Sentencing Judgements of Adolescents with and Without Fetal Alcohol Spectrum Disorder

by

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Abstract

As many as 60% of those diagnosed with FASD come into contact with the Criminal Justice System (CJS), with youth with FASD being 19 times more likely to be in prison than their peer without (Chartrand & Forbes-Chilibeck, 2003; Fast et al., 1999; Institute of Health Economics, 2013; Popova et al., 2011). While the unique constellation of impairments of those with FASD can present challenges at every stage of the CJS, it is at the sentencing stage of the process where there is much controversy (Gagnier et al., 2011; Millward, 2013; Roach & Bailey, 2009). There has been no quantitative research conducted with youth to examine whether a diagnosis of FASD influences sentencing when comparing those with FASD to those without. Although it has been acknowledged that FASD should be given special consideration (e.g., considered a mitigating factor or result in individualized sentencing). Despite this lack of knowledge, there is much interest in legislation and policy development aimed at better responding to those with FASD in the CJS (Flannigan et al., 2018). This study quantitatively examined whether youth with a diagnosis of FASD are sentenced differently than youth who do not have FASD, after controlling for factors that must be considered in standard sentencing principles (e.g., prior offence history and risk to re-offend). The results of this study found that sentencing decisions were not impacted by whether there was a diagnosis of FASD. The results have several important implications and highlight the need for further research in this area.

Keywords: youth, fetal alcohol spectrum disorder (FASD), youth criminal justice act, criminal justice system, sentencing

Preface

This thesis is an original work by Cassandra Deren. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta, Health Research Ethics Board, Project Name “Sentencing Judgements for Adolescents with and Without Fetal Alcohol Spectrum Disorder”, No. MS6_Pro00059387, AUGUST 17, 2022.

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Introduction

Fetal Alcohol Spectrum Disorder (FASD) is the term used in Canada to describe the range of disorders that include the range of cognitive, affective, and physical deficits associated with prenatal alcohol exposure (Chartrand & Forbes-Chilibeck, 2003; Hemingway et al., 2019; Douglas, 2010; Fast & Conry, 2009; McLachlan, 2019). On a global scale, estimates are that 630,000 children are born with FASD annually (Lange et al., 2017), with 15 out of every 10,000 people worldwide (0.15%) having FASD (Popova et al., 2017). In Canada, the prevalence estimates range from 0.1 to 4.4% (Palmeter et al., 2021; Pei et al., 2020; Popova et al., 2018; Statistics Canada, 2014; Thanh et al., 2014); although, in some more remote and northern parts of Canada they may be as high as 60% (Dow-Clarke et al., 1994; Muckle et al., 2011). In Alberta, prevalence rates are estimated to be 1.17% (range 82 to 151 per 10,000 population)(Thanh et al., 2014). Just as variations in prevalence exist geographically, prevalence may also vary based on ethnicity. Rojas and Gretton (2007) compared Indigenous and non-Indigenous youth who had engaged in sexual offending behaviour and concluded that "[Indigenous] youths were almost seven times more likely than [non-Indigenous] youths to present with evidence of FASD (27% vs. 4%, respectively) (Rojas & Gretton, 2007, p. 274). A more recent Canadian study (Palmeter et al., 2021) that excluded children and youth living on First Nation reserves and other Indigenous settlements, as well as foster homes, found that youth who identified as Indigenous and lived off reserve, had significantly higher prevalence rates of FASD than those who did not identify as Indigenous (1.2% versus 0.1%). These estimates are based on published data, however, and therefore do not account for areas where FASD is not recorded, nor do they take into account evidence that suggests FASD often goes undiagnosed

(Brown et al., 2014; Institute of Health Economics, 2013). Consequently, actual prevalence rates are likely higher.

When considering the economic impacts of FASD, the Consensus Statement on Legal Issues of Fetal Alcohol Spectrum Disorder (Institute for Health Economics, 2013), estimates that the costs associated with correctional services, education, productivity losses, health education, health, and other services are approximately 1.5-2 million dollars for each individual with FASD over their lifetime. The adjusted annual cost estimates for all individuals with FASD in Canada ranges from $1.9 billion to $10.5 billion dollars (Greenmyer et al., 2018; Greenmyer et al., 2020). Popova and colleagues (2013) speculated that the total cost of FASD diagnostic services alone in Canada is somewhere between $3.6 and $7.3 million per year. In Alberta, the total annual costs associated with FASD is estimated to be approximately $927.5 million ("FASD in Alberta," 2013). In response to these economic and societal impacts of this disorder, the Government of Alberta initiated the FASD 10-Year Strategic Plan ("FASD in Alberta," 2013). In the wake of this initiative much has been done to raise awareness, promote prevention, increase access to FASD assessment and diagnosis clinics, conduct new research, and provide support for individuals with FASD and their caregivers ("FASD in Alberta," 2013).

Of particular concern is that as many as 60% of those diagnosed with FASD come into contact with the Criminal Justice System (CJS) at some point in their lives (Chartrand & Forbes-Chilibeck, 2003; Fast et al., 1999; Institute of Health Economics, 2013; Popova et al., 2011). Streissguth and colleagues (2004) found that among those with FASD who have had conflict with the law, the percentage of those actually charged, arrested, and/or convicted increases with age from 13% for children to 87% for adults. In contrast to those without FASD, where only 5-10% go on to commit crimes into adulthood (Bala & Anand 2012; Borum & Verhaagen, 2006;

Shaw et al., 2003). Popova and colleagues (2011) found that youth with FASD were 19 times more likely to be in prison than their peers without FASD. Just as there are higher rates of prevalence of FASD in Indigenous populations, several studies have identified higher rates of Indigenous people with FASD in the CJS, especially Indigenous youth (Rojas & Gretton, 2007; Latimer & Floss, 2007). Research has demonstrated that those with FASD present a higher risk for entering the CJS and that, once in it, are more vulnerable at every stage of the process (Brown et al., 2014; McLachlan et al., 2014; Pei & Burke, 2018; Pei et al., 2016; Roesch et al., 1996). This vulnerability is manifested in those with FASD being more likely to, for example, provide false confessions, have impaired psycholegal abilities (e.g., understanding their rights, instructing counsel), and struggle to adhere to probation orders. All of which make it more likely that they will have further and potentially more serious CJS involvement, such as incarceration or longer probation sentences, than their non-FASD peers (Brown et al., 2014; Fast & Conry, 2004; Fast & Conry, 2009; Kassin et al., 2010; McLachlan et al., 2014; McLachlan, & Rasmussen, 2018). For example, if a youth with FASD is unable to adhere to their probation conditions and is consequently breached, they will have to appear in court a second time. This cycle can continue until options to reside in the community are exhausted. The reasons for this are hypothesized to result from of the varying cognitive, social, and behavioural problems present in individuals who experienced pre-natal alcohol exposure (Chartrand & Forbes-Chilibeck, 2003; Pei & Burke, 2018; Popova et al., 2011), which are exacerbated by higher rates of postnatal environmental adversity such as neglect and abuse (Lang et al., 2013; Flannigan et al., 2013). While the unique constellation of impairments of those with FASD can present challenges at every stage of the CJS, there remains, a question whether or not a diagnosis of FASD should be considered an aggravating or mitigating factor in sentencing (Gagnier et al.,

2011; Millward, 2013; Roach & Bailey, 2009). It is at the sentencing stage of the CJS process where it is determined what consequences a convicted person will face. In making those decisions, questions regarding an offender's risk of recidivism, treatment amenability, and community safety are asked. It is also during that stage where judges or lawyers can request an FASD assessment or raise the question whether FASD should be taken into account. Thus far there has been little consensus as to how FASD should be taken into account when sentencing. As a result, sentencing amongst those with FASD (within group) has been inconsistent (Chartrand & Forbes-Chilibeck, 2003; Milward, 2013). In some cases, FASD was given no attention and in other cases, it was given special attention. In situations where it was given consideration sentencing varied as a result of sentencing options.

There has been no empirical research conducted to examine whether a diagnosis of FASD influences sentencing when comparing those with FASD to those without. Although it has been acknowledged that FASD should be given special consideration (e.g., considered a mitigating factor or result in individualized sentencing). One way to examine if FASD is being given special consideration is to examine sentencing differences between groups. In other words, are those with FASD sentenced differently than those without? To date this type of study has not been conducted with young offenders. Despite this lack of knowledge, there is much interest in legislation and policy development aimed at better responding to those with FASD in the CJS (Flannigan et al., 2018). For example, the Canadian Bar Association (CBA) passed resolutions calling on all levels of government to "allocate additional resources for alternatives to the current practice of criminalizing individuals with FASD" (CBA 2010) and to "improve access to justice" by accommodating FASD (CBA, 2013). In 2015, the Truth and Reconciliation Commission recommended that FASD be viewed as a high priority issue necessitating reforming the CJS to

include more community resources and an increase in the powers of the court to ensure proper FASD assessment (Truth and Reconciliation Commission of Canada, 2015). In 2016, the federal, provincial, and territorial Ministers and Deputy Ministers responsible for Justice and Public Safety agreed that there was a need to better understand the impact of FASD on individuals in the CJS. The subsequent Steering Committee on FASD and Access to Justice recommended exploring programs to reduce justice involvement and recidivism, developing training programs for justice professionals, and conducting a review of the CJS in order to identify means to more adequately support vulnerable populations. In both 2014 and 2016, private members of parliament attempted to pass Bills C-583 and C-235 which would have established FASD as a mitigating factor in sentencing and granted power to judges to order assessments of individuals suspected of having FASD through expedited processes (Flannigan et al., 2018, Parliament of Canada, 2014). Both Bills were defeated, highlighting the importance of conducting further research to establish whether such legislation is necessary.

Sentencing guidelines and principles meant to ensure equitable consequences for similar offences under similar circumstances do exist. Because they broadly apply to all those individuals convicted of committing an offence, their adequacy is called into question with accused persons with FASD due to their diminished functional, cognitive, and reasoning abilities (Fast & Conry, 2009; Milward, 2014). According to Section 718, of the Canadian Criminal Code:

> The fundamental purpose of sentencing is to protect society and to contribute, along with crime prevention initiatives, to respect for the law and the maintenance of a just, peaceful and safe society by imposing just sanctions that have one or more of the following objectives:

(a) To denounce unlawful conduct and the harm done to victims or to the community that is caused by unlawful conduct;

(b) To deter the offender and other persons from committing offences;

(c) To separate offenders from society, where necessary;

(d) To assist in rehabilitating offenders;

(e) To provide reparations for harm done to victims or to the community; and

(f) To promote a sense of responsibility in offenders, and acknowledgment of the harm done to victims or to the community.

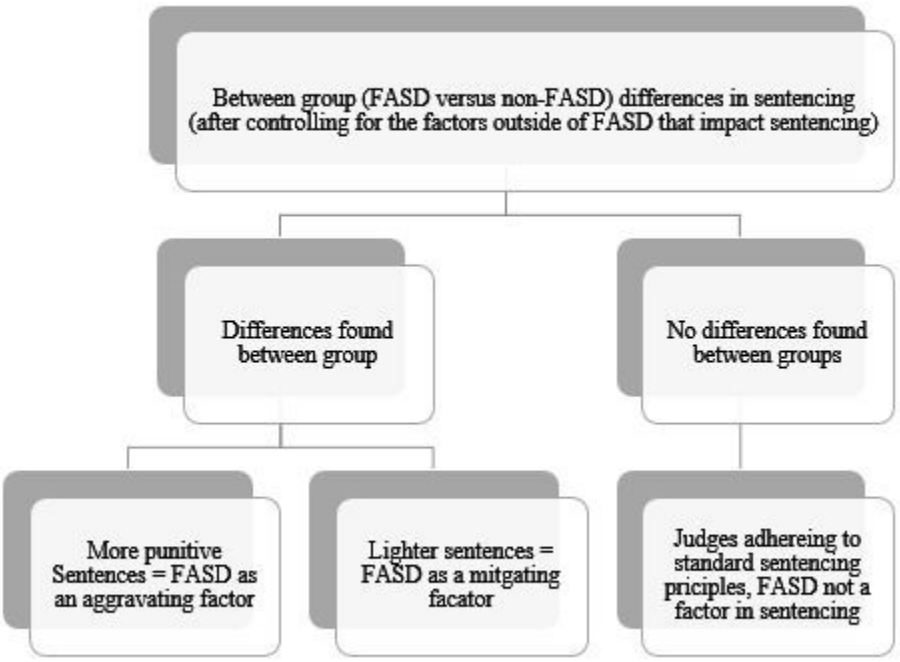
Deterrence assumes that people will engage in a risk and consequence analysis subsequently making a rational choice based on the information that they receive. Deterrence and whether it is effective at reducing crime in the general offending population has been mixed, and more than likely, its effect is heterogeneous across situations and people (Tomlinson, 2016; Loughran et al., 2018). For example, it is assumed that people will be threatened by the sanctions of engaging in criminal activity such as going to jail. However, for some this is a way of life (Tomlinson, 2016). In addition, people often do not make rational choices while under the influence or in high stress situations where criminal offenses may take place (Tomlinson, 2016). Several other factors can influence an offender's choice to commit offenses, such as social context and the presence of others (Loughran et al., 2018). The presence of others can be both a strong social determinate not to engage in, or to engage in criminal behaviour. Risk and consequences analysis is therefore difficult and variable amongst the general offending population. When considering those with FASD who often have deficits in the assumptions of deterrence (i.e., engaging in risk and consequence analysis and being highly suggestible to social influence) applying this principle as it is intended can prove to be futile (Milward, 2014; Moore

& Green, 2004; Streissguth et al., 1997). It also assumes that the offender has the capacity to appreciate the moral significance of their behaviour and that the seriousness of the crime matches the punishment which, given the cognitive impairments associated with FASD, is often limited. Standard rehabilitation approaches may also prove to be ineffectual given the unique array of deficits associated with FASD (Flannigan et al., 2018; Flannigan et al., 2020). Milward (2014) argued that "deterrence, retribution, and incapacitation may demand more severe sentences against an FASD person" (p. 1035). In other words, FASD would be considered an aggravating factor. Also, punitive sentencing tends to amplify the deficits of those with FASD, contrary to the aims of deterrence and protection of society (Chartrand & Forbes-Chilibeck, 2003; Institute of Health Economics, 2013; Milward, 2014). Alternatively, the courts in some cases have recognized FASD as a disability that reduces one's moral culpability and thereby have imposed a lesser criminal sentence (Institute of Health Economics, 2013). From this perspective, FASD would be considered a mitigating factor and, in contrast to a person without FASD where standard sentencing considerations are taken into account (e.g., prior offense history, severity of current charge), a person with FASD (all other considerations being equal) should be given a lesser sentence.

While it has been established that those with FASD are coming into contact with the CJS at a disproportionately higher rate, and that the sentencing of individuals with FASD is a contentious issue, it has yet to be determined how FASD impacts sentencing. This study therefore examined whether youth with a diagnosis of FASD are sentenced differently than youth who do not have FASD, after controlling for factors that must be considered in standard sentencing principles (e.g., prior offence history and risk to re-offend). If FASD is treated as a mitigating factor, it is expected that those with FASD will receive shorter sentences. If FASD is

recognized as an aggravating factor, it is expected that they will receive longer sentences. If FASD is not being taken into account, it is expected that there will be no difference in sentencing. The findings of this study should provide legal decision-makers with information to assist them in making improvements to the CJS and perhaps even spurring the creation of sentencing guidelines for youth with FASD.

Figure 1. Potential Outcomes and Implications of Study



Literature Review

Fetal Alcohol Spectrum Disorder

Andrew (2013) gives a thorough description of the meaning of FASD. “Fetal” refers to the changes in normal development in utero. “Alcohol” is a teratogen that causes cell changes and damage. “Spectrum” refers to the abnormalities that range from moderate to severe. Finally, “Disorder” refers to the inability to function and adapt as expected across the lifespan. FASD was first described in 1973 when researchers discovered a pattern of craniofacial, limb, and

cardiovascular defects associated with prenatal-onset growth deficiency and developmental delay in a small sample of unrelated children, all of whom had mothers with a history of chronic alcohol abuse (Jones & Smith, 1973). The neurological impairments arising out of PAE are due to the teratogenic effects of alcohol and its ability to readily cross the placenta (Popova et al., 2017) and are pervasive across the lifespan (Brown et al., 2014).

The nomenclature used to describe the consequences of PAE varies considerably, however. The 4-Digit Diagnostic Code uses diagnostic terms such as Fetal Alcohol Syndrome (FAS) and Partial Fetal Alcohol Syndrome (pFAS) (Astley, 2004). Hoyme (2016) uses the former diagnostic terms as well as Alcohol Related Neurodevelopmental Disorder (ARND) and Alcohol Related Birth Defects (ARBD) (Hemingway et al., 2019). In Canada, the diagnostic term used is FASD with or without sentinel facial features. For this reason, the acronym FASD will be used throughout this paper.

Diagnosis of FASD

Individuals with FASD present with a variety of behavioural, cognitive, and physical outcomes. According to researchers, that wide range of outcomes is rarely specific to PAE alone (Astley, 2004; Page, 2001). The presence of multiple risk factors and negative exposures that often substantially contribute to symptoms makes the diagnosis of FASD complex, and no neurodevelopmental deficits are considered pathognomonic for, or specific to, FASD (Cook et al., 2016). Therefore, it is critical that professionals consider the question of differential diagnosis when providing a diagnosis of FASD. Diagnosing FASD is often complex because of the presence of multiple risk factors and negative exposures that are substantial contributors to the patient's symptoms. Astley (2004) posits that "the pattern and severity of outcome is dependent on the timing, frequency and quantity of alcohol exposure (which is rarely known

with any level of accuracy), and is frequently confounded by other adverse prenatal and postnatal exposures and events" (p. 3). Behavioural, environmental, social, and genetic factors must be considered when examining how FASD impacts an individual. For example, it has been shown that higher quality caregiving results in better outcomes for children with FASD (Olson et al., 2009). Koponen and colleagues (2009) specifically examined the caregiving environment required to meet the needs of children with FASD. They discovered that early intervention, such as removing affected children from what is often a chaotic and stressful environment and placing them in a stable care environment, resulted in fewer neuropsychological challenges in comparison to foster children who were placed in care after the age of three (Koponen et al., 2009). Studies have also shown that stress, maternal age, weight, and genetics may all have an impact on the teratogenicity of alcohol; therefore, impacting the expression FASD (Chudley, 2011; Koponen et al., 2009). Given the complexities of FASD, it is crucial that a comprehensive history and physical and neurobehavioral assessment take place prior to diagnosis (Chudley et al., 2005). Chudley and colleagues (2005) argue that this can only be accomplished via a multidisciplinary approach. Due to the aforementioned factors, researchers and clinicians have struggled to establish a set of universal diagnostic criteria. There are now several diagnostic guidelines and criteria (Brown et al., 2019). When considering FASD in its purest form there is strong consensus regarding diagnosis and recommendations. Subsequently, Brown et al., (2019) posits that when it comes to less severe forms of FASD there is variation in specificity of recommendations, criteria, clinical-cut-offs and nomenclature. The Canadian guidelines that were amended in 2015 harmonized criteria from both the Institute of Medicine and the 4-Digit Diagnostic code (Brown et al., 2019). Given the prevalent use of the 4-Digit Diagnostic Code in

the literature as well as Canada's use of the 4-Digit Diagnostic Code, it is fitting to summarize the important aspects of both diagnostic systems.

The 4-Digit Diagnostic Code

In the late 1990s Clarren and Astley (1997) created a 4-Digit Diagnostic Code for FASD. The authors used data and the expertise of the interdisciplinary team from the Washington State Fetal Alcohol Syndrome and Prevention Network in an attempt to not only develop a system that was quantitative and objective, but that also contained measurement scales and specific case definitions. This 4-Digit Diagnostic Code has been revised and is widely used in clinical settings to aide in the diagnosis of FASD (Astley, 2004; Chudley et al., 2005).

The 4-Digit Diagnostic Code reflects "the magnitude of expression of four key diagnostic features of FASD in the following order: (1) growth deficiency, (2) the FAS facial phenotype, (3) CNS abnormalities, and (4) prenatal alcohol exposure" (Astley, 2004, p. 4). A four-point Likert scale is then utilized to rate the magnitude of expression of each of the factors independently. A magnitude of 1 would reflect the complete absence of an FAS feature, whereas a score of 4 would indicate a strong "classic" presence of the given FAS feature. As Astley (2004) stated the 4-Digit Code '4444' would reflect "significant growth deficiency, all three FAS Facial features, structural/neurobiological evidence of CNS damage, and confirmed prenatal alcohol exposure to high levels of alcohol" (p. 4). In other words, this code would reflect the most severe expression of FAS. It is further noted that a 4-Digit Code of '4444' would be a rare finding. On the other hand, a 4-Digit Code of '1111' would be reflective of normal growth, absence of the three FAS facial features, no evidence of CNS abnormalities, and a confirmed absence of prenatal alcohol exposure (Astley, 2004). Each of the 256 different 4-Digit Diagnostic Code patterns falls into one of 22 unique Diagnostic Categories (labelled A-V). For

example, any of the diagnostic codes found in Category A (e.g., 2433, 3443, and 4434) would indicate a diagnosis of, Fetal Alcohol Syndrome (Alcohol Exposed). Any of the codes found in Category F (e.g., 1133, 1243, and 2243) would designate a diagnosis of Static Encephalopathy (Alcohol Exposed). In the former example, there would be no growth deficiency or characteristic set of facial features. This person would not qualify for a FAS diagnosis; however, there would be evidence of significant CNS damage/dysfunction, as well as a clear history of exposure to significant amounts of alcohol. A person found within this diagnostic category would be considered to have disability that likely has implications for educational planning, societal expectations and health (Astley, 2004). Each of the diagnostic categories are obtained ideally from a multidisciplinary team of professionals (Astley, 2004). Using the 4-Digit Code clinicians are able to diagnose the full spectrum of outcomes (FASD) that may be observed in individuals of any age. This method also helps to increase diagnostic precision and accuracy.

The Canadian Guidelines for Diagnosis

In 2005 a subcommittee of the Public Health Agency of Canada's National Advisory Committee on Fetal Alcohol Spectrum Disorder created comprehensive guidelines for diagnosis of FASD. These guidelines were updated in 2015. When creating the guidelines the subcommittee harmonized criteria from both the Institute of Medicine and the 4-Digit Diagnostic code (Brown et al., 2019). In brief, the 4-Digit approach was utilized to describe, assess, and measure features of FASD, and the Institute of Medicine's terminology was adopted. As with the 4-Digit Code guidelines, the Canadian guidelines recommend a multidisciplinary approach to diagnosis, a neurobehavioral assessment, analysis and documentation of maternal alcohol history, and differential diagnosis (Cook et al., 2016). The neurodevelopmental functioning in ten domains is assessed (Cook et al., 2016). These domains include, motor skills,

neuroanatomy/neurophysiology, cognition (IQ), language, academic achievement, memory, attention, executive functioning, affect regulation, and adaptive behaviour, and/or social communication. The 2015 amendments included: FASD as a diagnostic term; inclusion of special considerations for diagnosing FASD in infants, young children, and adults; deletion of the growth criterion; the new addition of an "at-risk" category for FASD; and revision and refinement of brain domains evaluated in the neurodevelopmental assessment (Cook et al., 2016). The term FASD was adopted in order to better help describe the broader spectrum of presentations and disabilities that result from prenatal alcohol exposure.

Physical and Secondary Disabilities of FASD

Hoyme and colleagues (2005) describe in detail several of the physical characteristics a clinician examines when youth are suspected of having disabilities associated with FASD. These characteristics correspond to the 4-Digit Diagnostic Code proposed by Astley (2004). The first includes evaluation of facial irregularities such as short palpebral fissures, and upper lip thinness and philtrum smoothness. Second, evidence of pre- and/or postnatal growth deficiency in both weight and length of the affected fetus and/or child must be identified. Other major or minor anomalies may be present and would support the diagnosis of FASD such as "midface hypoplasia, epicanthal folds, hypertelorism, high arched palate, micrognathia, 'railroad track' ears, short upturned nose, palmer crease abnormalities, nail hypoplasia and joint contractures" (Hoyme et al., 2005, p. 233). It is important to note that evidence of maternal alcohol exposure must be confirmed unless the facial features are found to be severe. As mentioned previously, this last criterion may be problematic, as maternal disclosure of prenatal alcohol use may be difficult to obtain for a variety of reasons and facial features may change and soften over time (Russell et al., 1996). Finally, evidence of central nervous system abnormalities resulting in

measurable developmental delays, behavioural dysfunctions, and/or learning disabilities should be assessed which is why, in addition to a physical examination, a comprehensive neurocognitive and behavioural assessment must take place (Astley, 2004; Hoyme et al., 2005). Simply stated, the teratogenic effects of alcohol can cause intellectual and learning disabilities, executive dysfunction, speech and language delays, and motor deficits (Burd et al., 2003; Kalberg et al., 2006; Paley & O'Connor, 2007).

When examining the neurocognitive functioning of those with FASD, a review of the literature shows diminished intellectual functioning (with average IQ's ranging from borderline to low average), deficient verbal and nonverbal abilities, and impaired processing speed (Kodituwakku et al., 2009). Concerning executive functioning, deficits were common in planning, conceptual set shifting, affective set shifting, verbal and nonverbal fluency, concept formation, and error correction. Finally, "tests assessing different areas of functioning such as language, visual construction, memory, and number processing show that when task demands increase, the performance of the FASD group declines at a faster rate compared to controls" (Kodituwakku et al., 2009, p. 222). Regarding motor deficits, those with FASD often show clinically significant delays in their motor development, in particular their fine motor skills tend to be significantly more delayed than their gross motor skills (Kalberg et al., 2006). When compared to those who were not prenatally exposed to alcohol, those with FASD differed significantly in all motor domains, however those differences were mostly attributed to impairment in fine motor abilities. Other neurocognitive impairments experienced by those with FASD have been associated with an increased risk of learning and behavioural disabilities such as poor judgement; memory difficulties; impulsivity; inability to anticipate and/or connect consequences, and inability to alter behaviour as a result of those consequences; and inability to

organize their lives, meet deadlines, and keep appointments (Chartrand & Forbes-Chilibeck, 2003; Douglas, 2010; Fast & Conry, 2009; Fast et al., 1999; Institute of Health Economics, 2013; Popova, et al., 2011; Roach & Bailey, 2009).

It has been found that 70-90% of the people who may be diagnosed with FASD do not display physical characteristic associated with FASD and undergo normal physical development, and have normal intelligence test scores; however, they may still be profoundly compromised in other areas (Fast et al., 1999; McLachlan et al., 2020). For example, a mass of research states that those with FASD struggle with higher levels of environmental chaos (e.g., disrupted home/living environments and addictions) (Chartrand & Forbes-Chilibeck, 2003; Fast et al., 1999; Institute of Health Economics, 2013; Olson et al., 2009; Olswang et al., 2010; Pei et al., 2011a,b; Rasmussen, 2005; Streissguth, et al., 2004; Streissguth et al., 1996). McLachlan et al., (2020) identified difficulties related to (1) school disruption, (2) employment, (3) independent living needs, (4) supportive or sheltered housing, (5) legal problems with victimization, offending, and incarceration, and (6) alcohol intoxicant misuse. Most individuals (81%), at the time of their assessments, were experiencing at least one of the above difficulties and, on average, presented with approximately two of the above difficulties. Moreover, 40% of the overall sample faced three or more of the above difficulties, and alarmingly, 15% experienced five or more difficulties. Persons with FASD were also more likely to be placed in care and have multiple home placements, which consequently, placed them in a position to encounter a number of other unfavourable circumstances, such as, parental and/or drug problems, child abuse and/or neglect, child abandonment, and young maternal age (Popova et al., 2014). The diagnosis of FASD, on one end of the spectrum, is strongly identifiable and on the other, may be difficult to discern.

The most prevalent adverse outcome associated with FASD are mental health problems (Streissguth et al., 1996). It has been estimated that as many as 90% of those with FASD will experience mental health difficulties at some point in their lives (Pei et al., 2011). In early infancy, these difficulties can include emotional adjustment and attachment issues, to complex psychiatric comorbities in adulthood (Paley & O'Connor, 2009). Pei et al., (2011), summarised that depression, mood and anxiety disorders, attention-deficit/hyperactivity disorder (ADHD), and conduct disorder (CD) were the most experienced mental health issues. Those with FASD were also more likely to experience higher rates of suicidality and addictions. Not surprisingly, issues of affect regulation also arise for those with FASD. Temple et al., (2019) explored the relationship between affect regulation impairment and other mental health problems. Their study concluded that those with FASD and affect regulation impairment were five times more likely to have conduct disorder, six times more likely to have attachment disorder, and eight times more likely to have post-traumatic stress disorder. They were also eight times more likely to report a history of suicidality.

Research has demonstrated that children with FASD struggle with social interaction, as well as with building and maintaining trusting friendships (Olswang et al., 2010; Phung et al., 2011). Those with FASD are also at greater risk for being easily manipulated and are highly suggestible (Chartrand & Forbes-Chilibeck, 2003; Fast & Conry, 2009; Phung et al., 2011). There is also evidence that children with FASD are more likely than their peers to lie (Rasmussen et al., 2008). Fast and Conry (2009) posit that those with FASD are at risk for having antisocial peers come into their lives and creating chaos. Given their potential difficulties with communication, socialization, and daily living skills, those with FASD, are at the severe end of the spectrum, at heightened risk for gang affiliation, and at the less severe end of the

spectrum susceptible to relationships where they will be taken advantage of, or used (Fast & Conry, 2009; Olswang et al., 2010; Phung et al., 2011). Phung and colleagues (2011) discovered parents who reported instances where their children with a diagnosis of FASD were convinced to remove their clothes, sell drugs, and/or buy lunches and toys for other children. When parents attempted to intervene, one parent reported their child ran away from home to seek out the "friends" that had recruited their child to sell drugs. Another parent reported that their child had taken to stealing money in order to buy friendships. While yet another anecdote indicated a daughter that was forced to cook and clean for her "friends" in order to remain in a friendship. These exploitative friendships subsequently may result in criminal justice involvement and/or continued contact with the Criminal Justice System.

The increased risk of individuals with FASD becoming involved with and their continuing involvement with the CJS has been associated with the variety of impairments related to PAE listed above (Chartrand & Forbes-Chilibeck, 2003; Douglas, 2010; Fast & Conry, 2009; Fast, et al., 1999; Institute of Health Economics, 2013; Milward, 2014; Popova, et al., 2011; Roach & Bailey, 2009). Those impairments compromise one's ability to inform intent, foresight, and awareness (Institute of Health Economics, 2013). This means that if those with FASD go undiagnosed they are likely to be "disadvantaged at the point of initial contact with law, in relation to their understanding of legal rights and options as well as the ability to respond to investigative processes, at the bail stage, the trail stage, and the sentencing stage" (Institute of Health Economics, 2013, p. 12).

Treatment Interventions for Individuals with FASD

Those with FASD experience a range of impairments across cognitive, physical, social-emotional, and behavioural functioning (Flannigan et al., 2020). They also face various postnatal

risk factors such as neglect or abuse, ongoing parental substance abuse, exposure to interpersonal conflict or domestic violence, and being placed in foster care or institutionalized (Paley & O'Connor, 2011; Flannigan et al., 2020). Unfortunately, by the time many of those individuals present for treatment they often have an established pattern of significant behavioural and emotional problems, poor academic functioning, and negative social interactions well established. Evidence suggests that those with FASD have a propensity to be unsuccessful in typical intervention programs because they are based on models that assume an individual has the cognitive, memory, and receptive and expressive language skills to comprehend, remember, and practice what they are learning (Quan et al., 2019). When some or all of those factors are absent, intervention can prove difficult. This being said, the literature describing effective interventions for those with FASD is growing (Flannigan et al., 2020; Paley & O'Connor, 2011; Pei et al., 2019). Interventions aimed at both remediating primary deficits and mitigating various environmental liabilities, such as supporting attachment, family wellness, and the caregiving environment show promise (Flannigan et al., 2020; Paley & O'Connor, 2011). Many researchers also posit that it is critical to utilize a strengths-based approach and reinforce skills development (Quan et al., 2019; McLachlan et al., 2020). Much attention has focused on the deficits of FASD. There has more recently been a call to shift towards an approach that fosters the strengths and abilities of people with FASD, which can then be scaffolded in various ways throughout life to promote better outcomes (Flannigan et al., 2018; Pei et al., 2019). Strengths-based interventions for FASD place greater emphasis on investigating personal strengths that will improve quality of life and are person-centered (Petrenko & Kautz-Turnbull, 2021). For these interventions to be effective there needs to be improved access to care, followed by an increase in understanding and awareness of FASD, and reduced stigma. Typical interventions tend to focus on problem

reduction and are prescriptive (Petrenko & Kautz-Turnbull, 2021). A strengths-based approach to FASD treatment and intervention is gaining momentum; however, research on the effectiveness of these programs is lacking (Flannigan et al., 2018).

Given the significant behavioural, emotional, and cognitive difficulties experienced by those with FASD, children with FASD can be difficult to parent. As such, many of the behavioural interventions are parent-focused (Flannigan et al., 2020; Paley & O'Connor, 2011). Parent-focused interventions emphasize providing caregivers with effective parenting strategies, reducing parenting stress, increasing parental self-efficacy, and fostering more positive parent-child relationships (Paley & O'Conner, 2011). In fact, a current systematic literature review found that the majority of interventions that showed success targeted positive child caregiver interactions and family wellness (Flannigan et al., 2020). Those interventions were particularly effective in young childhood, as were interventions that targeted attachment. Those interventions had positive impacts on attachment and child adjustment, including improved relationships, enhanced caregiver experiences, and increase in family functioning (Flannigan et al., 2020; Paley & O'Connor 2011).

When considering middle childhood to early adolescence, interventions tend to shift to skills acquisition to support optimal functioning. Later adolescence and adulthood, interventions shift to responsive approaches that mitigate risk and reduce harm. Two such skills-based interventions that have received the most attention have been interventions that target self-regulation and social skills (Flannigan et al., 2020; Pei et al., 2018). It is established that youth with FASD demonstrate marked deficits in social functioning and those difficulties can get worse with age (Flannigan et al., 2020; Paley & O'Connor, 2011; Pei et al., 2011). Poor peer relationships are predictive of early withdrawal from school and delinquency (Patterson et al.,

1998). Furthermore, they can exacerbate or cause anxious and depressive symptoms (Paetch & Bertrand, 1997; Waldrip et al., 2008). To date, targeted, evidence-based interventions such as the Children's Friendship Training program (CFT) have been adapted and have proved effective for children with FASD (Frankel & Myatt, 2003). This is a group-based intervention to help children be accepted rather than rejected and teaches the skills through didactic instruction on the basic rules of social behaviour, modeling, rehearsal, and coached practice with performance feedback during training (Paley & O'Conner, 2011).

Other interventions that may prove beneficial are interventions that help to improve working memory, adaptive skills, safety skills, and language and literacy training (Paley & O'Connor, 2011). Pei et al., (2018) created a manual, Towards Healthy Outcomes for Individuals with FASD intended to provide guidance to help support interventions across the lifespan. The intervention model is aligned with "three core tenets: 1) a developmental lifespan perspective is necessary at all ages and stages, 2) interactive systems have additive and ongoing influences, and 3) our approaches must always be strength based, empowered, and goal oriented" (Pei et al, 2018, p. 4). There are 12 domains that are highlighted as being important intervention targets for those with FASD: Physical health, attachment, family cohesion, social functioning, mental health and regulation, education, identity, community engagement, adaptive skills, employment, housing, and parenting.

Treatments that focus on early intervention have the potential to capitalize on early neuroplasticity while mitigating the secondary deficits that may emerge (e.g., poor self-regulation) as a result of FASD (Paley & O'Connor, 2011; Flannigan, 2020). This form of early intervention, or even prevention, is not always possible, and therefore, interventions for adolescents and those transitioning to adulthood are crucial, as high risk sexualized behaviours,

substance use and abuse problems, and illegal activities are most likely to emerge or worsen during that developmental period (Paley & O'Connor, 2011).

Treatment and one's ability to be rehabilitated has been a central theme in the CJS, especially when considering sentencing. Pei & Flannigan et al., 2018 state, "despite our growing knowledge of the needs of individuals with FASD who are justice-involved, there is a critical lack of research on FASD-informed justice interventions" (p.3).

Difficulties Precluding Criminal Behaviour and Justice Involvement

FASD in and of itself has been identified as a risk factor for criminal behaviour (Bala & Anand, 2012). McLachlan et al., (2020) found that 30% of their FASD sample (including those "at risk") had offending legal problems, and 22% had been incarcerated. Justice Canada has acknowledged the vulnerability of those with FASD in the CJS and has attempted to implement Youth Justice Policies to overcome the barriers that exist regarding access to services (Government of Alberta, 2007). Fast and Conry (2009) have identified the acronym ALARM to summarize the core issues faced by these individuals that preclude criminal behaviour and/or involvement in the CJS. The first letter, "A," represents adaptive functioning. Adaptive behaviour describes how effective an individual is in meeting the standards of personal independence and social responsibility that is considered appropriate given the individual's demographics. McLachlan et al., (2020) found that across a "full PAE sample, adolescents, transition-aged youth, and adults presented with high rates of difficulties in everyday living" (p.1). Alarmingly, 63% of participants in the study reported difficulties in independent support needs. Adaptive functioning is often assessed by way of standardized assessments such as the Vineland Adaptive Behaviour scales (Fast & Conry, 2009). Unfortunately, these scales do not always capture the full extent of difficulties those with FASD may experience. Fast and Conry

(2009) contend that there are only a handful of questions that query the dangerously impulsive behaviours and poor decision-making that endanger not only those with FASD, but others around them as well. Fast and Conry (2009) state that "some questions relate to specific activities of daily living such as cooking, cleaning, and laundry but do not include the problems, for example, that people with FASD have in preventing unwanted friends from entering their places of residence, stealing their belongings, and creating chaos" (p. 252). Fast and Conry (2009) also found that those with FASD suffer significantly more deficits in social skills and, in some instances, these deficits may become more pronounced over time. Poor peer relationships are predictive of both early withdrawal from academic endeavours and delinquency (Paetsch & Bertrand, 1997), both of which are empirical risk factors for recidivism (Borum et al., 2010).

The "L" in ALARM represents language. Fast and Conry (2009) summarize that youth with FASD have impairments in their ability to produce language as well as understand spoken language. Because of this, youth with FASD often present with limited psycholegal abilities (Fast and Conry, 2004; Fast & Conry, 2009; McLachlan, 2012, McLachlan, 2014). These include the ability to understand and appreciate their Miranda rights and adjunction capacities (e.g., factual knowledge about criminal procedure, appreciation of the nature and object of the proceedings). More alarming is the tendency for individuals with developmental disabilities to try to conceal their limitations and those with FASD are no exception. They may therefore superficially appear to comprehend legal proceedings and advice when they do not (Fast & Conry, 2009). It was found that the diagnosis of FASD appears to "play an important role in the participants' understanding of the legal process and their ability to communicate adequately with counsel, such that youth with an FASD diagnosis appeared to experience challenges above and beyond those directly stemming from global intellectual dysfunction or academic limitation"

(McLachlan, 2012, p. 55). A follow-up study found that 90% of young offenders with FASD displayed impairment in at least one psycholegal ability (McLachlan et al., 2014). McLachlan and colleagues (2014) also found that rates of impairment for psycholegal abilities were significantly higher than the comparison group, which consisted of young offenders without FASD. Language and comprehension difficulties can negatively affect suggestibility and memory (Brown et al., 2011; Kodituwakku, 2009). Deficits in these areas predispose defendants with FASD toward blindly following their defense counsel's advice when not in their best interest, leading to wrongful convictions (Brown et al., 2011, Fast & Conry, 2004; Greenspan & Driscoll 2016). In turn, these difficulties impact sentencing.

The second "A" in ALARM stands for attention reasoning. Streissguth and colleagues (1996) found that 60% of children with FASD had also met criteria for some form of attention deficits and/or hyperactivity. ADHD on its own accord has been identified as a risk factor for criminal justice involvement (Bartel et al., 2006). Deficits in this area can make it difficult for those with FASD to follow and understand what is happening in court, it may also increase frustration and confusion during lengthy interrogation periods (Brown et al., 2011; Brown et al., 2017) The "R" stands for reasoning, which encompasses abstract thinking, executive functioning, and other higher order cognitive processes. People with FASD have been found to experience deficits in the areas of cognitive flexibility, planning and strategy use, verbal reasoning, set shifting, verbal fluency, and emotional regulation (Rasmussen, 2005). Problems in those areas may impair a defendant's ability to maintain self-control, and any inappropriate behaviour may be misinterpreted as volitional, which could influence court rulings (Brown et al., 2017). Lastly, the "M" relates to memory. Working memory deficits have been robustly shown in those with FASD (Fast & Conry, 2009). Those deficits can lead to problems organizing,

planning, and carrying out everyday tasks. Those difficulties can make it difficult for a person with FASD to remember to communicate with their probation officer, and meet the conditions of probation such as abiding by a curfew or being able to maintain stable employment. Potential long and short-term memory impairments could cause those with FASD to forget defense counsel's advice, as well as a not being able to accurately recall the offense in question or social history; consequently, leading to issues of confabulation (Brown et al., 2017).

The personal and societal impact of FASD is sizable. Individuals exhibit deficits in many domains such as memory, learning, behavioural inhibition, executive functioning, interpersonal skills, and language. Such deficits can have serious implications should an individual with FASD come into contact with the CJS. Popova and colleagues (2011), found unanimous agreement among researchers that there is an urgent need to raise awareness about FASD in the criminal justice system and the associated disabilities. As well, an urgent need was highlighted to address appropriate responses necessary to reduce the pervasiveness of this disorder in this setting (Pei et al., 2016; McLachlan et al., 2014; Popova et al., 2011). FASD is a complex disability and therefore it will likely pose a concern within the CJS for some time. It is imperative given the statistics that the CJS needs to prepare to deal with offenders with FASD in a way that will minimize continued contact with the system (Chartrand & Forbes-Chilibeck, 2003; Fast et al., 1999; Institute of Health Economics, 2013; Popova et al., 2011). One-step towards achieving this is to conduct research with young offenders to gain clarity regarding variables that impact their involvement with CJS, including as sentencing.

FASD and the Criminal Justice System

The interaction between those with FASD and the criminal justice system (CJS) has received much attention (Brown et al., 2014; Chartrand & Forbes-Chilibeck, 2003; Douglas,

2010; Fast & Conry, 2009; Fast et al., 1999; Institute of Health Economics, 2013; Milward, 2014; Popova et al., 2011; Roach & Bailey, 2009). Given the number of individuals diagnosed, undiagnosed, or misdiagnosed with FASD that enter the CJS, Brown et al., (2014) stated that FASD is an invisible problem plaguing the CJS. Language, memory, attention, and other cognitive deficits associated with FASD can - and often do – cause individuals to conflict with the criminal justice system as early as first contact with the police (Brown et al., 2014; Rodger, 2014). These deficits make it difficult for them to understand their rights, respond to police questioning, and give statements (Brown et al., 2014; Fast & Conry, 2009; Gagnier et al., 2011; McLachlan, 2012, 2014). For example, confabulation is another FASD related issue that has been considered (Brown et al., 2014). Specifically, those with FASD may be prone to giving false confessions, reporting memories inaccurately, or even providing false statements to the police (Brown et al., 2014; Kassin et al., 2010; McLachlan, & Rasmussen, 2018). Further aggravating the problem is that individuals with FASD often present with little to no obvious impairments. This places them at an even greater disadvantage. Once an individual enters the court level of the criminal justice system, they can face additional obstacles.

Roach and Bailey (2009) discuss the difficulties a person with FASD can encounter simply obtaining legal aide. Once a lawyer is obtained, those with FASD may struggle to attend their scheduled meetings and court dates, properly instruct counsel, and comprehend legal advice (Gagnier et al., 2011). Moreover, those with FASD typically meet the criteria for fitness to stand trial and are found criminally responsible despite their difficulties (Gagnier et al., 2011; Roach & Bailey, 2009). When considering fitness to stand trial, language and memory deficits may impact an offender with FASD in their ability adequately communicate with counsel (Roach & Bailey, 2009). Roach and Bailey (2009) similarly highlight those with FASD often tend to be concrete in

their thinking and impulsive which can hinder their ability to fully appreciate the possible outcomes of their court proceedings. When considering whether or not a person should be found Not Criminally Responsible by Reason of Mental Disorder (NCRMD) it has to be proven that the accused was unable to fully comprehend the consequences of their actions, and/or that these actions were morally wrong because of a mental disorder (Verbrugge, 2003). Gagnier et al., (2011) report that the deficits associated with FASD could, in some cases, undermine an accused ability to understand the wrongfulness of their actions, as well as their ability to inform intent. Although raising a NCRMD defense based on FASD is difficult as it usually presumed that FASD-related impairments do not result in an inability to even under-appreciate immediate consequences or significantly impair moral judgement (Verbrugge, 2003). Rather FASD-related impairments are often viewed as either mitigating or aggravating factors during sentencing. FASD clearly poses challenges at each stage of the criminal justice process. It is during the sentencing phase that the issue of FASD is most commonly discussed and considered (Chartrand & Forbes-Chilibeck, 2003; Milward, 2014; Roach & Bailey, 2009; Rodger, 2014).

The Youth Criminal Justice Act (YCJA) currently applies to young persons in Canada who are at least 12 but under 18 years of age at the time of the offence. It emphasizes the principles of protection of society, crime prevention, rehabilitation and reintegration, meaningful consequences, and timely interventions (Dauvergne, 2013). In that regard, emphasis is on diverting youth who commit crime away from the traditional justice system and reserving the most serious sentences for the most serious types of crime. The YCJA "places a greater emphasis on accountability and proportionality, has greater restrictions on the use of custody, and encourages community-based sentences" (Bala & Anand, 2012, p. 493). That said, although the number of youth court cases has dropped substantially under the YCJA, many cases continue to

be processed through the courts (Dauvergne, 2013). Sentencing remains the most challenging task faced by youth court judges and yet it is often the most important for the youth. Bala and Anand (2012) state that youth court judges have considerable discretion in how they choose to impose sentences on youth. However, others such as probation officers and those conducting assessments can also bring forth suggestions for sentencing. Given the impairments summarized above, the determination of an appropriate sentence for a youth offender with FASD is a challenging task for courts.

The YCJA contains several sentencing principles. Among the most important are (Bala & Anand, 2012; Department of Justice Canada, 2013): (1) An emphasis on fairness and proportionate accountability through the imposition of sanctions with the least restrictive measures; (2) Respect for societal values that need to be taken into consideration and this includes repairing harm to victims, rehabilitation, and the special needs of the youth in question; (3) Sentencing needs to consider restorative justice; and (4) Circumstances underlying criminal behaviour should be addressed via community-based programming. Particular care needs to be attended to balancing proportionality and rehabilitation. Those decisions must be made in the context of the individual offence and the circumstances of the youth. Decisions are also constrained by the resources that are available in the community or in the institution where the youth resides (Alvi, 2012; Bala & Anand, 2012).

When considering an appropriate sentence, the YCJA demands that the sentence be individualistic and consider the youth's degree of participation in the offence, the youth's prior criminal involvement, and the age and maturity of the youth. It is also imperative that a judge considers a youth's likelihood of rehabilitation. Section 39(3) of the YCJA lists the factors that should be included in the assessment of rehabilitation potential: (1) The attitude of the youth

(i.e., remorse); (2) History of non-compliance with extrajudicial sanctions or rehabilitative programs; and (3) The availability of appropriate programs and resources. The YCJA has guidelines and authority to order reports to help aid in the process of sentencing (Bala & Anand, 2012; Department of Justice Canada, 2013).

The YCJA contains guidelines that are specific to Indigenous youth offenders as a result of Indigenous people's overrepresentation in the CJS and their unique constitutional and social status. According to Section 38(2)(d) of the YCJA, when considering a custodial sentence for Indigenous youth, judges must pay particular attention to the circumstances of the youth. This is often accomplished through a "Gladue Report" which addresses an Indigenous person's background and highlights mitigating factors against the imposition of a custodial sentence (Bala & Anand, 2012).

Other types of reports that may be requested to help inform sentencing are Section 40 (Presentence Reports) or Section 34 Reports (Psychological/Psychiatric/Medical Assessment). Presentence reports are a mandatory requirement should a youth be facing a potential custodial sentence. A Presentence Report provides "a summary of the youth's family background, school record, and history of offending and involvement in the CJS, as well as the youth's attitude to the offence and any plans the youth has for changing conduct" (Bala & Anand, 2012, p. 531). It will generally include a list of available community-based resources. The primary purpose of a PSR is to determine if there are alternatives to custody. In more serious circumstances, or in cases where mental or cognitive impairment is suspected, a section 34 assessment may be ordered.

According to Verbrugge (2003), a youth's diagnosis of FASD may come before the court at sentencing in several ways. Counsel may raise the issue, a pre-sentence report (PSR) may document a prior diagnosis of FASD, or the court may order a psychiatric or psychological

(Section 34) evaluation. Most often, a diagnosis of FASD is brought to the attention of the court by way of a PSR or a Section 34 assessment.

Popova and colleagues (2011) estimated that the prevalence of incarcerated youth with FASD in Canada in 2009 was 12 per 1000 persons. They also found that youth diagnosed with FASD were 19 times more likely to be in prison than those who were not diagnosed. While those with FASD come into contact with the CJS at an alarming rate, how to proceed judicially with a person, especially a youth, who is diagnosed with FASD has been a more difficult question to answer (Gagnier et al., 2011; Milward, 2014). According to the Institute of Health Economics (2013), "in the criminal context, courts in some (but certainly not all) cases recognize that FASD is a disability that reduces the moral culpability or voluntariness of a person's actions and may result in a lesser criminal sentence" (p. 4). In their research, Chartrand and colleagues (2003) identified considerable variation in how the CJS not only recognized offenders with FASD but also how offenders with FASD were being sentenced. They found instances where a diagnosis of FASD was given no special consideration, and others where a diagnosis of FASD was treated as a mitigating or aggravating factor. This is particularly important in considering incarceration or non-custodial sentences such as probation or conditional sentences for offenders with FASD (Chartrand & Forbes-Chilibeck, 2003; Gagnier et al., 2011; Roach & Bailey, 2009). Milward's (2014) more current analysis of cases involving offenders with FASD revealed that "Canadian judges are becoming more and more aware of the difficulties involved with applying standard sentencing rationales" (p. 1026) and more supportive of needs-based sentencing instead of relying on deterrence or retribution to justify incarceration. Unfortunately, while Canadian judges are becoming more supportive and aware of alternative sentencing, often the community

resources and supports needed to support alternative sentencing do not exist (Alvi, 2012; Bala & Anand, 2012; Chartrand & Forbes-Chilibeck, 2003; Gagnier et al., 2011; Milward, 2014).

The fundamental purpose of sentencing is to denounce unlawful conduct, to deter the offender and other persons from committing offences, to assist in rehabilitating the offender, and to protect the society (Canadian Criminal Code, section 718). These purposes are called into question with accused persons with FASD due to the diminished cognitive and reasoning abilities they may possess (Fast & Conry, 2009; Milward, 2014). Deterrence assumes that potential offenders will engage in a risk and consequence analysis. Retribution similarly assumes that an offender has the capacity to appreciate the moral content of certain behaviours. Many individuals with FASD are incapable of engaging in such analysis due their cognitive impairments (Milward, 2014; Moore & Green, 2004; Streissguth et al., 1997). Milward (2014) postulates that "deterrence, retribution, and incapacitation may demand more severe sentences against an FASD person" (p. 1035). Some have also argued that custodial sentences provide much needed structured environments for those with FASD. This is contrary to evidence that punitive sentences are likely to exacerbate the symptoms of those with FASD (Chartrand & Forbes-Chilibeck, 2003; Institute of Health Economics, 2013; Milward, 2014). Due to the varied deficits in executive functioning that result in memory difficulties, inability to plan, and failure to recognize the consequences of actions, many of those with FASD will fail to pay fines and will breach probation orders and good behaviour bonds (Douglas, 2010). Suspended sentences are also of little utility in a context where cause and effect are not understood. According to Fast and Conry (2009) there are times when community protection becomes of primary concern and incarceration may be the only suitable option, especially where the crime is sufficiently serious.

When considering the retributive rationale in Canadian sentencing, the presence and absence of mitigating and aggravating factors must also be considered.

Milward (2014) describes mitigating factors as "facts that, if proven or otherwise accepted by a sentencing court, will render an offence less serious or blameworthy, and thus merit a lesser sentence" (p. 1046). In the case of an individual with FASD, they may be found less culpable due to brain damage as a result of PAE (Fast & Conry, 2009). Aggravating factors are those that, if accepted by the sentencing court, will render an offence more serious and thus justify a more serious punishment (Milward, 2014). In some cases, a person with FASD may be viewed as a danger to society and less amenable to rehabilitation; therefore, demanding a more serious punishment.

Present Study

The objective of the present study is to augment the existing literature by helping to clarify how those diagnosed with FASD are sentenced when compared to those who are not diagnosed with FASD. Specifically, the purpose of this study is to explore whether or not there are sentencing differences between groups of young offenders who have a diagnosis of FASD and those who do not. Whether or not a diagnosis of FASD should be considered a mitigating or aggravating factor—thereby impacting the severity or type of sentence an offender receives—has received much attention in the literature. When considering adult offenders with FASD, inconsistencies have been observed with how those with FASD are being sentenced despite clear sentencing guidelines (Chartrand & Forbes-Chilibeck, 2003; Roach & Bailey, 2009). Yet another more recent analysis found that while the issue of FASD was considered, and the sentencing purposes applied to each group was distinct, there were no differences in the type or length of sentence provided (Rodger, 2014). There is general agreement that young offenders with FASD

should be given special consideration during sentencing; however, whether that is actually occurring is an empirical question, which has yet to be answered. If those with FASD are being given special consideration, there should be differences in sentencing of those young offenders with FASD versus those without. Should differences be found, it will be useful to know if those with a diagnosis of FASD are being sentenced more punitively (FASD considered an aggravating factor) or if they are receiving less punitive sentences (FASD considered a mitigating factor).

Method

Participants

The present study included a sample of 70 cases that had been court-ordered to complete a Section 34 assessment between the years of 2010 and 2015. Thirty-four cases in the sample had a historical diagnosis of FASD or had been provided an FASD diagnosis at the time of their assessment. One youth from the FASD sample could not be included in the sentencing data because the Justice Online Information Network (JOIN) was unable to retrieve their information. There were 36 cases in the control sample without a diagnosis of FASD. The data was obtained from two sites located in Edmonton, Alberta. The first was an outpatient-based, forensic psychiatric assessment and treatment facility for youth. The second was an inpatient-based, forensic psychiatric assessment and treatment facility for incarcerated youth. Collectively, these two sites are responsible for the majority of court-ordered Section 34 assessments in the region. All youth included in the study were between the ages of 12 and 18.

Procedure

Ethical approval for this study was granted by the University of Alberta, Research and Ethics Board, HREB. Operational approval for archival chart review was granted by Alberta

Health Services. A Court Order and Information Sharing Agreement was obtained from the Minister of Justice and the Alberta Solicitor General to gain access to sentencing information for each case in the study. Sentencing information was provided by the Justice Online Information Network (JOIN). JOIN is an Alberta justice database that records and retains any justice based information for any individual that comes into contact with the Criminal Justice System formally.

A review of all files for youth who had been ordered to complete a Section 34 Assessment between the years of 2010 to 2015 at both Edmonton based facilities (Turningpoint and Centerpoint) was conducted.

As noted earlier, a Section 34 report is a psychiatric and/or psychological court-ordered report. A Section 34 report may be requested at any stage of proceedings against a young person with the consent of the young person and the prosecutor, or if it is suspected that, the young offender is suffering from a physical or mental illness or disorder, a psychological disorder, an emotional disturbance, a learning or a mental disability. A report of that nature may also be of interest if the young person has a history of repeated findings of guilt or if the youth has committed a serious violent offence. The Youth Criminal Justice Act outlines several purposes of a Section 34 assessment. For example, it may address questions of releasing or detaining a youth in custody; adult sentencing; making or reviewing an adult sentence; and setting/making conditions for conditional supervision. Although not explicitly stated within the Youth Criminal Justice Act, all of the above are influenced by a youths risk to re-offend and that is, in essence, one of the primary questions asked by the courts. An interdisciplinary team consisting of a social worker, psychologist, and psychiatrist completes those reports. Within any one report the following information is presented: Forensic history (i.e., previous offences), background

information (e.g., detailed family history), psychiatric history, medical history, drug and alcohol history, information regarding the relevant index offence, psychological assessment including psychometric testing results, risk assessment, diagnosis, and lastly recommendations for sentencing and treatment.

Age, anatomical sex, ethnicity, prior offence, risk/protective factors, and index offence were recorded and entered into an SPSS database for all included cases (see **Table A1**). Anatomical sex was coded as male or female. Ethnicity was coded as Indigenous, Caucasian, Mixed Heritage, or unknown. Prior offence history was coded as present or not present. Crimes were coded as weapon offences, crimes involving threat or violence, crimes involving dishonesty, drug offences, traffic offences, crimes against administration of justice, and sexual offences. All crimes were coded as either "Yes" if that was the type of crime committed or "No" if that type of offence was not committed. The categories of offences were chosen based on how crimes are classified by the CJS in Alberta with the exception of sexual offences which were expanded to include sexual assault. Sexual offences and traffic offences were added to make clear the distinction between driving dangerously and crimes of threat or violence against others. Risk and protective factors for both groups were collected and recorded where possible. The risk and protective factors included were based on the Structured Assessment of Violence Risk in Youth (SAVRY) (Bartel et al., 2006). The SAVRY is a valid and reliable, structured clinical risk assessment tool for both male and female adolescents aged 12 to 18. It consists of 24 items that were found to have the most robust empirical support indicative of the propensity for violence and aggression in youth. (Borum, 2000; Bartel et al., 2006). In addition to the 24 risk items, the SAVRY also contains five protective factors. The SAVRY was designed to meet the following criteria (Borum et al., 2006, p. 5):

(1) Systematic: Covering the primary domains of known risk and protective factors, with clear operational definitions provided for each.

(2) Empirically Grounded: Items must be based on the best available research and guidelines for juvenile risk assessment practice.

(3) Developmentally Informed: Risk and protective factors must be selected on the basis of how they operate with adolescents, as opposed to children or adults.

(4) Treatment-Orientated: The risk assessment should have direct implications for treatment, which includes considering dynamic factors that can be useful targets for intervention in risk reduction.

(5) Flexible: Allowing consideration of idiographic or case-specific factors, as well as those derived from research.

(6) Practical: Using the guide should not require much additional time beyond what is needed to collected information in a competent assessment.

The instrument was designed for youth, and as such, the SAVRY emphasizes dynamic risk/needs, which in turn follow the developmental contours of adolescents and their propensity for change, physically, intellectually, socially, and emotionally (Borum et al., 2006). By addressing specific risk factors along with protective factors, the SAVRY helps aide in treatment planning, establishing conditions of community supervision, and release/discharge planning. Despite its emphasis on dynamic risk factors, the SAVRY also contains Historical factors.

Historical factors in large are static and not subject to change. They reflect an adolescent's past experiences and behaviours as well as they, "have shown consistent statistical associations with future violence and can help to anchor relative risk," (Borum et al., 2006, p. 7). For example, history of violence and history of non-violent offending are historical items that

have been included in the SAVRY and empirically linked to general recidivism. Violence in the SAVRY is defined as:

> (a) an act of battery or physical violence that is sufficiently severe to cause injury to another person or persons, regardless of whether injury actually occurs; (b) any forcible act of sexual assault; or (c) a threat made with a weapon in hand. In general, these acts should be of sufficient severity that criminal charges either do, or could, result. Accidental or unintentional injury should not be included. Threats made in the absence of any battery or physical violence are typically not considered as violent acts according to this definition (Borum et al., 2006, p. 14).

Social and contextual risk factors are included in the SAVRY to address the "influence of interpersonal relationships, connection to social institutions, and the environments" (Borum et al., 2006, p. 7). Examples of social and contextual risk factors include items such as peer rejection and lack of personal and/or social support. Also, of importance is considering key aspects of psychological and behavioral functioning, which often influence various acting behaviours and decision-making abilities. For this reason, the SAVRY includes Individual/Clinical risk factors. Individual/Clinical risk factors include, but are not limited to, risk taking/impulsivity, substance-use difficulties and anger management problems.

Each of the 24 risk items are given a rating of either low, moderate, or high (Borum et al., 2006). A risk factor is considered low when the circumstances or characteristic for that factor are not present. If a risk factor is somewhat present and/or causes only minor impairment that factor would be designated moderate. A risk factor in some cases may be assigned as moderate if a risk factor was present historically but not in the present. Should a risk factor be prominent and be found to cause significant impairment it would subsequently be coded as high. Each risk item is

defined in the manual, to increase the reliability of the measure. For each risk factor the evaluator has the ability to mark an item as "critical." For example, a youth may have few risk factors present but have persistent history of violence and little empathy. This could in turn be marked critical and would be taken into consideration when evaluating overall risk. While it is important to look at risk factors, examining protective factors is beneficial.

The SAVRY includes five protective risk factors that are marked on a dichotomous scale as either present or absent (Borum et al., 2006). The five protective factors included in the SAVRY are, "meant to address involvement with and commitment to conventional society that should in theory steer youth away from normative transgressions" (Borum et al., 2006, p.8). For example, one of the protective factors included is prosocial involvement. Lastly, the SAVRY leaves a section for additional risk factors that may be pertinent to the risk assessment, but that are not formally addressed in one of the 24 risk factors.

The final overall risk rating is based on clinical judgement, taking into account each risk factor rated and the protective factors present.

The SAVRY's total risk score has been found to have an internal consistency of .82 for offenders and .84 for the community sample (Borum et al., 2006). Inter-rater reliability for the summary risk rating has been found to range from .77 to .85 (Borum et al., 2006). Other studies have found inter-rater reliability to be excellent, including one study which found SAVRY's total risk score to have an ICC = .91 (Viljoen et al., 2017). The same study found good to excellent scores for the four domains (Historical, Social/Contextual, Individual/Clinical, Protective) ranging from .70 to .89.

Where concurrent validity is concerned, the SAVRY has been examined in relation to the Youth Level of Service/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002), and

the Hare Psychopathy Checklist: Youth Version (PCL:YV; Forth et al., 2003). The risk total was highly correlated for both offender and community samples (Borum et al., 2006). The YLS/CMI is a standardized strengths-focused risk needs assessment tool for youth. The PCL:YC is an assessment tool designed to assess psychopathic traits and behaviours in youth aged 12-18 which include variables associated with recidivism. It is used to help clinician understand the factors that contribute to the development of adult antisocial behaviour and psychopathy. The correlation between the SAVRY and YLS/CMI was found to be .89 and with the PCL:YV to be .78. Several studies found the SAVRY to have sound criterion validity, "[finding] significant correlations between the SAVRY scores and various measures of violence in both juvenile-justice and high-risk community dwelling populations" (Borum et al., 2006, p.67). For example, Catchpole and Gretton (2003) found AUC's that ranged from .74 to .78 for general re-offending and .73 for violent offending. With regard to predictive validity, independent research has shown the SAVRY to have effect sizes comparable to, or better than other risk assessment tools for youth, with effect sizes (weighted r) ranging from .38 for non-violent re-offending and .30 for violent re-offending (Oliver et al., 2009 & Vincent et al., 2009).

Risk Assessment and FASD

As many as 60% of those diagnosed with FASD come into contact with the CJS, with youth with FASD being 19 times more likely than their peers to be in prison (Chartrand & Forbes-Chilibeck, 2003; Fast et al., 1999; Institute of Health Economics, 2013; Popova et al., 2011). Research has proven that they are more vulnerable than most offenders within the CJS (Chartrand & Forbes-Chilibeck, 2003; Pei & Burke, 2018; Popova et al., 2011). As such, several agencies have acknowledged the need to reduce the risk that those with FASD face when they become involved in the criminal justice system and more importantly, to provide appropriate

care, assessment, and intervention to those with FASD involved in the criminal justice system ("FASD in Alberta," 2013; Institute for Health Economics, 2013; Government of Albert, 2007). A core principle of the YCJA is that there should be a strong emphasis on rehabilitative interventions as opposed to imprisonment (Justice Department of Canada, 2000). One way of identifying areas amenable to rehabilitative interventions, as highlighted above is risk assessment.

Studies with adult offenders have shown that those with FASD appear to have elevated risk factors, as opposed to those offenders without an FASD diagnosis (MacPherson, Chudley & B.A, 2011). While those with FASD possess many of the same risk factors for recidivism as those without FASD, it is more difficult to separate the dynamic and static risk factors (Heffron et al., 2011; Pei & Burke, 2018). Furthermore, there is some evidence that environmental risks (e.g., low caregiver supervision) may be exacerbated by a biological vulnerability that is present in those with FASD (Pei et al., 2011 a, b). There is also considerable variation in the pattern and severity of symptoms that present in those with FASD that make assessment of specific risk factors difficult (Astley, 2004; Chudley, 2011; Pei & Burke, 2018). For youth with FASD it becomes fundamentally important that comprehensive assessment take place, not only to address individual risk factors appropriately but also to address the varying physical and neurobehavioural deficits that may exist (Chudley et al., 2005; Pei & Burke, 2018). This being said, current juvenile risk assessment appears to capture risk factors equally well for both those with a diagnosis of FASD and those without (Pei & Burke, 2018).

Based on the above factors (e.g., age, prior offences) the groups in the present study were matched so as to control confounding variables that may impact sentencing. That is to say, for every youth who had a diagnosis of FASD, a youth without FASD who was comparable based

on index offence and prior offence history was chosen for comparison. Risk and protective factors for the FASD sample were analyzed as part of an initial study that sought to examine the risk and protective factors for young offenders with FASD (Deren, 2019). Risk factors for the non-FASD participants were collected and analyzed at a later date. That analysis revealed no significant differences with the exception of positive peers (see **Table A2**). Risk and protective factors are important to consider when forming a sentence and therefore ensuring there were no significant differences between the groups was critical.

The index offences were previously matched for by the most serious offence. No differences were found in demographics, risk or protective factors, or index offences. The CJS requires several variables be considered when sentencing an individual potentially resulting in deferential sentencing. For example, prior criminal history and severity of crime committed. The purpose of the study was to examine whether or not and to what degree, if any, a diagnosis of FASD affects sentencing outcomes. Careful attention was paid to the matching process, in order to control for the variables that impact sentencing. No significant difference between the two groups were found (see **Tables 1, 2, 3, A2** below). Subsequently, the only difference remaining between the two groups and sentencing was a diagnosis of FASD or not. The independent variable consisted of two groups, youth with and without FASD. Sentencing was the dependent variable. Sentences were categorized and coded into 22 dependent variables:

- Stay of Proceedings
- Charges Dismissed
- Jail Time (days)
- Open Custody (days)
- Conditional Sentence

- Intensive Custody
- Attendance Order at a Correctional Facility (hours)
- Supervision Order (days)
- Conditional Discharge
- Absolute Discharge
- Probation (days)
- Restitution (dollars)
- Firearm Prohibition Order (days)
- Lifetime Prohibition Order
- Community Service (hours)

The sentences were coded based on the reporting system utilized by Justice Online Information Network (JOIN). Conditional sentencing, intensive custody, and conditional discharge sentencing options were removed from the analysis as no participants in the sample received those sentences.

Data Analysis

Data Analysis to Control for Confounding Variables

To control for confounding variables, chi-square tests were conducted to examine differences between the FASD sample and the non-FASD sample with regard to index offences, specifically differences in proportion. This ensured that the sample was matched based on the most serious index offence. A one-way ANOVA analysis was used to examine differences in demographic variables between the two groups to help ensure there were no differences between the groups regarding demographic variables. It should be noted that there were no significant differences between the FASD and non-FASD cases (Deren, 2019). After controlling for a

majority of confounding factors, the only significant difference remaining between the two groups was diagnosis of FASD.

Three FASD participants who had sexually offended were removed from the sample due to sample size and the subsequent inability to make any significant conclusions. One of the four females in the study was also removed due to inadequate information in the file. Where risk and protective factors are considered the total number of participants was 33.

Demographic Findings. Of the 37 participants with a diagnosis of FASD, the mean age was 15.70. The minimum age was 13 and the maximum age was 18. The mean age of the 36 participants without a diagnosis of FASD was 16.17 with a minimum age found to be 15 and a maximum age of 18. The difference between the two groups is notable in that mean age between the two groups almost reached significance (p = .104).

Table 1. Age of youth with and without a Diagnosis of FASD

Groups	*n*	Mean	SD	p-value
FASD Group	37	15.70	1.392	.104
Non-FASD Group	36	16.17	.971	
Total (N)	73	15.93	1.217	

When examining ethnicity, 32 of 37 FASD participants were Indigenous and 30 of the 36 non-FASD sample were indigenous. Four participants from each group were Caucasian. Two participants in the non-FASD group were identified as having mixed heritage and there was one participant from the FASD sample for which no information was collected regarding ethnicity.

Table 2. Ethnicities of youth in the study with and without FASD

Ethnicity	FASD Group (*n*)	Non-FASD Group (*n)*
Indigenous	32	30
Caucasian	4	4
Mixed Heritage	0	2
Unknown	1	0
Total	37	36

Comparison of Current Charges. Weapons Offences (WO). Of the participants from the FASD group 13 were charged with a WO at the time of their assessment. Eight youth without a diagnosis of FASD had WO charge.

Crimes involving Threat or Violence (CITV). With regard to CITV charges the two groups were almost identical with 15 participants from the FASD group and 16 participants from the non-FASD group having been charged with CITV.

Drug Offence (DO). Only one individual from the FASD group had been charged with a drug related offences and two individuals from the comparison group (non-FASD) had been charged with a DO.

Offences against the Administration of Justice/YCJA. When looking at the FASD group 25 of the 37 participants had been charged with a crime against the administration of justice, while 26 of 36 non-FASD participants had been charged with same.

Sexual Offences. From the FASD group five participants had been charged with a sexual offence while four from the non-FASD group had been charged with a sexual offence.

When examining charges amongst the two groups, there were no significant associations found. This is a result of the two groups being matched with regard to current charges to control for confounding variables when examining risk.

Table 3. Comparison of current charges at the time of assessment between those with FASD and those without FASD

Type of Charge	Value (X^2)	Sig (p-value)
Weapons	1.485	.223
Threat/Violence	.114	.736
Dishonesty	.012	.913
Drugs	.377	.539
Administration of Justice	.188	.665
Sexual Offences	.097	.755

Risk and Protective Factors. Chi-square tests were conducted to examine the differences of risk and protective factors for the FASD and non-FASD youth. Chi-square analysis was conducted as the data for the risk and protective factors is categorical in nature. This method is commonly used to test whether categorical variables are associated or not (Field, 2018). For example, each risk factor is rated as low, moderate, or high. Several of the assumptions of chi-square analysis were met. For example, the data in the cells were counts of cases and the levels of the variables were mutually exclusive (McHugh, 2013). Chi-square analysis is a robust measure and allows for differences in group sizes (McHugh, 2013). Which was important in this case due to differences in sample sizes. Fisher's exact test P-values are reported due to violations in cell count size. Risk and protective factors were examined in order to reduce their possible and probable confounding effects on sentencing. When examining the risk and protective factors for the two groups, youth with FASD and youth without FASD were found to have no statistically significant differences except for one risk factor (see **Table 2A**).

When evaluating community disorganization, one of the SAVRY variables, 65.6% (n = 21) of youth with FASD and 58.8% (n=10) of youth without FASD were rated as high risk,

while 15.6% (n = 5) and 5.9% (n=1) of youth with and without FASD respectively were rated as a moderate risk. 12.5% (n = 4) of youth with FASD and no youth without FASD were rated as low risk. Two participants from the FASD sample and six participants without FASD could not be rated on this item. This was the only risk factor for which a statistically significant difference was found between the two groups (p-value, .038). This may reflect the number of youth in the control sample who were omitted from this item.

After controlling for a majority of confounding factors, the only significant difference remaining between the two groups was diagnosis of FASD.

Data Analysis for Sentencing

All coded data was entered into the statistical program Statistical Package for the Social Sciences (SPSS) for analysis. A one-way ANOVA analysis was used to examine whether those with FASD were sentenced more or less punitively than their peers. That method was chosen as a result of the number of dependant variables (possible sentences) and to control for familywise or experimentwise error rate (type one error; Field, 2018).

Results

A one-way ANOVA was performed to compare whether having a diagnosis of FASD (independent variable) effected sentencing (dependant variable). The analysis revealed that there were no statistically significant differences among any of the 22 potential sentencing options and those that did or did not have a diagnosis of FASD. In other words, there was no statistically significant differences in sentencing between the FASD and non-FASD group. The results of the one-way ANOVA are summarized in **Table 4**.

Comparison of Sentencing

Stay of Proceedings. Of the participants with FASD .06 percent (n = 2) were given a stay of proceeding. None of those in the non-FASD group received a stay of proceedings. The results of the one-way ANOVA were, F(between groups 1, within groups 68) = (2.186), p = (.144).

Charges Dismissed. No one in FASD group had charges dismissed. In the non-FASD group .03 percent (n = 1) had charges dismissed. The results of the one-way ANOVA were, F(between groups 1, within groups 68) = (.944), p = (.335).

Jail Time (number of days). The FASD group received a mean of 290.614 days of jail time. The non-FASD group received a mean of 410.001 days of gaol time. The one-way ANOVA results were, F(between groups 1, within groups 68) = (.297), p = (.588).

Open Custody (number of days). Those with FASD received a mean of 96.43 days of open custody, while those without FASD received a mean of 35.26 days. No one in FASD group had charges dismissed. In the non-FASD group .03 percent (n = 1) had charges dismissed. The one-way ANOVA results were, F(between groups 1, within groups 68) = (1.048), p = (.310).

Attendance Order - Correctional Facility (number of hours). The mean number of hours for the FASD group was 0.44. The non-FASD group received a mean of 7.64 hours. The results of the one-way ANOVA were, F(between groups 1, within groups 68) = (.969), p = (.328).

Supervision Order (number of days). The FASD group received a mean of 178.868 days on their supervision orders. The non-FASD group received a mean of 251.273 days of supervision time. The one-way ANOVA results were, F(between groups 1, within groups 68) = (.436), p = (.511).

Absolute Discharge. Only one person in the FASD group (m = .030) received an absolute discharge. No one in the non-FASD group was awarded an absolute discharge. The results of the one-way ANOVA were, F(between groups 1, within groups 68) = (1.060), p = (.307).

Probation (number of days). The FASD group received a mean of 1994.333 days of probation time. The non-FASD group received a mean of 1258.084 days of probation time. The one-way ANOVA results were, F(between groups 1, within groups 68) = (.979), p = (.326).

Restitution (dollars). No one in the FASD group received a sentence involving restitution. In the non-FASD group the mean number of dollars of restitution was 71.333. The results of the one-way ANOVA were, F(between groups 1, within groups 68) = (.932), p = (.338).

Firearm Prohibition (number of days). The FASD group received a mean of 784.213 days of where they could not possess firearms. The non-FASD group received a mean of 415.979 days. The one-way ANOVA results were, F(between groups 1, within groups 68) = (1.360), p = (.248).

Lifetime Firearm Prohibition. Only one person in the FASD group received a lifetime firearms prohibition. Not one participant in the non-FASD received a sentence of a lifetime firearms prohibition. The results of the one-way ANOVA were, F(between groups 1, within groups 68) = (1.060), p = (.307).

Community Service (number of hours). The FASD group received a mean number of .59 hours of community service. Those in the non-FASD group received a mean number of .71 hours of community service. The one-way ANOVA results were, F(between groups 1, within groups 68) = (.057), p = (.813).

Table 4. Sentencing differences between youth with and without FASD (One-Way ANOVA)

Sentencing Type	df	F	Sig (p-value)
Stay of Proceedings	1	2.186	.144
Charges Dismissed	1	.944	.335
Gaol Time (# of day)	1	.297	.588
Open Custody	1	1.048	.310
Attendance Order: Correctional Facility (hours)	1	.969	.328
Supervision Order	1	.436	.511
Absolute Discharge	1	1.060	.307
Probation	1	.979	.326
Restitution (dollars)	1	.932	.338
Firearm Prohibition (days)	1	1.360	.248
Lifetime Firearm Prohibition	1	1.060	.307
Community Service (hours)	1	.057	.813

In summary, sentencing decisions were not impacted by whether or not there was a diagnosis of FASD. That means that FASD was not considered a mitigating or aggravating factor and that judges were likely adhering to standard sentencing principles regardless of a diagnosis of FASD. The results have this study have several important implications and highlight the need for further research in this area.

Discussion

The economic, societal, and personal impact of FASD is substantial. It is understood that, as a result of varying impairments, those with FASD are more vulnerable to coming into contact with and maintaining contact with the CJS (Chartrand & Forbes-Chilibeck, 2003; Fast et al., 1999; Institute of Health Economics, 2013; Popova et al., 2011). Research has shown that at every stage of the CJS, FASD can present a myriad of challenges; however, the issue of FASD is most commonly raised and considered during the sentencing stage of the criminal justice process (Gagnier et al., 2011; Millward, 2013; Roach & Bailey, 2009). According to several sources (Chartrand & Forbes-Chilibeck, 2003; Milward, 2013), the sentencing of adults with FASD has

proven difficult, resulting in inconsistencies among sentencing (e.g., severity of sentence). This is the first quantitative study to compare sentencing differences between youth with and without FASD. The study included all potential Canadian sentencing types and all offences recognized under the YCJA. The matching process was rigorous and all statistical analysis revealed that the samples were equal, with the only significant difference being whether or not the youth had a diagnosis of FASD. However, there are limitations to this study that need to be acknowledged.

Limitations of Study

First, the identities of judges and lawyers overseeing the individual cases were not recorded. That could likely be a confounding factor. For example, the degree of knowledge a judge or lawyer may have regarding FASD and associated characteristics will vary (Brown et al., 2014; Gagnier et al., 2011). Consequently, there could be biases in terms of how clients are represented and sentences are received (Chartrand & Forbes-Chilibeck, 2003; Institute of Health Economics, 2013; Milward, 2014). The information regarding sentencing judges was purposefully not provided by JOIN for the study as per the Information Sharing Agreement and various court orders. Given this limitation there was no communication with any of the judges or lawyers involved. So it cannot be concluded whether the issue of FASD was ever raised or not. It is possible that FASD was considered, and the sentencing remained the same. In the future it would be beneficial to assess whether and how the diagnosis of FASD was considered during court proceedings.

Sample size must also be considered when looking at the precision of a study (Carlson & Morrison, 2009). FASD, as with any diagnosis, is the exception rather than the rule and falls victim to low base rates. Therefore, the sample size within this study limits generalizability. Further limiting generalizability is that the participants in the study represent a small fraction of

the youth within the CJS. There are many young offenders who never receive a Section 34 assessment. The youth that are chosen to receive Section 34 reports are those in which incarceration is being proposed, a lengthy criminal history is present, or something has piqued the interest of professionals dealing with that youth. Furthermore, there is also speculation that there are a number of youth and adults within the CJS that have not been diagnosed with FASD that would warrant a diagnosis (Fast et al., 1999, MacPherson, 2011). It is not unfathomable that some of those in the control sample would be found to have FASD if they had been assessed.

Significance of Findings

The analysis revealed that there were no statistically significant differences in any of the 22 potential sentencing options between those that did and did not have FASD. The adult offender literature has found inconsistencies with sentencing procedures that has spurred a great deal of debate amongst law, policy, and healthcare professionals (Chartrand et al., 2003; Gagnier et al., 2011; Milward, 2014; Roach & Bailey, 2009). The debate amongst researchers, policymakers, and other professionals on how to proceed judicially with a person with FASD has extended to forensically-involved youth with FASD (Gagnier et al., 2011; Milward, 2014).

The Canadian legal system acknowledges that youth are different from their adult counterparts and, consequently, should not be treated similarly or held as accountable for their deviant and/or criminal behaviour (Alvi, 2012; Bala & Anand, 2012). In essence, youth are considered a vulnerable population. There are a number of definitions of vulnerable populations which can be useful in understanding why youth who offend, especially those with FASD are considered a vulnerable population. Such groups can be conceived of as a

> "disadvantaged sub-segment of the community requiring the upmost care, specific ancillary considerations and augmented protections in research,… the individuals'

> freedom and capability to protect one-self from intended or inherent risks is variably abbreviated, from decreased freewill to inability to make informed choices…Those individuals or groups who have a greater probability than the population as a whole of being harmed and experiencing an impaired quality of life because of social, environmental, health, or economic conditions or policies" (Shivayogi, 2013, p. 53).

Similarly, vulnerable populations comprise individuals "who lack the ability to make personal life choices, to make personal decisions, to maintain independence, and to self-determine" (Moore & Miller, 1999, p. 1034). Based on these definitions youth who are criminally involved present as a doubly vulnerable population (Moore & Miller, 1999). Given that vulnerability, youth criminal behaviour is seen in many societies as a major concern (Shivayogi, 2013; Statistics Canada, 2016). Consequently, youth justice has historically and currently spurred a great deal of controversy (Allen, 2002; Alvi, 2012; Bala & Anand, 2012). Public opinion generally divides into two opposing viewpoints: (1) youth who commit offences should not be penalized but rather rehabilitated and (2) young offenders should be held to higher standards of punishment for the crimes they commit (Allen, 2002; Alvi, 2012; Bala & Anand, 2012). In fact, some posit that youth interventions should be bound by court orders with the threat of detention if the youth do not comply (Allen, 2002). Subsequently, surrounding this historical and current controversy, in Canada the legal treatment of youth has evolved significantly (Alvi, 2012; Bala & Anand, 2012). Though controversy remains, it is generally accepted that children and adolescents have special needs and capacities that require distinctive, or at least separate, treatment from adults (Bala & Anand, 2012). Such treatment should emphasize a developmental and rehabilitative perspective, which is reflected in the YCJA sentencing principles (Bala & Anand, 2012; Barbot & Hunter, 2012). Youth with FASD present as a "doubly vulnerable"

population for which even traditional youth sentencing principles may not apply given the impairments that often accompany the diagnosis.

From a justice perspective the findings of this study would suggest the sentencing principles, as they pertain to the YCJA, are being implemented and followed diligently. From that viewpoint this could be considered a positive finding. Although there were inconsistencies found in adult sentencing, those inconsistencies were not noted in this study for youth. In this regard, it appears that the YCJA is functioning as intended. This is despite the fact there is still a considerable degree of discretion in sentencing. However, whether or not FASD should be considered a mitigating or aggravating factor, thereby impacting sentencing, is a more contentious issue. The question of this study was whether or not there were differences. The study answered that question and, from a purely quantitative perspective, it appears as though having a diagnosis of FASD does not impact youth sentencing, even though the existing literature suggests that it should be (Flannigan et al., 2018; Parliament of Canada, 2014). However, there are difficulties faced by those with FASD that could be considered a mitigating/aggravating factor that could not be controlled for in the sample and would best be answered using a mixed method or qualitative approach. For example, it is difficult to truly assess one's comprehension of behaviour and consequence. This issue is often not transparently discussed in a PSR or Section 34 report. Comprehension of the legal system and whether a youth truly understands the consequences of a guilty or not guilty plea is often not addressed. The bar for Fitness to Stand Trial is rather low (R. v. Taylor, 1992) and typically consists of asking various questions about court proceedings, rather than assessing actual comprehension. This is of concern given that research has revealed that psycholegal abilities are often impaired for youth with FASD (McLachlan & Rasmussen, 2018; McLachlan et al., 2014). For example, youth will

often present for a Section 34 assessment having agreed to a Peace Bond, despite maintaining their innocence. A Peace Bond is:

> A protection order made by a court under section 810 of the Criminal Code. It is used where an individual (the defendant) appears likely to commit a criminal offence, but there are no reasonable grounds to believe that an offence has actually been committed (Government of Albert, 2017, para. 1).

Peace bonds are often chosen for sexual offences because they are difficult to prove beyond a reasonable doubt. While this is not a formal conviction one can easily take place if conditions are not met. As described at length earlier, those with FASD can suffer from various secondary disabilities that leave them vulnerable to violating conditions, thus leading to a formal conviction, and further sentencing, even when they committed no crime. The sentencing issues involving a Peace Bond for sexual offending may also be of importance when considering those with FASD, as certain vulnerabilities may make them more susceptible to committing sexual offenses (Brown et al., 2014; Streissguth et al., 1996). For example, those with FASD were most commonly cited to engage in appropriate sexual behaviours such as sexual advances, sexual touching, and promiscuity. That is thought to be a result of problems with recognition of and respect for interpersonal and social boundaries that often accompany a diagnosis of FASD (Brown et al., 2014; Streissguth, 1996). This can be further aggravated by poor executive functioning that leads to impulsivity and issues of attention and judgment. Fast and Conry (2009) note this to be of particular concern in adolescence when a gap can exist between chronological age and cognitive capacity.

Sentencing those with FASD using the same sentencing principles that apply to their peers may place them at a disadvantage and further perpetuate their involvement in the CJS. For

example, we know that those with FASD can be more easily manipulated and victimized, and have trouble adapting in prison settings (Chartrand & Forbes-Chilibeck, 2003; Douglas, 2010; Fast & Conry, 2009; Fast et al., 1999; Institute of Health Economics, 2013; Pei & Burke, 2018; Popova et al., 2011; Roach & Bailey, 2009). Consequently, should they be placed in custody they may more likely to be convinced by other peers to carry out tasks such as inflicting violence on others or carrying drugs. Not surprisingly, incarceration increases exposure to antisocial peers that may perpetuate further offending, or place them at greater risk of victimization (Gagnier et al., 2011). Given the above information, those with FASD possess a variety of deficits that could potentially serve as mitigating factors (e.g., cognitive impairments leading to difficulties understanding psycholegal abilities) (McLachlan 2012; McLachlan, 2014).

While Canadian judges and other professionals are becoming more aware of applying standard sentencing rationales and are more supportive of needs-based sentencing, often the community resources and supports needed to support alternative sentencing do not exist (Alvi, 2012; Bala & Anand, 2012; Chartrand & Forbes-Chilibeck, 2003; Gagnier et al., 2011; Milward, 2014). If the resources do not exist in the community, judges regardless of their knowledge of FASD, have no choice but to impose the sentencing options that exist. For example, while it may be known that incarceration can cause more harm for those with FASD, if there is no suitable community placement option that could mitigate risk there may be no other option. If a judge were to implement a community-based sentence and the appropriate programming is not in place, probation officers are put in an untenable position of finding suitable treatment options that do not exist. In saying this, arguments could be made for individual cases where FASD may be considered an aggravating factor. For example, if someone has a diagnosis of FASD and as a result struggles to comprehend behaviour and consequences, is highly impulsive, has poor

decision-making abilities, and has committed multiple violent offences, one could argue that the diagnosis of FASD should be considered an aggravating factor and warrant more restrictive sentencing because they are more likely to re-offend. This raises the question of how to balance individual rights with the protection of the public. It could certainly be argued that, if a more restrictive sentence is imposed, there ought to be sentencing options tailored to the unique constellation of impairments and strengths of the youth with FASD.

There are also the financial aspects of these positions. The adjusted annual cost estimates for all individuals with FASD in Canada ranges from $1.9 billion to 10.5 billion (Greenmyer et al., 2018; Greenmyer et al., 2020). While in Alberta alone, the total annual cost associated with FASD is estimated to be approximately 927.5 million dollars ("FASD in Alberta," 2013). It is likely that a significant portion of the dollar estimates are spent within the CJS (e.g., incarceration, probation, assessment, and court proceedings). Because of the economic impact, research is now examining the economic advantage of preventing FASD.

Recently, Greenmyer et al., (2020) conducted a systematic review of the published literature on the cost of FASD prevention. Their results suggested that prevention could result in as much as a 62-fold cost reduction for women with a high occurrence of risk, with one study noting that the cost of raising a child with FAS would be approximately 30 times the cost of preventing one case of FASD (Astley et al., 2000). One prevention program that has been utilized in Alberta is Parent-Child Assistance Program (P-CAP). P-CAP is a three-year home visitation/harm reduction intervention to prevent alcohol exposed births, thereby births with fetal alcohol spectrum disorder, among high-risk women. This program alone, with funding equivalent to 1% of the annual cost of care, would provide a net savings of $137 216 000 – 761 208 679 (Greenmyer et al., 2020; Thanh et al., 2015). The cost savings is not only associated

with prevention but with reduced dependence on public assistance, increased employment, and increased levels of education. The ideal way to cease FASD from colliding with the justice system is to prevent FASD in the first place. Therapeutic endeavours should also be considered as a way to minimize cost and criminal justice involvement including sentencing.

Paley & Connor (2011) summarized several beneficial treatment strategies and posited that treatment for FASD should focus on alcohol-exposed infants and toddlers in order to capitalize on early neuroplasticity, and mitigate secondary difficulties (e.g., poor self-regulation) thereby paving the way for more positive trajectories. They also highlight the importance of interventions for those with FASD that are transitioning to adulthood because of the myriad of difficulties that arise (e.g., substance abuse problems and criminal justice involvement (McLachlan et al., 2020; Paley & Connor, 2011). While there is hope regarding treatment and prevention, researchers such as Greenmyer and colleagues (2020) highlight how "estimates based on data from both Canada and the United States agencies suggest that prevention and research accounts for less than 0.5% of total FASD funding" (p. 415). There is, in general, inadequate support for most people with FASD, particularly those that are involved in the CJS (Alvi, 2012; Bala & Anand, 2012; Jonsson, 2019). The need currently outweighs the resources. This places restrictions on mental health service providers, probation officers, judges, and lawyers with their responses to appropriate sentencing and the enforcement of sentences.

Another consideration is that while several efforts have been made to educate various professionals about FASD there remains a lack of community resources which are necessary when considering community-based sentencing and treatment options (Alvi, 2012; Bala & Anand, 2012). Therefore, while judges, lawyers, and other professionals may make efforts to

recommend and enforce various community-based sentencing judgments that would benefit those with FASD, it may not be possible to do so.

Recommendations

This study is the first quantitative study to examine sentencing differences between youth with and without FASD. Much of the research to date has been speculative. This study spanned a total of seven years. A total of three court orders had to be obtained, and several lawyers were involved. This is a result of the current privacy protection surrounding youth justice information. Those same privacy laws are not afforded to adult offenders. Consequently, making information and research more attainable with adult offenders. With the time and onerous effort required to conduct research with young offenders it is no wonder that research to date has largely been speculative or conducted with very small sample sizes. While this study is a step in the right direction, it leads to many more questions and highlights the need for future research. Outside of research it is also noteworthy that information sharing policies for young offenders has negatively impacted continuity of care, especially in the Alberta region. While obtaining information as a researcher is challenging, obtaining information as a healthcare professional also presents with several hurdles and often requires judicial approval. This means that while a justice-involved youth may receive a comprehensive assessment (e.g., Section 34) with diagnosis, (e.g., FASD) along with helpful recommendations, that information is often not provided to caregivers or professionals working with those individuals. This results in youth receiving multiple assessments for the same diagnostic questions, and leaves caregiving facilities at a loss of how to deal with behaviourally and cognitively impaired clients. This presents yet another challenge and hurdle for those with FASD gaining accesses to services and receiving

appropriate care. These are all larger scale issues plaguing the youth justice system that need to be addressed.

There are several recommendations that can be made. First, preventing a disorder from occurring is ultimately in the best interest of individuals and society. When considering FASD, it is also the most cost-effective (Greenmyer et al., 2020). However, less than 0.5% of FASD funding is spent on prevention and research (Greenmyer et al., 2020). More money needs to be devoted to prevention strategies and research.

When considering research, especially within the Youth Criminal Justice System, there should be easier access to information that would allow researchers the ability to conduct research that could provide evidence to spur policy and legislative changes. Numerous committees, politicians, and legal and health care professionals have suggested that it is critical changes be made to accommodate and consider those with FASD in the CJS. Yet these calls for change are rarely implemented in any meaningful way. For example, we have made efforts to educate. However, in speaking with various professionals these attempts at education are not enough. For example, many probation officers are required to take a short, independent learning module about FASD. While this raises awareness, to be able to recognize FASD is not the same as understanding the strengths and barriers it may present and how to overcome those barriers.

While we now better, understanding the limits of FASD on behaviour there needs to be a more creative means of enforcing rules and delivering sentencing such as through various programming. For those with FASD that find themselves involved with CJS, we need programming in place that builds on their strengths and alleviates or diminishes their risk for further CJS involvement. While there are treatments that have be shown to be effective (Flannigan et al., 2020; Paley & O'Connor, 2011; Pei et al., 2019), gaining access to these

treatments is difficult and there are few programs offering these treatments. Plus, appropriate treatment cannot be offered if a diagnosis is never made, and treatment becomes more difficult in cases of delayed diagnosis.

There needs to be easier access to FASD assessment in order to facilitate early diagnosis. More community assessment centers need to exist that offer FASD assessments at a reduced fee or free of cost. Many assessment centers require that the majority of psychological testing be completed prior to being accepted for FASD assessment. That initial testing is very costly and means that many will go without. Other barriers may also need to be removed, such as stringent criteria that must be met in order to qualify for a diagnostic assessment. For example, a maternal confirmation of alcohol exposure is often required. This information may be impossible obtain, leaving a person in need of an assessment but unable to access one. It would also be beneficial to build community relationships so that assessors could attend communities identified as having higher prevalence rates to conduct assessments within those communities. This would remove geographic as well as economic barriers. Furthermore, building positive and trusting relationships could open the door to implement prevention and intervention programming within high-risk communities. Unfortunately, many individuals will still have to have contact with the CJS before they will be assessed.

If assessed by way of a Section 34, that assessment belongs to the court and it often becomes difficult for those working with that individual to gain access to this report. It is therefore recommended that legislation be adapted to allow the sharing of, at least, the diagnostic and treatment recommendations highlighted in those reports. In some Canadian jurisdictions it is mandatory that the Section 34 be shared with relevant parties. That trend however has not extended throughout the country and varying policies exist. The sharing of such information is

paramount for continuity of care, as well as providing those with FASD with increased funding opportunities.

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Youth Criminal Justice Act, SC 2002, c 1, s 40(2)

Appendix

Table A1. SPSS Data Entry, Operational Definition, and Values

Variable	Operational Definition	Value
Age	Chronological age reported at time of assessment	12 – 19
Ethnicity	As reported in the assessment by the youth	Indigenous, Caucasian, Mixed Heritage, Unknown
Charges listed on the Section 34	• Weapons Offence • Crimes Involving Threat of Violence • Drug Offence • Crimes Against Administration of Justice • Sexual Offence	"Yes" or "No"
Prior Charges	This information was provided by JOIN, and often mentioned in the Section 34 assessment	"Yes" or "No"
Risk Factors	The 24 risk factors listed in the SAVRY (*refer to Table A2 below for full list)* (Borum et al., 2006).	Low, Moderate, High, Unknown
Protective Factors	The five protective factors listed in the SAVRY (*refer to Table A2 below for full list)* (Borum et al., 2006).	Present, Absent, Unknown
Sentencing Type	• Stay of Proceedings • Charges Dismissed • Jail Time • Open Custody • Attendance Order (Correctional Facility) • Supervision Order • Absolute Discharge • Probation Order • Firearms Prohibition	"Yes" or "No" "Yes" or "No" Number of Days Number of Days Number of Hours Number of Days "Yes" or "No" Number of Days "Yes" or "No"

• Lifetime Firearms Prohibition	"Yes" or "No"
• Community Service	Number or Hours

Table A2. Chi-square analysis of Risk and Protective Factors for Youth with and without FASD

Risk Factors	All Subjects (N= 49)	Subjects without FASD (*n*= 17)	Subjects with FASD (*n*= 32)	P-Value
History of Violence				
• Low	6.1% (*n*=3)	11.8% (*n*=2)	3.1% (*n*=1)	.545
• Medium	6.1% (*n*=3)	5.9% (*n*=1)	6.3% (*n*=2)	
• High	87.8% (*n*=43)	82.4% (*n*=14)	90.6% (*n*=29)	
History of Non-Violent Offending				
• Low	4.1% (*n*=2)	5.9% (*n*=1)	3.1% (*n*=1)	.595
• Medium	6.1% (*n*=3)	0% (*n*=0)	9.4% (*n*=3)	
• High	89.8% (*n*=44)	94.1% (*n*=16)	87.5% (*n*=28)	
Early Initiation of Violence				
• Low	8.2% (*n*=4)	11.8% (*n*=2)	6.3% (*n*=2)	.772
• Medium	16.3% (*n*=8)	17.6% (*n*=3)	15.6% (*n*=5)	
• High	75.5% (*n*=37)	70.6% (*n*=12)	78.1% (*n*=25)	
Past Supervision/Intervention Failures				
• Low	10.2% (*n*=5)	5.9% (*n*=1)	12.5% (*n*=4)	.767
• Medium	2.0% (*n*=1)	0% (*n*=0)	3.1% (*n*=1)	
• High	87.8% (*n*=43)	94.1% (*n*=16)	84.4% (*n*=27)	
History of Self-Harm or Suicide Attempts				
• Low	53.1% (*n*=26)	41.2% (*n*=7)	59.4% (*n*=19)	.413
• Medium	26.5% (*n*=13)	35.3% (*n*=6)	21.9% (*n*=7)	
• High	20.4% (*n*=10)	23.5% (*n*=4)	18.8% (*n*=6)	
Exposure to Violence in the Home				
• Low	26.5% (*n*=13)	23.5% (*n*=4)	28.1% (*n*=9)	.502
• Medium	12.2% (*n*=6)	5.9% (*n*=1)	15.6% (*n*=5)	
• High	59.2% (*n*=29)	64.7% (*n*=11)	56.3% (*n*=18)	
• Unknown	2.0% (*n*=1)	5.9% (*n*=1)	0% (*n*=0)	
Childhood History of Maltreatment				

• Low	8.2% (*n*=4)	5.9% (*n*=1)	9.4% (*n*=3)	.348
• Medium	16.3% (*n*=8)	5.9% (*n*=1)	21.9% (*n*=7)	
• High	69.4% (*n*=34)	76.5% (*n*=13)	65.6% (*n*=21)	
• Unknown	6.1% (*n*=3)	11.8% (*n*=2)	3.1% (*n*=1)	
Parental/Caregiver Criminality				
• Low	12.2% (*n*=6)	17.6% (*n*=3)	9.4% (*n*=3)	.621
• Medium	28.6% (*n*=14)	35.3% (*n*=6)	25% (*n*=8)	
• High	57.1% (*n*=28)	47.1% (*n*=8)	62.5% (*n*=20)	
• Unknown	2.0% (*n*=1)	0% (*n*=0)	3.1% (*n*=1)	
Early Caregiver Disruption				
• Low	14.3% (*n*=7)	23.5% (*n*=4)	9.4% (*n*=3)	.607
• Medium	14.3% (*n*=7)	11.8% (*n*=2)	15.6% (*n*=5)	
• High	65.3% (*n*=32)	58.8% (*n*=10)	68.8% (*n*=22)	
• Unknown	6.1% (*n*=3)	5.9% (*n*=1)	6.3% (*n*=2)	
Poor School Achievement				
• Low	4.1% (*n*=2)	5.9% (*n* =1)	3.1% (*n*=1)	.060
• Medium	12.2% (*n*=6)	23.5% (*n*=4)	6.3% (*n*=2)	
• High	81.6% (*n*=40)	64.7% (*n*=11)	90.6% (*n*=29)	
• Unknown	2.0% (*n*=1)	5.9% (*n*=1)	0% (*n*=0)	
Peer Delinquency				
• Low	8.2% (*n*=4)	5.9% (*n*=1)	9.4% (*n*=3)	.913
• Medium	4.1% (*n*=2)	5.9% (*n*=1)	3.1% (*n*=1)	
• High	83.7% (*n*=41)	88.2% (*n*=15)	81.3% (*n*=26)	
• Unknown	4.1% (*n*=2)	0% (*n*=0)	6.3% (*n*=2)	
Peer Rejection				
• Low	57.1% (*n*=28)	64.7% (*n*=11)	53.1% (*n*=17)	.494
• Medium	14.3% (*n*=7)	17.6% (*n*=3)	12.5% (*n*=4)	
• High	28.6% (*n*=14)	17.6% (*n*=3)	34.4% (*n*=11)	
Stress and Poor Coping				
• Low	8.2% (*n*=4)	17.6% (*n*=3)	3.1% (*n*=1)	.178
• Medium	2.0% (*n*=1)	0% (*n*=0)	3.1% (*n*=1)	
• High	89.8% (*n*=44)	82.4% (*n*=14)	93.8% (*n*=30)	
Poor Parental Management				
• Low	8.2% (*n*=4)	0% (*n*=0)	12.5% (*n*=4)	.462
• Medium	4.1% (*n*=2)	5.9% (*n*=1)	3.1% (*n*=1)	
• High	85.7% (*n*=42)	94.1% (*n*=16)	81.3% (*n*=26)	
• Unknown	2.0% (*n*=1)	0% (*n*=0)	3.1% (*n*=1)	
Lack of Personal/Social Support				
• Low	16.3% (*n*=8)	17.6% (*n*=3)	15.6% (*n*=5)	.713

• Medium	28.6% (*n*=14)	35.3% (*n*=6)	25% (*n*=8)	
• High	55.1% (*n*=27)	47.1% (*n*=8)	59.4% (*n*=19)	
Community Disorganization				
• Low	8.2% (*n*=4)	0% (*n*=0)	12.5% (*n*=4)	.038*
• Medium	12.2% (*n*=6)	5.9% (*n*=1)	15.6% (*n*=5)	
• High	63.3% (*n*=31)	58.8% (*n*=10)	65.6% (*n*=21)	
• Unknown	16.3% (*n*=8)	35.3% (*n*=6)	6.3% (*n*=2)	
Negative Attitudes				
• Low	8.2% (*n*=4)	5.9% (*n*=1)	9.4% (*n*=3)	.653
• Medium	32.7% (*n*=16)	41.2% (*n*=7)	28.1% (*n*=9)	
• High	59.2% (*n*=29)	52.9% (*n*=9)	62.5% (*n*=20)	
Risk Taking Impulsivity				
• Low	0% (*n*=0)	0% (*n*=0)	0% (*n*=0)	.537
• Medium	4.1% (*n*=2)	0% (*n*=0)	6.3% (*n*=2)	
• High	95.9% (*n*=47)	100% (*n*=17)	93.8% (*n*=30)	
Substance-Use Difficulties				
• Low	4.1% (*n*=2)	0% (*n*=0)	6.3% (*n*=2)	.893
• Medium	12.2% (*n*=6)	11.8% (*n*=2)	12.5% (*n*=4)	
• High	81.6% (*n*=40)	88.2% (*n*=15)	78.1% (*n*=25)	
• Unknown	2.0% (*n*=1)	0% (*n*=0)	3.1% (*n*=1)	
Anger Management Problems				
• Low	12.2% (*n*=6)	11.8% (*n*=2)	12.5% (*n*=4)	.902
• Medium	20.4% (*n*=10)	23.5% (*n*=4)	18.8% (*n*=6)	
• High	67.3% (*n*=33)	64.7% (*n*=11)	68.8% (*n*=22)	
Low Empathy/Remorse				
• Low	12.2% (*n*=6)	5.9% (*n*=1)	15.6% (*n*=5)	.297
• Medium	30.6% (*n*=15)	47.1% (*n*=8)	21.9% (*n*=7)	
• High	53.1% (*n*=26)	47.1% (*n*=8)	56.3% (*n*=18	
• Unknown	4.1% (*n*=2)	0% (*n*=0)	6.3% (*n*=2)	
Attention Deficit/Hyperactivity Difficulties				
• Low	53.1% (*n*=26)	64.7% (*n*=11)	46.9% (*n*=15)	.195
• Medium	12.2% (*n*=6)	17.6% (*n*=3)	9.4% (*n*=3)	
• High	34.7% (*n*=17)	17.6% (*n*=3)	43.8% (*n*=14)	
Poor Compliance				
• Low	6.1% (*n*=3)	0% (*n*=0)	9.4% (*n*=3)	.190
• Medium	16.3% (*n*=8)	23.5% (*n*=4)	12.5% (*n*=4)	
• High	75.5% (*n*=37)	70.6% (*n*=12)	78.1% (*n*=25)	
• Unknown	2.0% (*n*=1)	5.9% (*n*=1)	0% (*n*=0)	

Low Interest/Commitment to School				
• Low	6.1% (*n*=3)	5.9% (*n*=1)	6.3% (*n*=2)	1.00
• Medium	14.3% (*n*=7)	11.8% (*n*=2)	15.6% (*n*=5)	
• High	79.6% (*n*=39)	82.4% (*n*=14)	78.1% (*n*=25)	
Prosocial Involvement				
• Present	10.2% (*n*=5)	5.9% (*n*=1)	12.5% (*n*=4)	.646
• Absent	89.8% (*n*=44)	94.1% (*n*=16)	87.5% (*n*=28)	
Strong Social Supports				
• Present	34.7% (*n*=17)	52.9% (*n*=9)	25% (*n*=8)	.065
• Absent	65.3% (*n*=32)	47.1% (*n*=8)	75% (*n*=24)	
Strong Attachments and Bonds				
• Present	38.8% (*n*=19)	58.5% (*n*=10)	28.1% (*n*=9)	.063
• Absent	61.2% (*n*=30)	41.2% (*n*=7)	71.9% (*n*=23)	
Positive Attitude toward Intervention and Authority				
• Present	22.4% (*n*=11)	29.4% (*n*=5)	18.8% (*n*=6)	.480
• Absent	77.6% (*n*=38)	70.6% (*n*=12)	81.3% (*n*=26)	
Strong Commitment to School				
• Present	14.3% (*n*=7)	17.6% (*n*=3)	12.5% (*n*=4)	.681
• Absent	85.7% (*n*=42)	82.4% (*n*=14)	87.5% (*n*=28)	
Resilient Personality Traits				
• Present	4.2% (*n*=2)	6.3% (*n*=1)	3.1% (*n*=1)	1.00
• Absent	95.8% (*n*=46)	93.8% (*n*=15)	96.9% (*n*=31)	