An Archival Descriptive Study: Risk and Protective Factors of Recidivism for Youth with Fetal Alcohol Spectrum Disorder

by

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Abstract

A majority (60%) of youth with *Fetal Alcohol Spectrum Disorder* (FASD) will come into contact with law at some point in their lives (Institute for Health Economics, 2013). The reasons for this troubling statistic is hypothesized to be a result of the varying cognitive, social, and behavioural problems that are present in individuals who experienced pre-natal alcohol exposure (Chartrand & Forbes-Chilibeck, 2003). The *Youth Criminal Justice Act* (YCJA) in Canada proposes that a balance must be struck between maintaining public safety while strongly emphasizing rehabilitative interventions as opposed to imprisonment (Justice Department of Canada, 2000). In order to implement effective rehabilitative interventions, it is critical to identify what the relevant needs/risks and circumstances of FASD youth are. The current archival descriptive study examined the relevant risk factors for 37 youth with FASD who received a Section 34 assessment in the Edmonton and surrounding area between 2010 and 2015. The *Structured Assessment of Violence Risk in Youth* (SAVRY) was utilized in order identify relevant risk and protective factors. It was found that the majority of youth not only rated high on several of the risk factors but were also found to have almost no protective factors. Implications of this finding and future research directions are discussed.

Keywords: youth, fetal alcohol spectrum disorder (FASD), prenatal alcohol exposure, risk assessment, risk factors, protective factors, structured assessment of violence risk in youth (SAVRY), criminal justice system

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 8, 2019.

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Introduction

According to the *Consensus Statement on Legal Issues of Fetal Alcohol Spectrum Disorder* (FASD) (Institute for Health Economics, 2013), it is estimated that the costs associated with education, health, correctional services, productivity losses, and other services are approximately 1.5-2 million dollars for each individual, with FASD, over the span of their lifetime. The total annual cost associated with FASD in Alberta is estimated to be approximately 927.5 million dollars ("FASD in Alberta," 2013). It is postulated that nine in every 1000 babies, or 450 each year, are born with FASD in Alberta, which equates to more than 36,000 Albertans. In response, the Government of Alberta has initiated the *FASD 10-Year Strategic Plan* ("FASD in Alberta," 2013). This plan aspires to help "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).

Unfortunately, several studies and reviews have identified that those diagnosed with Fetal Alcohol Spectrum Disorder are coming into contact with the Criminal Justice System (CJS) at an alarming rate (Chartrand & Forbes-Chilibeck, 2003; Fast, Conry, & Loock, 1999; Institute of Health Economics, 2013; Popova, Lange, Bekmuradov, Mihic, & Rehem, 2011). In fact, the majority (60%) of individuals with FASD will come into contact with law at some point in their lives (Institute for Health Economics, 2013). Popova and colleges (2011) offered an estimate, based on relative risk calculations, that in 2008/2009 youth with FASD were 19 times more likely to be in prison than their peers without FASD. The reasons for this troubling correlation are hypothesized to be a result of the varying cognitive, social, and behavioural problems that are present in individuals who experienced pre-natal alcohol exposure (Chartrand & Forbes-Chilibeck, 2003). Research has shown that at every stage of the Criminal Justice System, 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 (Gragnire et al., 2011; Millward, 2013; Roach & Bailey, 2009). According to several sources (Chartrand & Forbes-Chilibeck, 2003; Milward, 2013), the sentencing of individuals with FASD has proven difficult resulting in inconsistencies among sentencing (e.g., severity of sentence). The *Young Offender's Act* in Canada was replaced by the *Youth Criminal Justice Act* (YCJA) in 2003. The YCJA maintained its stance on protecting the safety of the public. However, it is thought to be noteworthy that the new act strongly emphasizes rehabilitative interventions as opposed to imprisonment (Justice Department of Canada, 2000). In order to implement effective rehabilitative interventions, it is critical to identify what the relevant needs/risks and circumstances of FASD youth are. For this reason researchers and clinicians have turned to risk assessment instruments. It is proposed that, "risk assessment and intervention are complimentary processes that identify risk factors for the youths (risk assessment) and address these issues (intervention)" (Catchpole & Gretton 2003, p. 705). If the YCJA is to be successful in implementing a more rehabilitative approach, and if addressing relevant risk and protective factors is fundamental to implementing appropriate intervention, it is critical to understand what risk and protective factors are prevalent amongst those with FASD. There are several risk factors that have been identified as strongly correlated with recidivism among the youth population (Borum 2000; Schwalbe, 2007; Singh 2012). Researchers have hypothesized which of those risk factors are present for youth with FASD within the CJS (Chartrand & Forbes-Chilibeck, 2003; Fast & Conry, 2009; Institute of Health Economics, 2013; Pei & Burke 2018). However, little research has systematically examined what particular risk and protective factors are present for those with FASD using a standardized risk assessment measure. This study sought to examine

what risk and protective factors were present for young offenders with FASD in the Edmonton and surrounding area using the Structured Assessment of Violence Risk in Youth (SAVRY) and the Estimate of Risk of Adolescent Sexual Offence Recidivism (ERASOR).

Literature Review

Fetal Alcohol Spectrum Disorder

Fetal Alcohol Spectrum Disorder (FASD) is the non-diagnostic, umbrella term that researchers have adapted to refer to the range of disorders that results from permanent brain damage and/or abnormalities associated with pre-natal alcohol exposure (PAE) (Chartrand & Forbes-Chilibeck, 2003; Douglas, 2010; Fast & Conry, 2009). Andrew (2009) gives a thorough description of FASD. The term "fetal" refers to the changes in normal developmental in utero. "Alcohol" is a teratogen that causes cell changes and damage. "Spectrum" refers to the damage and/or difficulties present that result and range from moderate to severe. Finally, "Disorder" refers to the inability to function and adapt as expected across the lifespan. Variations of the diagnosis include Fetal Alcohol Syndrome (FAS), Partial Fetal Alcohol Syndrome (pFAS), Fetal Alcohol Effects (FAE), Alcohol Related Neurodevelopmental Disorder (ARND), and Alcohol Related Birth Defects (ARBD) (Fast & Conry, 2009). It should be noted that the diagnosis of FAE has been replaced with ARND (Calhoun & Warren, 2007). This change came about due to the term FAE being inappropriately used to label any child with behavioural problems who came from a family with suspected alcohol abuse (Calhoun & Warren, 2007). For simplicity, the term FASD will be used throughout this paper to describe the full range of conditions resulting from pre-natal alcohol exposure (PAE).

Diagnosis of FASD

Individuals who experience PAE present with a variety of behavioural, cognitive, and physical characteristics that are not specific to PAE alone (Astley, 2004; Page, 2001). 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 reduction of secondary disabilities and higher functioning for children with FASD (Olson, Oti, Gelo, & Beck, 2009). Koponen, Kalland, and Autti-Ramo (2009) specifically examined the caregiving environment that best meets the needs of children with FASD and discovered that early intervention, such as removing affected children from 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. It has also been shown that maternal stress, maternal age, weight, and genetics all have an impact on the teratogenicity of alcohol, thereby impacting the expression FASD (Koponen, Kalland, & Autti-Ramo, 2009). Given the complexities of FASD, it is recommended that a comprehensive history and physical and neurobehavioral assessment precede diagnosis (Chudley et al., 2005). Chudley and colleagues argue that this can only be accomplished via a multidisciplinary approach. It should come as no surprise that, given the multiplicity of these factors, researchers and clinicians have struggled to establish a universal set of diagnostic criteria. In the late 1990s, Clarren and Astley (1997) created a *4-Digit Diagnostic Code* for FASD. They 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 since been revised and is now widely considered to be the standard for diagnosing FASD in clinical settings (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 rating of 1 reflects the complete absence of an FAS feature, whereas a score of 4 indicates a strong, or "classic," presence of the given FAS feature. Astley (2004) thus describes that 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). Simplified, this code reflects the most severe expression of FAS. It is further noted that a 4-Digit Code of '4444' is a rare finding. On the other hand, a 4-Digit Code of '1111' is reflective of normal growth, absence of FAS facial features, no evidence of CNS abnormalities, and no prenatal alcohol exposure (Astley, 2004). Each of the 256 different 4-Digit Diagnostic Code patterns are grouped into one of 22 unique Diagnostic Categories (labelled A-V) and recorded on a FASD Diagnostic Form (Astley, 2004). By using the 4-Digit Code, clinicians are able to diagnose the full spectrum of FASD outcomes that may be observed in individuals of any age. This method increases diagnostic precision and accuracy, especially when implemented by a multidisciplinary team of professionals.

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 Astley's 4-Digit Diagnostic Code (2004). The first includes evaluation of facial irregularities such as short palpebral fissures, smooth or flattened philtrum, and/or a thin vermilion border of the upper lip. Second, evidence of pre- or postnatal growth deficiency in both weight and length of the affected fetus or child must be identified. Finally, evidence of central nervous system abnormalities resulting in neurological disorders such as developmental delays, behavioural dysfunctions, and learning disabilities should be assessed. Other major or minor anomalies may be present and 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. As mentioned previously, this last criterion can be problematic, as maternal disclosure of prenatal alcohol use is difficult to obtain for a variety of obvious reasons (Russell et al., 1996). In addition to a physical examination, a comprehensive neurocognitive and behavioural assessment must take place (Hoyme et al., 2005). Chartrand and Forbes-Chilibeck (2003) posit that while all four criteria must be met for a diagnosis of FAS, those who do not meet all four criteria would fall under one of the above-mentioned spectrum diagnoses related to PAE.

It has been found that 70-90% of the people who are diagnosed with FASD do not display physical characteristic associated with FASD and experience normal physical development, including normal intelligence test scores. However, these individuals may still be profoundly compromised in other areas (Fast et al., 1999). The diagnosis of FASD, on one end of the spectrum, is strongly identifiable (FAS) and on the other end, may be difficult to discern. The

spectrum of conditions caused by PAE may result in a variety of life-long physical, neurological, cognitive, and behavioural deficits.

The neurological impairments experienced by those with FASD have been associated with an increased risk of learning and behavioural disabilities. These disabilities may include 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, Conry & Loock, 1999; Institute of Health Economics, 2013; Popova, et al., 2011; Roach & Bailey, 2009). Children with FASD tend to be highly suggestible and easily manipulated (Chartrand & Forbes-Chilibeck, 2003; Douglas, 2010; Fast & Conry, 2009; Fast, Conry & Loock, 1999; Institute of Health Economics, 2013; Popova et al., 2011; Roach & Bailey, 2009). There is also evidence that children with FASD are more likely than their peers to lie (Rasmussen, Andrew, Zwaigenbaum & Tough, 2008). According to Burden and colleagues (2009) those with FASD may be particularly vulnerable to difficulties with emotional regulation, resulting in difficulty controlling aggression and other maladaptive behaviours. The increased risk of individuals with FASD becoming involved with the criminal justice system 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). Subsequent contact with CJS is also likely due to these impairments. The above impairments associated with FASD are thought to compromise one's ability to comply with the law, which assumes a level of intent, foresight and awareness which may not be realistic for those with a diagnosis of FASD (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 police, in relation to the understanding of legal rights and options as well as the ability to respond to investigative processes (particularly interrogations), at the bail stage, the trial stage, the sentencing stage (where it is assumed by way of deterrence that the risk of adverse consequences will lead to an avoidance of those consequences), and the post-sentencing stage" (Institute of Health Economics, p. 12). For example, a condition of parole or probation is often to attend appointments in the community with various mental health professionals. Given the various disabilities (e.g., memory difficulties) that are a risk for those with FASD they may fail to attend their community appointments and breach their parole conditions. Subsequently, they may fail to understand how missing their court ordered community appointment was a breach of their conditions.

Difficulties Precluding Criminal Behaviour and Justice Involvement

Fast and Conry (2009) have coined the mnemonic 'ALARM' to summarize the core issues faced by individuals diagnosed with FASD. Many of these core issues predispose criminal behaviour and/or involvement in the Criminal Justice System.

The first letter, "A," represents *adaptive functioning*. Adaptive behaviour describes how effective an individual is in meeting the societal standards of personal independence and social responsibility that is considered appropriate given the individual's age. Adaptive functioning is 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). It has also been found that those with FASD suffer significant social skills deficits, and in some instances those deficits may become more pronounced over time (Fast & Conry, 2009; Olswang, Svensson, & Astly, 2010; Phung & Phung, 2011). Those social skills deficits subsequently lead to prosocial peer isolation and development of antisocial or antagonistic peer friendships (Olswang, Svensson, & Astly, 2010; Phung & Phung, 2011).

The “L” in ALARM represents *language*. Fast and Conry (2009) report that youth with FASD are shown to have impairments in their ability to produce and understand spoken language. Research has indicated that, due to disabilities associated with IQ and reading comprehension, youth with FASD often present with limited ability to understand and appreciate Miranda rights and adjunction capacities such as factual knowledge about criminal procedure, appreciation of the nature and object of the proceedings (Fast & Conry, 2004, 2009; McLachlan, 2012). 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, Roesch, & Douglas, 2014). McLachlan and colleagues also found that rates of impairment for psycholegal abilities were significantly higher than the comparison group, which consisted of young offenders without FASD. In turn, these difficulties would impact sentencing.

The second "A" in ALARM stands for *attention reasoning*. Streissguth, Barr, Kogan, and Bookstein (1996) found that 60% of children with FASD also meet criteria for some form of attention deficits and/or hyperactivity. The "R" stands for *reasoning*, which encompasses abstract thinking, executive functioning, and other higher order cognitive processes. Individuals with FASD have been found to experience deficits in areas of cognitive flexibility, planning and strategy use, verbal reasoning, set shifting, verbal fluency, and emotional regulation (Rasmussen, 2005). Lastly, the "M" relates to *memory*. Working memory deficits have been indicated in those with FASD (Fast & Conry, 2009).

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. These deficits can have serious implications should an individual with FASD come into contact with the Criminal Justice System. Popova and colleagues (2011) based on their systematic review of the literature, stated that "there is an urgent need to raise awareness about not only FASD in the criminal justice system and the disabilities associated with FASD, but also the appropriate responses necessary to reduce the pervasiveness of this disorder in this setting" (p. 339). Because FASD is a complex disability, it is one that likely will pose a concern for the Criminal Justice System for some time. It is imperative given the prevalence of FASD within the Criminal Justice System to prepare to deal with offenders with FASD in a way that will minimize continued contact with the system (Chartrand & Forbes-Chilibeck, 2003; Fast, Conry, & Loock, 1999; Institute of Health Economics, 2013; Popova, Lange, Bekmuradov, Mihic, & Rehem, 2011). One way of achieving this is by establishing clarity on the risk factors that impact their involvement with Criminal Justice System.

FASD and the Criminal Justice System

The ways in which those with FASD have received support or have been handled within the criminal justice system has been the focus of research (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). 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 (Rodger, 2014). These deficits make it difficult for those with FASD to understand their rights, respond to police questioning, and give statements (Fast & Conry, 2009; Gagnier, Moore & Green, 2011; McLachlan, 2012). 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. Subsequently, once a lawyer is obtained, those with FASD may struggle to attend their scheduled meetings and court dates, properly instruct their lawyer, and comprehend their lawyer's advice (Gagnier, Moore, & Green, 2011). Even more alarming is that those with FASD most often meet the appropriate criteria to stand trial and are found criminally responsible despite their aforementioned difficulties (Gagnier, Moore & Green, 2011; Roach & Bailey, 2009). FASD clearly poses challenges at each stage of the criminal justice system. 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)* in Alberta currently applies to young persons between the ages of 12 and 17. It emphasizes the principles of the protection of society, crime prevention, rehabilitation and reintegration, meaningful consequences, and timely interventions

(Dauvergne, 2013). In this regard, emphasis is placed upon diverting youth who commit crime away from the traditional justice system and reserving the most serious sentences for the most serious types of crime. 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). Given the impairments summarized above, the determination of an appropriate sentence for a youth offender with FASD is a challenging task for courts.

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. It should be noted that the Youth Criminal Justice Act mandates that at minimum a PSR be completed when the court is considering a sentence involving incarceration (Verbrugge, 2003; YCJA, 2002, s. 40(2)).

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, based on relative risk calculations. 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 (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 looked at 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; 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 (Chartland & Forbes-Chilibeck, 2003; 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). The above are called into question when faced with accused persons with FASD due to the various diminished cognitive and reasoning abilities they may exhibit (Fast & Conry, 2009; Milward, 2014). Deterrence assumes that people will engage in a risk and consequence analysis; however, many individuals with FASD are incapable of engaging in such an analysis (Milward, 2014). Retribution similarly assumes that the offender has the capacity to appreciate the moral content of certain behaviours. Individuals with FASD often do not have this ability due to their cognitive impairments. Milward (2014) postulates that "deterrence, retribution, and incapacitation may demand more severe sentences against an FASD person" (p. 1035). This is contrary to evidence that punitive

sentences are likely to exacerbate the symptoms of those with FASD (Chartland & Forbes-Chilibeck, 2003; Institute of Health Economics, 2013; Milward, 2014). Due to the varying 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 of 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. Risk assessments are one way to evaluate areas of strengths and concerns, thus bringing to light areas that could be amenable to treatment. Given the known cognitive deficits of those with FASD and the difficulties they present, it is important to have a better understanding of the other risk and protective factors experienced by those with prenatal alcohol exposure if rehabilitation is to be at the forefront of the new legislation.

Risk Assessment

"Assessments of the likelihood of future violence or serious re-offending are relevant for a variety of legal decisions in the juvenile justice system," (Vincent, Guy, Fusco, & Gershenson 2012, p. 225). In fact, it has been estimated that the use of risk assessments has grown from 33% in 1990 to 86% in 2003 (Griffen & Bozynski, 2003). Forensic risk assessment is defined as, "the attempt to predict the likelihood of future offending in order to identify the individuals in need of intervention" (Brown & Singh, 2014, p. 49). Indeed, one of the primary purposes of risk assessment instruments is to estimate the propensity of justice involved youth to recidivate (Schwalbe, 2007). Identifying those that are likely to re-offend not only has the ability to help protect communities, furthermore it may also assist in identifying risk factors that can then be used as targeted intervention strategies (Catchpole and Gretton, 2003; Schwalbe, 2007). Subsequently, aiding in the allocation of scarce resources more effectively and efficiently. As stated previously, while those involved in the CJS are more supportive of needs-based sentencing for those with FASD, the resources and services that are required to implement alternative sentencing often to do not exist making the allocation of scare resources even more important (Chartland & Forbes-Chilibeck, 2003; Milward, 2014). In order for current risk assessments to address risk for recidivism and inform intervention planning, it is crucial that they consider factors associated with criminal behavior that may be both static and dynamic. Static referring to variables that remain consistent (e.g., biological factor) and dynamic referring to variables that may change (e.g., employment status). These risk factors are balanced with protective factors. Protective factors are those that may help to mitigate the effect of risk factors. For example, a prosocial support system. It has been postulated that when clinicians focus solely on risk factors a negative bias towards an individual may develop (Singh, 1996). It is thought to be noteworthy

that the emphasis on protective factors is a newer concept within the field of risk assessment. Research is promising in regards to implementing interventions that increase protective factors that in turn provide a buffer against future offending, especially with high risk youth (Lodewijks, Ruiter, & Doreleijers, 2009). Currently, the most widely utilized risk assessments are those which use structured clinical judgement. Risk assessments of this nature are considered to be systematic, consistent, and grounded in research (Borum, Bartel, & Forth, 2006; Brown & Singh, 2014; Catchpole & Gretton, 2003).

Risk assessments have evolved through three generations (Borum, 2000; Schwalbe, 2007; Singh, 1996). The first generation of risk assessment can be referred to as unstructured clinical judgement. It is was impressionistic and based solely on a clinician's experience and expertise (Schwalbe, 2007). Simply put, a clinician would classify someone as a low, moderate, or high risk to re-offend based their experiences as clinicians and the particular individual in question. Based on the inherent subjectivity of unstructured clinical judgement, they have proven to have poor predicative validity, as well as poor rates of inter-rater reliability (Brown & Singh, 2014; Singh, 2012). Brown and Singh (2014) emphasize, for example, how unstructured clinical judgement can be particularly vulnerable to biases and therefore lead to inaccurate risk ratings. As early as 1981, Monahan concluded in his monograph, based on research, findings that clinicians were only successful in predicting approximately one out every three new violent behaviours committed by those who had previously violently offended and those who had been diagnosed with a mental illness in the past. This could be of particular concern for youth who have a diagnosis of FASD should a clinician have preconceived notions of someone with FASD's ability to learn and appreciate consequences. In order to remediate the concerns that

arose from unstructured clinical judgement, forensic researches began creating actuarial risk assessments.

Actuarial risk assessments are the second generation of risk assessments. The hallmark of actuarial risk assessments is their systematic and structured nature. These instruments are "composed of risk and/or protective, static and/or dynamic factors that are associated with the adverse event of interest using statistical methodology (Brown & Singh 2014). In actuarial assessments a numerical value is assigned to factors that have been empirically validated to correlate with offending. A statistical algorithm is then used to calculate the probabilistic estimate of recidivism or future violence/criminality (Brown & Singh, 2014). A cut-off score is established to place an individual in a risk category. In this method each person is evaluated using criteria and/or factors that are objective and have been systematically investigated to correlate with recidivism. According to Brown and Singh (2014) one of primary benefits of actuarial risk assessment tools is their objectivity and transparency in the risk assessment process. Actuarial assessments help to remove human judgement biases that follow from decision made solely on the bases of unstructured clinical judgement. Assessments of this nature are also quick to administer and typically rely on historical information that can be routinely found. Actuarial risk assessments are however, limited to prediction and classification and often do not incorporate dynamic risk variables or protective factors (Borum, 2007; Brown & Singh, 2014; Schwalbe, 2007). With regards to those who have an FASD diagnosis, this may be of concern, as those with FASD present with a myriad of individualistic challenges.

The third wave of risk assessment, structured professional judgement (SPJ), was created in efforts to combine personal factors with those factors that have been empirically validated to correlate with recidivism. Rather than use weighted, purely statistical risk scores and cut-off

thresholds, as with actuarial assessments, structured professional judgement tools utilize clinical judgement after considering relevant risk factors to place an individual into a risk category. SPJ risk assessment tools incorporate both static and dynamic risk factors. Adolescence is a period marked by pervasive and profound changes and therefore assessing contextual/dynamic risk factors is fundamental (Borum et al., 2006). Dynamic risk factors are also amenable to intervention and/or treatment options. In this way, the third-generation risk assessments inform intervention planning (Schwalbe, 2007). Intervention planning is of particular importance given that the YCJA specifies the importance of not only maintaining the safety of the public but also addressing the relevant needs and circumstances of the youth (Justice Department of Canada, 2000). According to Borum and colleagues (2006), "the SPJ model is suited for risk assessment with adolescents because it (a) is anchored in empirical and professional literature; (b) allows for appropriate consideration of developmental factors; and (c) emphasizes the dynamic, and often contextual, nature of risk," (p. 4). The SPJ model allows for clinicians to consider individual variables which is fundamentally important when considering risk assessment and youth with a diagnosis of FASD.

Risk Assessment and FASD

Youth with FASD are coming into contact with the criminal justice system at an alarming rate and research had proven that they are more vulnerable than most offenders within the system (Chartrand & Forbes-Chilibeck, 2003; Pei & Burke, 2018; Popova et al., 2011). As such, several agencies have come to together and acknowledged the need to reduce the risk that those with FASD face in becoming 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; Government of Alberta, 2007; Institute for Health

Economics, 2013). It is also understood that according to YCJA 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, Babalonis, Staton-Tindall, Lommel, & Kazura, 2011; Pei & Burke, 2018). Furthermore, there is suspicion 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 takes 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).

Present Study

The present study examines the risk and protective factors present for youth who have a diagnosis of FASD and were ordered for a section 34 assessment between the years 2010-2015 in the Edmonton area. It utilized the Structured Assessment of Violence Risk in Youth and the

Estimate of Risk of Adolescent Sexual Offense Recidivism in order to identify the risk and protective factors for criminally involved youth who both had a diagnosis of FASD and were court ordered to complete a section 34 assessment. Both tools are structured/clinical guided assessments that have been empirically validated and deemed reliable in assessing youth risk factors. This will not only contribute to our knowledge of the more specific risk and protective factors that are of concern for those youth with FASD, it will also help increase our understanding of the types of programming and/or where resources could be diverted in order to help reduce recidivism. Consequently, having a better understanding of the specific risk and protective factors may subsequently impact youth sentencing.

Method

Participants

This was an archival descriptive study. A sample of 37 cases that had been court ordered to complete in a Section 34 assessment between the years of 2010 and 2015 and either had a historical diagnosis of FASD or had been assessed and provided an FASD diagnosis at the time of their assessment 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. Both sites are collectively responsible for the majority of court ordered Section 34 assessments in the region. Four cases were female and 33 were male. All were between the ages of 12 and 18.

Demographic as well as information regarding criminal history was collected for 36 additional cases that did not have a diagnosis of FASD.

Instruments

The Structured Assessment of Violence Risk in Youth (SAVRY). The SAVRY (Borum et al., 2006) is a structured clinical risk assessment 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; Borum 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 need to 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.

Given that the instrument was designed for youth, 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, conditions of community supervision, release/discharge planning. Despite the emphasis on dynamic risk factors the SAVRY does contain Historical factors.

Historical factors in large are static and not subject to change. They reflect an adolescent's past experiences and behaviours. Historical factors "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 are empirically linked to general recidivism as well as violent 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. 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. A risk factor is rated 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 be coded as high. Each risk item is defined in the manual, so as to help facilitate the inter-rater reliability and overall validity. 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 however 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 also beneficial.

The SAVRY includes five protective risk factors that are marked on a dichotomous scale as either present or absent. 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. 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, Shaffer, Gray, & Douglas, 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, the Hare Psychopathy Checklist: Youth version and the risk total was highly correlated for both offender and community samples (Borum et. al., 2006). 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 regards 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 (Olver, Stockdale, & Wormith, 2009; Vincent, Guy, Fusco, & Gershenson, 2012).

The Estimate of Risk of Adolescent Sexual Offence Recidivism (ERASOR). The ERASOR (Worling & Curwen, 2001) is a structured professional judgement assessment tool. Its primary purpose is to estimate the risk of sexual re-offense for adolescents between the ages of 12 to 18 years, who have previously committed a sexual assault.

The ERASOR is comprised of 25 risk factors that fit into five categories: (1) Sexual Interests, Attitudes, and Behaviours, (2) Historical Sexual Assaults, (3) Psychosocial

Functioning, (4) Family/Environmental Functioning, (5) Treatment. Of the 25 risk factors, nine of the risk factors are static and relate to historical criminal sexual behavior. The remaining 16 factors are dynamic risk factors that relate to current sexual, familial, environmental, affective and interpersonal function (Worling, Bookalam, & Litteljohn, 2012). The 16 dynamic factors are intended to be coded based on the previous six months. As with the SAVRY, the ERASOR allows the person rating the assessment to add an "other factor" in order to allow clinicians other risk factors that may be case specific. For example, if a person tends to sexually offend when intoxicated but not otherwise (Worling & Curwen, 2001). Each risk factor is classified as being present, possibly or partially present, not present, or unknown.

Clinical judgement is used in order to determine the final estimate of risk for sexual recidivism (i.e., low, moderate, or high). The judgement should be made after considering the combination of empirically derived risk factors and not necessarily the number of risk factors. This method was chosen as "there is no empirical support for a specific algorithm for combining risk factors to predict adolescent, in this case, sexual offending" (Worling & Curwen, 2001, p. 5). The overall risk estimate is intended to be short term, approximately one year (Worling, 2004). As with the SAVRY, it is speculated that the period of adolescence is marked by rapid development in a number of areas (e.g., social, familial).

With regards to the psychometric properties of the ERASOR, it has been found that this sex offense-specific tool "generally outperformed more general tools such as the PCL:YV in the prediction of sexual re-offending" (Viljoen, Mordell, & Beneteau, 2010, p.12). Viljoen and colleagues (2010) concluded that that based on aggregate correlations the ERASOR significantly predicted sexual recidivism. Other studies have echoed these findings finding that the clinical judgement rating, the total score, and the sum of risk factor rated present all significantly were

predicative of sexual reoffending (Worling et al., 2012, p.216). There is also evidence for the discriminate validity of the ERASOR in that while the ERASOR is predictive future sexual offending it was less predictive of non-sexual offences than other risk assessments (Worling et al., 2012). With regards to reliability, the ERASOR's, "average-rating ICC was at or above .60 for all but one factor, and the average-rating ICC for the overall clinical risk estimate (low, moderate, or high) was .92 (Worling, 2004, p. 245). It should be noted that some studies have found insignificant total scores (AUC = 0.64, $P < 0.069$) in terms of predicting sexual recidivism (Viljoen, Elkovitch, Scalora, & Ullman, 2009). It is hypothesized that the variations in psychometric properties of the ERASOR can be attributed to the small base rate in which sexual offending occurs.

Procedure

Ethical approval for this archival descriptive 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.

Each chart contains a Section 34 report. 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 this 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, should there be questions of releasing or detaining a youth in custody; considering adult sentencing; making or reviewing an adult

sentence; 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 this is in essence one of the primary questions asked by the courts. These reports are completed by an interdisciplinary team consisting of a social worker, psychologist, and psychiatrist. Within the 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.

A SAVRY and/or ERASOR should have been completed by an interdisciplinary team at the time of the assessment for each youth who had been court ordered to complete a Section 34 assessment. It was discovered that while most of the necessary information was collected and recorded in the report, a formal SAVRY and/or ERASOR had not been completed for all youths. Nineteen reports were missing formal SAVRY ratings. Consequently, SAVRY's and/or ERASOR's for the 36 control participants without a diagnosis of FASD were not completed and/or recorded. In cases where a formal risk assessment was not completed, one was completed retrospectively. In other words, the risk assessments were coded retrospectively by an interdisciplinary team consisting of the researcher, a psychologist, and a psychiatrist based on extensive file information collected at the time of the Section 34 assessment. The Section 34 reports contain most of the necessary information to score each item on the risk assessment. In cases where it was unclear in the Section 34 report how a risk factor should have been rated, the variable was labelled unknown. Both the SAVRY and the ERASOR risk assessments were utilized. Of the sample there were five youth who sexually offended and 32 violent and non-

violent young offenders. Three of the five sex offenders had ERASOR's completed while the remaining had SAVRY risk assessments completed. In discussion with the professionals who routinely use the ERASOR and SAVRY, it was reported that if a youth has a lengthy criminal history and only one sexual offence it can be more appropriate to use the SAVRY. The ERASOR is a measure used to evaluate a youth's risk to sexually re-offend. If a youth had a lengthy criminal history of non-sexual offences it is probable that utilizing the ERASOR consequently may yield a lower risk while at the same time not identifying relevant risk factor for non-sexual offending.

The critical item rating was not coded on the SAVRY in the data due to the high subjectivity of the item and the scope of the research project. Within the ERASOR the "other factor" was not coded. As well as, under the present column for the ERASOR the specificity of the item was not coded. For example, if an item on the ERASOR is coded as present the instrument allows the clinician to note whether that present item was present with regards to children or violence. This specific criteria is used in the subjective clinical opinion and not used on the summarized rating form. For this reason and again the scope of the project, the specificity of an item present was not coded.

Age, gender, ethnicity, prior offence, and index offence was recorded in order to help better describe the population of youth with a diagnosis of FASD. Gender was coded as male or female. Ethnicity was coded as Indigenous, Caucasian, Mixed Heritage, or unknown. Prior offence history was simply coded as present or not present. Crimes were coded as weapon offence, 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 within the criminal justice system 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 for example, driving dangerously and crimes of threat or violence against others. The above data were collected simultaneously for 36 young offenders who did not have a diagnosis of FASD.

Data Analysis

Frequency and percentile analysis were utilized in order to describe the population and risk factors that were present among the FASD participants. Mean, frequency counts, and percentages were also calculated in order to analyze the other existing demographic variables.

Chi-Squares tests were conducted to examine differences between the FASD sample and the non-FASD sample with regards to index offences, specifically differences in proportion. One-way ANOVA analysis was used to examine differences in demographic variables between the two groups.

Three FASD participants who had sexually offended and had a formal ERASOR risk assessment completed 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.

Results

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). Although not significant, it would appear based on the data that those with a diagnoses of FASD are being assessed at a younger age than their peers.

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. There were a total of 2 participants in the non-FASD group that were identified as having mixed heritage and only 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 regards 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 offences 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 regards to current charges so as 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 Factors as Identified by the SAVRY

History of Violence. When looking at a history of violence it was found that 87.9% (*n* = 29) of the youth who had FASD were rated as having a high risk. Only 9.1% (*n* = 3) of the youth with FASD were rated as moderate and only 3.0% (*n* = 1) were rated as low risk for a history of violence.

History of Non-Violent Offending. When examining the risk rating for a history of non-violent offending it was found that 84.8% (*n* = 28), 12.1% (*n* = 4) and 3.0% (*n* = 1) of the youth with FASD were rated as high, moderate and low respectively.

Early Initiation of Violence. With regards to the early initiation of violence, it was found that 78.8% (*n* = 26) of the youth with FASD were rated as high risk on this item. Subsequently, 15.2% (*n* =5) of the youth were rated as a moderate risk and only 6.1% (*n* =2) received a low rating for risk pertaining to early initiation of violence.

Past Supervision/Intervention Failures. Item four on the SAVRY is, past supervision/intervention failures. With regards to this item, 84.8% (*n* = 28) of the youth with FASD were given a high risk rating, 3.0% (*n* = 1) of the youth were given a moderate risk rating and 12.1% (*n* = 4) of the youth were given a low rating of risk on this item.

History of Self-Harm or Suicide Attempts. When looking at a history of self-harm or suicide attempts, 21.2% (*n* = 7) of the youth with FASD were given high and moderate ratings. Interestingly, 57.6% (*n* = 19) of the youth with FASD were rated as a low risk on this item.

Exposure to Violence in the Home. Exposure to violence in the home is also rated as a risk factor on the SAVRY. It was found that 54.5% (*n* = 18) of the youth with FASD were rated

high risk on this item, whereas 15.2% (*n* = 5) of the youth with FASD were given a moderate rating of risk and 27.3% (*n* = 9) of the youth were given a low risk rating on this item.

Childhood History of Maltreatment. With regards to childhood history of maltreatment, 21.2% (*n* = 22) of the youth FASD were rated high risk. A moderate risk rating was found for 9.1% (*n* = 7) of the youth with FASD and 3.0% (*n* = 3) of the youth were given a low risk rating on this item.

Parental/Caregiver Criminality. Parental and/or caregiver criminality is rated as a risk factor on the SAVRY. When looking at this item 24.2% (*n* = 21) of the youth with FASD were rated high on this sample. A following 9.1% (*n* = 8) of the youth with FASD were rated as moderate risk and 3.0% (*n* = 3) of the youth were rated as low risk on this item.

Early Caregiver Disruption. High risk early caregiver disruption was experienced by 69.7% (*n* = 23) of the youth with FASD. Only, 15.2% (*n* = 5) of the youth with FASD were rated as a moderate risk and 9.1% (*n* = 3) of the youth were rated to be low risk. For this particular risk factor 2 participants could not be rated due to insufficient evidence within the section 34 report.

Poor School Achievement. With regards to poor school achievement, 90.9% (*n* = 30) of the youth with FASD were rated as high risk. Only 6.1% (*n* = 2) were rated as moderated risk and 3.0% (*n* = 1) of the youth with FASD were rated as a low risk for poor school achievement.

Peer Delinquency. When examining peer delinquency, 81.8% (*n* = 27) of the youth were rated as high risk, 3.0% (*n* = 3) of the youth were rated as moderate risk and 9.1% (*n* = 1) were rated as low risk. Two participants could not be rated on this particular item due to insufficient information.

Peer Rejection. When looking at real or perceived peer rejection, 33.3% (*n* = 11) of the youth with FASD were rated high risk, whereas, 12.1% (*n* = 4) of the youth were rated as

moderate risk and 54.5% (*n* = 18) of the youth with FASD were rated as low risk with regards to peer rejection.

Stress and Poor Coping. When evaluating stress and poor coping abilities, 93.9% (*n* = 31) of youth with FASD were rated high risk. Only 3.3% (*n* = 1) of the youth were rated low and moderate risk for stress and poor coping abilities.

Poor Parental Management. With regards to poor parental management 81.8% (*n* = 27) of the youth with FASD were rated as a high risk, 3.0% (*n* = 4) were rated as a moderate risk and 12.1% (*n* = 1) were rated as low risk. One participant, due to insufficient information, could not be rated on this item.

Lack of Personal/Social Support. Lack of personal/social support is rated as a risk on the SAVRY. On this item 60.6% (*n* = 20) of the youth with FASD were rated as high risk. When examining moderate risk ratings, 24.2% (*n* = 8) of youth were found to be of moderate risk and 15.2% (*n* = 5) were low risk on this item.

Community Disorganization. When evaluating community disorganization, 66.7% (*n* = 22) of youth with FASD were rated as high risk, while 15.2% (*n* = 5) of youth were rated as a moderate risk and 6.1% (*n* = 4) of youth were rated as low risk. Two participants were unable to be rated on this particular item.

Negative Attitudes. It was found that 63.6% (*n* = 21) of youth with FASD were rated as a high risk when looking at negative attitudes. Whereas, 27.3% (*n* = 9) of youth were found to be of moderate risk and 9.1% (*n* = 3) of youth were found to be of low risk for negative attitudes.

Risk Taking Impulsivity. When risk taking and/or impulsivity was assessed it was found that 93.9% (*n* = 31) for youth with FASD were rated as high risk and 6.1% (*n* = 2) of

youth were rated as a moderate risk. It is noteworthy that not one youth with FASD in the sample was rated as a low risk on this item.

Substance-Use Difficulties. When evaluating substance-use difficulties it was discovered that 78.8% (*n* = 26) of the youth were rated as a high risk, 12.1% (*n* = 4) of youth were rated as a moderate risk and 6.1% (*n* = 2) of youth were rated as low risk. One participant from the FASD sample could not be rated on this item due to insufficient information and/or unreliable self-report.

Anger Management Problems. With regards to problems managing anger it was found that 69.7% (*n* = 23) of the youth FASD were rated as a high risk, 18.2% (*n* = 4) of youth were rated as a moderate risk, and 12.1% (*n* = 4) were rated as a low risk.

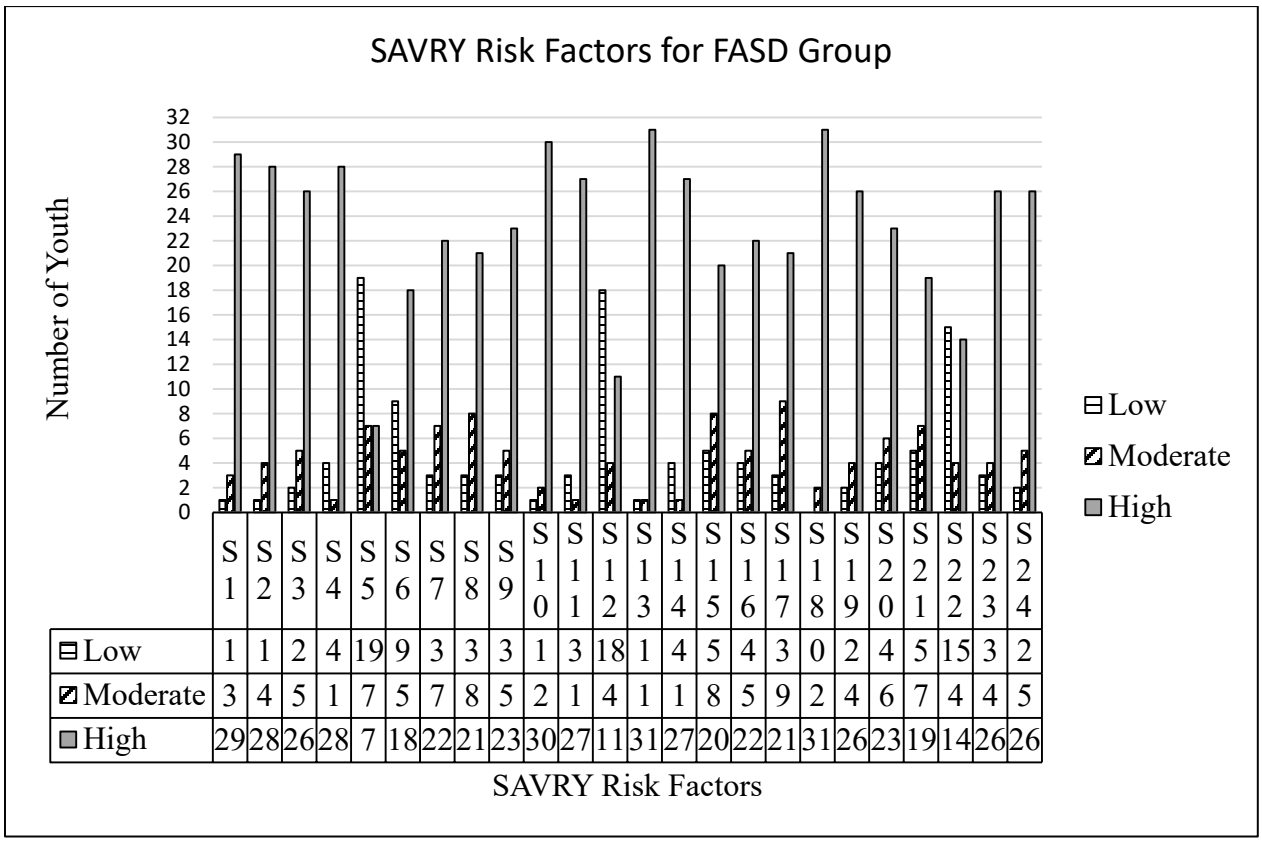
Low Empathy/Remorse. When examining low empathy and/or remorse 57.6% (*n* = 19) of youth with FASD were rated as a high risk, 21.2% (*n* = 7) were rated as a moderate risk, and 15.2% (*n* = 5) of youth were rated as a low risk. There were two participants that could not be rated on this particular item.

Attention Deficit/Hyperactivity Difficulties. The SAVRY identifies problems with hyperactivity and ADHD as a risk factor for recidivism. Of the youth with FASD 42.4% (*n* = 14) of the youth were rated as high risk, 12.1% (*n* = 4) of youth were rated a moderate risk and 45.5% (*n* = 15) were rated as a low risk.

Poor Compliance. With regards to poor compliance it was found that 78.8% (*n* = 26) of youth with FASD were a high risk on this item. Subsequently, 12.1% (*n* = 4) of youth were found to be moderate risk and 9.1% (*n* = 3) of youth were evaluated as being low risk.

Low Interest/Commitment to School. When looking at low interest and/or commitment to school it was found that 78.8% (*n* = 26) of the youth with FASD were rated as a high risk on

this variable. Furthermore, 15.2% (n = 5) and 6.1% (n = 2) of youth with FASD were found to be of moderate and low risk respectively.



	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18	S19	S20	S21	S22	S23	S24
Low	1	1	2	4	19	9	3	3	3	1	3	18	1	4	5	4	3	0	2	4	5	15	3	2
Moderate	3	4	5	1	7	5	7	8	5	2	1	4	1	1	8	5	9	2	4	6	7	4	4	5
High	29	28	26	28	7	18	22	21	23	30	27	11	31	27	20	22	21	31	26	23	19	14	26	26

Figure 1. Risk Factors for the youth with a diagnosis of FASD. S1 – History of violence; S2 – History of Nonviolent Offending; S3 – Early Initiation of Violence; S4 – Past supervision/Intervention Failures; S5 – History of Self-Harm/Suicide Attempts; S6 – Exposure to Violence in the Home; S7 – Childhood History of Maltreatment; S8 – Parental/Caregiver Criminality; S9 – Early Caregiver Disruption; S10 – Poor School Achievement; S11 – Peer Delinquency; S12 – Peer Rejection; S13 – Stress and Poor Coping; S14 – Poor Parental Management; S15 – Lack of Personal/Social Support; S16 – Community Disorganization; S17 – Negative Attitudes; S18 – Risk Taking/Impulsivity; S19 – Substance-Use Difficulties; S20 – Anger Management Problems; S21 – Low Empathy/Remorse; S22 – Attention Deficit/Hyperactivity Difficulties; S23 – Poor Compliance; S24 – Low Interest/Commitment to School.

Protective Factors on the SAVRY

Prosocial Involvement. With regards to prosocial involvement it was found that 87.9% (*n* = 29) of youth with FASD had no prosocial involvement and only 12.1% (*n* = 4) of the youth had prosocial involvement in their lives.

Strong Social Supports. When examining strong social supports, it was found that 75.8% (*n* = 25) of the youth with FASD had no strong social supports and 24.2% (*n* = 8) of the youth had strong social supports.

Strong Attachments and Bonds. Strong attachment and/or bond to at least one prosocial adult is another protective factor on the SAVRY. On this factor 69.1% (*n* = 23) of the youth with FASD had less than or equal to one strong attachment and/or bond to a prosocial adult. Whereas 30.3% (*n* = 10) had at least one or more than one strong attachment bond.

Positive Attitude toward Intervention and Authority. When looking at positive attitudes towards intervention and authority 81.8% (*n* = 23) of the youth with FASD had a negative view of same. Only 18.2% (*n* = 10) of the youth were identified as having this item present in their lives.

Strong Commitment to School. A strong commitment to school was absent in 87.9% (*n* = 29) of the youth with FASD and present in 12.1% (*n* = 4) of the youth.

Resilient Personality Traits. Resilient personality traits was found to be absent in almost all, 97%, (*n* = 32) of the youth with in the FASD. Only 3.0% (*n* = 1) of the youth with FASD were rated as having resilient personality traits.

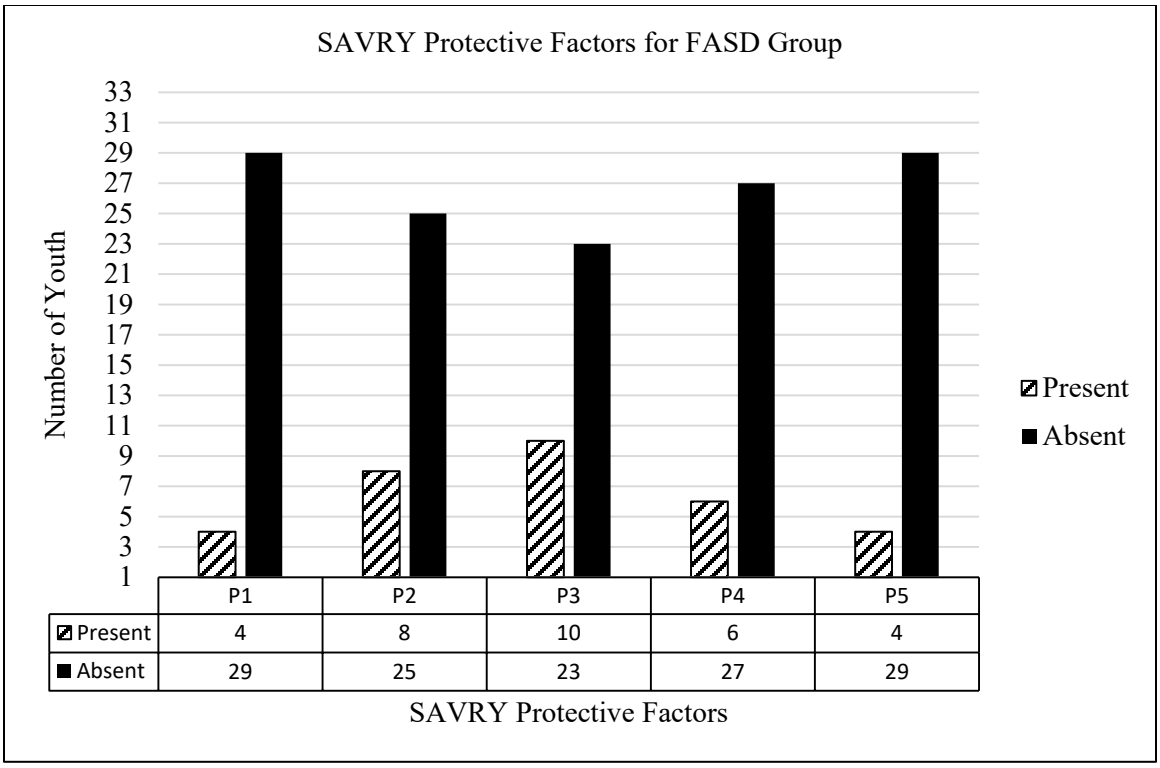


Figure 2. Protective factor for youth with a diagnosis of FASD. P1 – Prosocial Involvement; P2 – Strong Social Bonds; P3 – Strong Attachments and Bonds; P4 – Positive Attitude towards Intervention and Authority; P5 – Strong Commitment to School.

Discussion

It is important to note, first and foremost that the participants in the study represent a small fraction of the youth within the Criminal Justice System (CJS) that have a diagnosis of Fetal Alcohol Spectrum Disorder (FASD). Nevertheless, it has been shown that those with FASD are over represented within the CJS (Chartrand & Forbes-Chilibeck, 2003; Fast, Conry, & Loock, 1999; Institute of Health Economics, 2013; Popova et al., 2011). 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). Also, worth mentioning is that there are youth who come in contact with the CJS who have a diagnosis of FASD and 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. It would stand to reason that in many cases the youth in this sample may present with a higher proportion of risk factors. Therefore, the sample included in this study is not representative of offenders as a whole and cannot be generalized.

The majority of participants (62 of the total 73 participants), both those with and without a diagnosis of FASD, in the study identified as Indigenous. While this is a troubling finding, it confirms previous research that suggests Indigenous people are over represented in the Criminal Justice System (Brzozowski, Taylor-Butts, & Johnson, 2006); Charron, Mathieu, Penney, & Senécal, 2010; LaPrairie, 2002).

Age of those assessed, while not statistically significant almost reached significance, in that those with a diagnosis of FASD were ordered to complete a Section 34 at an earlier age than those without a diagnosis of FASD. Given the number and severity of risk factors, along with the primary and secondary disabilities experienced by those with FASD (e.g., problems with emotional regulation, impulsivity) it is likely that attention would be drawn to these individuals earlier on. However, this is a hypothesis that warrants further research.

Suicide rates or serious self-harm was one of the only factors where the majority of the participants were rated as a low risk. A low risk score on this item infers that the youth has engaged in no self-harm nor have they had any suicide attempts. A moderate risk rating is given to individuals who have self-harmed but did not require medical care and had no clear suicidal intent. In order to receive a rating of high on this item a youth has to have a history of serious self-harm (e.g., requiring medical care) or an actual suicide attempt. Given these definitions it is possible that the rates of self-harm that would have led to an increase in moderate ratings were

under-reported. Cases that required medical attention and where medical attention was formally sought would be confirmed by collateral reports and would rely less on self-report.

Interestingly, just over half the participants were also rated low on peer rejection. This is defined as a youth's history and/or experience with having felt rejected and/or bullied by their peer group. At the same time 81.8% of the sample was rated as a high risk for having negative peer groups. Negative peer groups are defined as peers with criminal history and/or antisocial tendencies. It would seem that the participants with FASD in the study report having friends and not feeling rejected by peers, however the friendships they have may be potentially harmful in one way or another.

Research has demonstrated that children with FASD struggle with social interactions, as well as struggle to build and maintain trusting friendships (Olswang, Svensson, & Astley, 2010; Phung, Wallace & Phung, 2011). Those with FASD are also at risk for being easily manipulated and highly suggestible (Chartrand & Forbes-Chilibeck, 2003; Fast & Conry, 2009; Phung et al., 2011). Fast and Conry (2009) posit that those with FASD are at risk for having antisocial peers come into their lives and create chaos. Given their potential difficulties with communication, socialization, and daily living skills, those with FASD are at a heightened risk for gang affiliation, at the severe end of the spectrum and relationships where they will be taken advantage of, or used, on the less severe end of the spectrum (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 friendships subsequently may result in criminal justice involvement and/or continued contact with the Criminal Justice System.

It should be mentioned that 93.9% of the youth with FASD were rated as both a high risk for poor coping/stress and impulsivity. These findings provide further evidence to a mass of research that posits that those with FASD struggle with impulsivity, emotional and behavioural control, and often report higher levels environmental chaos (e.g., disrupted home/living environments and addictions) (Chartrand & Forbes-Chilibeck, 2003; Fast, Conry & Loock, 1999; Institute of Health Economics, 2013; Olson et al., 2009; Olswang et al., 2010; Pei et al., 2011a,b; Rasmussen, 2005; Streissguth, Bookstein, Barr, Sampson, O'Malley, & Kogan, 2004; Streissguth et al., 1996).

In summary, many of the youth rated as a high risk on several, if not all of the items, while rating absent on many of the protective factors that are supposed to act as a buffer and mitigate risk factors for recidivism. Most notably, only one participant with a diagnosis of FASD was found to have resilient personality traits. Resilient personality traits are defined in the SAVRY manual as temperamental factors such as above average IQ and the ability to self-sooth (Borum, Bartel & Forth, 2006). The findings of the present study are especially troubling given the emerging research on how the lack of protective factors correlates with recidivism (Lodewijks, Ruiter, & Doreleijers, 2010). This confirms prior research findings of both the difficulties faced by those who have FASD, as well as adds evidence as to why youth with FASD are coming into contact with, and staying in contact with, the Criminal Justice System (Chartrand & Forbes-Chilibeck, 2003; Douglas, 2010; Fast & Conry, 2009; Fast, et al., 1999; Institute of

Health Economics, 2013; Lodewijks et al., 2010; Milward, 2014; Pei & Burke, 2018; Popova, et al., 2011; Roach & Bailey, 2009).

The current study illuminates the risk and protective factors present for youth with a diagnosis of FASD who received Section 34 assessments. It is well documented that those with FASD come into contact with the Criminal Justice System at an alarming rate (Chartrand & Forbes-Chilibeck, 2003; Fast, Conry, & Loock, 1999; Institute of Health Economics, 2013; Popova, Lange, Bekmuradov, Mihic, & Rehem, 2011). The reasons for this troubling situation are hypothesized to be a result of the varying cognitive, social, and behavioural problems that are present in individuals who experienced pre-natal alcohol exposure (Chartrand & Forbes-Chilibeck, 2003). 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 (Gragnire et al., 2011; Millward, 2013; Roach & Bailey, 2009). According to several sources (Chartrand & Forbes-Chilibeck, 2003; Milward, 2013), the sentencing of individuals with FASD has proven difficult resulting in inconsistencies among sentencing (e.g., severity of sentence). This study identified risk and protective factors for youth who had a diagnosis of FASD. Barring youth criminal justice legislation emphasizing rehabilitation, are the identified risk factors being addressed? For example, are youth with FASD being sentenced in a manner that addresses their particular risk factors and emphasizes rehabilitation? Are those with lower-risk receiving community-based management and those that are higher risk receiving more intensive treatment (Catepole & Gretton, 2003)? The above would be important questions to answer when looking at the allocation of resources and the mandates of the Youth Criminal Justice Act.

The current study utilized the SAVRY in order to identify risk and protective factors. As mentioned previously, risk assessment is one of the primary purposes of the Section 34 assessment. It is interesting to note that during chart review it was discovered that in many cases a formal SAVRY was not actually completed. The Section 34 assessments are written in such a manner that they typically address each risk factor, however the formal check list was not being utilized and in some cases not all variables were addressed. The SAVRY is a Structured Professional Judgement Risk Assessment in which the formal checklist is crucial to ensure all relevant information is considered in making a final overall risk rating. This begs the question as to the reason behind this troubling finding and what the implications of not using the formal rating checklist may be.

Having conducted research and speaking with professionals at both institutions it was discovered that the two places cannot communicate results given the current legislation. In some cases it is not apparent to one site or the other if a youth has been previously assessed, subsequently leading to a redundancy in assessment results. It has been the case where youth have received multiple assessments, including multiple FASD assessments. In fact, court ordered Section 34 reports cannot be utilized by any other organization. So while these youth are receiving valuable assessments with treatment recommendations and IQ scores that could be utilized for funding and/or beneficial to those living/working with youth with FASD, they are owned by the courts and cannot be shared in other settings. In talking with professionals, this is a large bone of contention and greatly impacts continuity of care. In other discussions, it has been noted that professionals have indicated that parents should wait for the children to come into contact with Criminal Justice System in order to receive a comprehensive assessment. This is a

gross misconception and highlights several deficits of the current system that should be addressed.

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