N/A]
350. RNASubA - Substance abuse [1= low; 2= med; 3=high; 4 = N/A]
351. RNARec - Leisure / recreation [1= low; 2= med; 3=high; 4 = N/A]
352. RNAPer - Personality [1= low; 2= med; 3=high; 4 = N/A]
353. RNAAtt - Attitudes [1= low; 2= med; 3=high; 4 = N/A]
354. RNASum - Summary of RNA [1= low; 2= med; 3=high; 4 = N/A]
355. RNATotS – Total Risk Score [1= low; 2= med; 3=high; 4 = N/A]
Assessment of Other Needs from the RNA:
356. RNASigFamT - Significant family trauma [1=Yes; 2=No; 3=N/A]
357. RNALearnD - Presence of a Learning disability [1=Yes; 2=No; 3=N/A]
358. RNAVicNeg - Victim of Neglect [1=Yes; 2=No; 3=N/A]
359. RNADepress - Depression [1=Yes; 2=No; 3=N/A]

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360. RNAPSocSk - Poor Social Skills [1=Yes; 2=No; 3=N/A]
361. RNAHisSPAs - History of Sexual/Physical Assault [1=Yes; 2=No; 3=N/A]
362. RNAAsAuth - History of assault on authority figures [1=Yes; 2=No; 3=N/A]
363. RNAHisWeap - History of use of weapons [1=Yes; 2=No; 3=N/A]

364. CaseMAs - Case managers assessment of Overall Risk
[1 = Low, 2 = Moderate, 3 = High, 4 = Very High]
365. ClinOver - Was clinical override used [1=Yes; 2=No]
366. ClinOverRisk - If yes to clinical override was it

[1=Lower Risk; 2= Higher Risk; 3=N/A]

RECCOMMENDATIONS FROM ASSESSMENT - Q

367. Custody - Custody [1=Yes; 2=No]
368. CustType - If Custody was it.. [1= Secure; 2 = Open; 3 = No Custody]
369. CustDur - If Custody, how long? [1 = less than one week; 2 = one month; 3 = 2-6 months; 4 = 7-12 months; 5 = 12+ months; 6 = N/A]
370. Probation - Probation [1=Yes; 2=No]
371. ComServOrd - Community Service Order [1-Yes; 2= No]
372. OutPCoun - Outpatient Counselling [1=Yes; 2=No]
373. ResTreat – MH Residential Treatment [1=Yes; 2=No]
374. AddictTreat - Treatment for Addictions [1=outpatient; 2=residential; 3=No]
375. SexOffTreat-Treatment for Sex Offending [1=outpatient; 2=residential; 3=No]
376. PsychInt- Psychiatric Intervention [1=Yes; 2=No]
377. AttendCen- Attendance Centre [1=Yes; 2=No]
378. IIS - Intensive Intervention Service [IIS] [1=Yes; 2=No]
379. IRS – Intensive Reintegration Service [IRS] [1=Yes; 2=No]
380. IntHom- Intensive Home Based Intervention [1=Yes; 2=No]
381. AltSchProg- Alternative School Programming [1=Yes; 2=No]
382. ReinPlan - Reintegration Planning [1=Yes; 2=No]
383. IndigInt- Indigenous Based Intervention [1=Yes; 2=No]
384. MHCourt- Mental Health Court [1=Yes; 2=No]
385. FurtherAss-Further Specific Assessment [1=Yes; 2=No]
386. EquineT - Equine Therapy [1=Yes; 2=No]
387. FamCouns - Family Counselling [1=Yes; 2=No]
388. SupEmpOpp - Supporting Employment Opportunities [1=Yes; 2=No]

MENTAL HEALTH COURT INVOLVEMENT - R

389. MHCrt - Was youth's case heard in the Mental Health / Youth Treatment Court? [1=Yes; 2=No]

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Relevance of Mental Health in the Committal of the Offense(s):

390. **MHrelate - In the opinion of the assessor was the presence of a mental health disorder related to the committal of any of the youth's offenses**? [1=Directly Related; 2=Indirectly Related; 3=Not related]
391. **DirectRel - If directly related is it** [1=Medication; 2=Psychoses; 3=Intoxication at the time of the offense; 4=Offense linked to the specific nature of the Psychiatric Diagnoses; 5=Offense Pattern linked to Abuse History/Obtain Drugs; 6=N/A]
392. **HistLFCC - History with London Family Court Clinic Number of Assessments** [Numerical 00-99]

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Appendix B – Letter from the Research Ethics Board

Research Ethics

February 5, 2016

Dr. Alan Leschied
Professor, Faculty of Education
FEB 1108
Western University

Dear Dr. Leschied,

RE: Youth Justice and Poverty: Making Sense of a Complex Relationship

Thank you for submitting your project, "Youth Justice and Poverty: Making Sense of a Complex Relationship" to our office for review. Please note that after review by the delegated board members and the chair it was decided that this project does not require research ethics approval.

The Tri-Council Policy Statement 2: Ethical Conduct of Research Involving Humans Article 2.4 indicates "REB review is not required for research that relies exclusively on secondary use of anonymous information, or anonymous human biological materials, so long as the process of data linkage or recording or dissemination of results does not generate identifiable information". It is the chair's understanding that as the data will be de-identified when you receive it, your research falls under this guideline.

I wish you the best of luck with your work.

Most sincerely,

Grace Kelly,
Ethics Officer

Western University, Research, Support Services Bldg., Rm. 5150
London, ON, Canada N6G 1G9 t. 519.661.3036 f. 519.850.2466 www.uwo.ca/research/ethics

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Curriculum Vitae

Name:	Hailey Kolpin
Post-secondary Education and Degrees:	The University of Western Ontario London, Ontario, Canada 2010-2015 B.A.
	The University of Western Ontario London, Ontario, Canada 2016- 2018 M.A.
Honours and Awards:	Dean's Honor List 2011, 2012, 2014, 2015
	Queen Elizabeth Aiming for the Top Students Scholarship 2010, 2011, 2012, 2013
Related Work Experience	Graduate Student Research Assistant The University of Western Ontario 2017-Present
	Clinician Multidisciplinary Clinical Supports Program The London Family Court Clinic 2017-2018
	Co-Facilitator Merrymount Children's Centre 2017-2018
	Research Assistant Centre for Addiction and Mental Health 2014-2017

Publications:

Chiodo, D. & Kolpin, H. (*in press*). Maximizing the implementation of evidence-based school prevention programs: A review. In A. Leschied (Ed.), *The handbook of school-based mental health promotion: An evidence informed framework for implementation.* New York, NY: Springer.

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