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_____ **Research Report** _____

**Institutional Adjustment of
Offenders Living with Fetal Alcohol
Spectrum Disorder in a Canadian
Federal Penitentiary**

Ce rapport est également disponible en français. Pour en obtenir un exemplaire, veuillez vous adresser à la Direction de la recherche, Service correctionnel du Canada, 340, avenue Laurier Ouest, Ottawa (Ontario) K1A 0P9.

This report is also available in French. Should additional copies be required, they can be obtained from the Research Branch, Correctional Service of Canada, 340 Laurier Ave. West, Ottawa, Ontario K1A 0P9.

**Institutional Adjustment of Offenders Living with Fetal Alcohol Spectrum Disorder in a
Canadian Federal Penitentiary**

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Executive Summary

Key words: *Fetal Alcohol Spectrum Disorder, institutional adjustment.*

Fetal Alcohol Spectrum Disorder (FASD) encompasses a range of conditions caused by prenatal exposure to alcohol which can result in neurophysiologic changes to brain structure and function. The deficits associated with FASD have been found to affect an individual's ability to function within societal rules and norms, including increasing the likelihood of coming into contact with the criminal justice system. To date, however, very little research has been conducted on the impacts of FASD on individuals' adjustment to correctional environments.

As such, this study aimed to examine the institutional adjustment of offenders who were diagnosed with an FASD. Ninety-one offenders were included in the study. Of those, 9 offenders were diagnosed with an FASD, 41 were found to have central nervous system deficits unrelated to prenatal alcohol exposure, 14 were found to have insufficient information to make a diagnosis, and 27 were found to have no identified neuropsychological deficits. Offenders in each group were compared on their institutional adjustment, including institutional incidents and charges, program participation, and release types.

Offenders with an FASD exhibited more difficulty with institutional adjustment than offenders without an FASD. They were more likely to become involved in institutional incidents, particularly those related to violence, and incur to institutional charges. In addition to being identified as the instigator in the majority of incidents in which they were involved, offenders with a diagnosed FASD were also more often identified as the victim than offenders without an FASD. This pattern was consistent with previous findings that the tendency for those with an FASD to become overwhelmed in social situations and to be overly trusting can result in both victimization and trouble-making.

Additionally, though offenders with an FASD were involved in correctional programs, employment placements, and educational programs at rates similar to those of other offenders, there was a non-significant trend toward lower rates of correctional program completion.

Though further research is required with a larger sample, this study demonstrates differences in institutional adjustment between offenders with and without an FASD. Overall, findings were consistent with previous research showing that FASD is associated with an increased risk of poor social adjustment across a variety of contexts. Findings have operational impacts with respect to staff awareness and program delivery. For example, certain impairments associated with FASD may make it difficult for impacted offenders to benefit fully from traditional correctional programs. That said, CSC's approach to correctional program delivery makes it easy to adapt delivery according to offender needs. A resource kit specific to offenders with an FASD is available to all CSC program facilitators; it includes a number of strategies that are likely to assist offenders with an FASD in benefiting from their program participation. In addition to having this resource kit, however, it remains important to identify offenders with an FASD in order to ensure they are offered adapted interventions.

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Introduction

Cognitive functioning deficits such as Fetal Alcohol Spectrum Disorder (FASD) are of increasing interest for correctional jurisdictions (e.g., Bracken, 2008). FASD encompasses a range of conditions caused by prenatal exposure to alcohol which can result in neurophysiologic changes to an individual's brain structure and functioning. These alterations are permanent and may affect an individual's ability to function within societal rules and norms, including increasing the likelihood of coming into contact with the criminal justice system. To date, however, very little research has been conducted on the impacts of FASD on individuals' adjustment to correctional environments.

FASD

Degree of impairment resulting from FASD is determined by factors such as the timing, dose, and frequency of prenatal alcohol exposure; genetic factors; other drug exposures; stress; and a host of other maternal characteristics (Kalberg & Buckley, 2007). Fetal Alcohol Syndrome (FAS), the most visible manifestation of FASD, is distinguished by three main diagnostic criteria: significant pre- and/or post-natal growth impairment, significant central nervous system impairment, and the presence of three distinct facial characteristics (shortened palpebral fissure lengths, smooth or flattened philtrum,¹ and thin upper lip; Chudley et al., 2005; Chudley, Kilgour, Cranston, & Edwards, 2007). Other potential birth defects found in individuals with an FASD include heart defects, cleft palate, brain malformations, visual and auditory impairments, kidney abnormalities, seizure disorders, skeletal effects, and other physical abnormalities.

The diagnostic categories which fall under the umbrella of FASD are FAS with confirmed alcohol exposure, FAS without confirmed alcohol exposure, partial FAS (pFAS), and Alcohol Related Neurodevelopment Disorder (ARND; Chudley et al., 2005; Chudley et al., 2007). Within the spectrum of FASD, individuals that are not diagnosed with FAS do not have the facial abnormalities or growth impairment, yet have neurological deficits that affect learning, judgement, and problem solving.

Disabilities associated with FASD are varied but can be classified as primary and

¹ Palpebral fissure length refers to the distance between the inner and outer corner of the eye; the philtrum is the groove between the nose and upper lip.

secondary. According to Streissguth (1998), primary disabilities are present at birth and result directly from prenatal exposure to alcohol. Included in this category are intellectual deficits and learning disabilities, physical disabilities, hyperactivity, attention and/or memory deficiencies, inability to manage anger, difficulties with problem solving, and growth impairment (Streissguth, 1998; Boland, Chudley & Grant, 2002; Burd, Selfridge, Klug, & Juelson, 2003; Chudley et al., 2005). These disabilities are permanent but can be managed with proper diagnosis and support. Streissguth (1997) also describes secondary disabilities which result from an interaction between primary disabilities and one's environment and/or experiences. Secondary disabilities manifest as mental health problems, alcohol and/or drug abuse, inappropriate sexual behaviour, disrupted school experience, trouble with the law, and confinement in settings such as psychiatric institutions, correctional facilities, or substance abuse inpatient treatment (Streissguth et al., 2004).

Both primary and secondary disabilities can significantly influence a person's ability to live independently in the community. In a study of youth and adults with FASD, Streissguth et al. (1991) found that participants with FASD were likely to have problems living independently and were more likely to engage in problem behaviour. Issues with impulsivity, attention deficit, and judgement were likely to lead to an increased tendency to have problems with the law. According to Streissguth and colleagues (1991), it seemed that it was not simply the magnitude of impairment but also the type of behaviour exhibited that played a role in adverse life outcomes for individuals with an FASD.

Prevalence of FASD among Offenders

Several researchers have noted that individuals with an FASD are at increased risk for involvement in the criminal justice system (e.g., Burd, Selfridge, Klug, & Bakko, 2004; Streissguth & Kanter, 1997), though, as Boland, Burrill, Duwyn and Karp (1998) noted, the exact number of offenders affected by FASD is still unknown. In an examination of the Canadian provincial correctional system, Burd et al. (2003) reported that 0.087 per 1,000 offenders had an FASD, though they suggested that this rate was likely an underestimate due to data availability issues. In a more recent study, the prevalence of an FASD diagnosis in a population of offenders entering a federal penitentiary was 10% (MacPherson, Chudley, & Grant, 2011), a rate 10 times higher than current general Canadian population estimates of 9 per

1,000 (Health Canada, 2006). Fast, Conry, and Looock (1999) estimated that 23% of young offenders remanded for psychiatric assessment had an FASD, which illustrates the broad range of estimates of the prevalence of FASD among offenders..

Notably, the prevalence of FASD within certain Aboriginal communities is significantly higher than within the general population (Boland, Duwyn, & Serin, 2000; Chudley et al., 2005). Aboriginal individuals are disproportionately represented within the federal correctional system (21% in 2012-13; Public Safety Canada, 2014) compared to the total population of Canada (4.3%; Statistics Canada, 2013); this over-representation may contribute to an increased prevalence of FASD within the adult federal correctional system.

Institutional Adjustment

In addition to being associated with involvement in criminal activity, FASD also has an impact on offenders' experiences while incarcerated (e.g., Fast & Conry, 2004; Bracken, 2008). The criminal behaviour typical of those with an FASD appears to be the result of maladaptive behaviour patterns such as impulsivity, difficulty sorting cause and effect, attention deficits, and trouble understanding consequences (Boland et al., 1998). These maladaptive behaviours can also make adjusting to the institutional environment difficult (Fast & Conry, 2004). For example, Streissguth (1997) reported that individuals with an FASD adapt with relative ease to the structured environment of an institution, but have difficulty with the interpersonal interactions that take place in these settings. In some cases, their social interactions may be misinterpreted as misconduct by staff (Fast & Conry, 2009). Deficits in memory, attention, and reasoning may also contribute to offenders with an FASD being harassed (Bracken, 2008) or victimized (Fast & Conry, 2004) by other offenders. Offenders with an FASD can often also be easily influenced by others as they attempt to "be liked" or to fit in with the rest of the offender population (Fast & Conry, 2004).

In addition to challenges associated with interpersonal interactions, deficits associated with FASD may have other effects on individuals' institutional adjustment. Memory problems, which affect up to 73% of individuals with an FASD (Boland et al., 1998), can lead to missed appointments and failure to complete homework assigned in programs (Boland et al., 1998). Individuals with an FASD often have trouble learning rules and are unable to learn from past experience (Conry & Fast, 2004). These individuals may also have problems engaging in

abstract reasoning and thus may lack awareness of the consequences of their actions (Conry & Fast, 2004).

Responsivity. The *Responsivity Principle* described by Andrews and Bonta (1998; 2010) suggests that if correctional programs are to be effective they must reflect the specific needs and abilities of the offender. Specifically, age, gender, race, ethnicity, mental health, cognitive capacity, and other factors should all be considered when developing and delivering programs (Bonta, 1995; Kennedy, 2000). Given the intellectual deficits and learning disabilities associated with FASD (Streissguth, 1998), it has been argued that offenders with an FASD may have difficulty participating in traditional correctional programs and require specialized interventions (Burd et al., 2003). The executive functioning problems associated with FASD, particularly poor working memory, inability to follow verbal instructions, and lack of retention of the sequences of daily living (Kalberg & Buckley, 2007), could require the use of innovative intervention approaches. Cognitive-based programs – which most correctional programs are – may present particular challenges due to their lack of structure and limited built-in repetition (Boland et al., 2002). Despite the arguments and suggestions put forth regarding the need to adapt correctional programs for offenders with an FASD, to date, however, their program participation has not been explicitly examined.

The Current Study

The purpose of the current investigation was to examine the institutional adjustment, including program participation, of offenders diagnosed with an FASD in comparison to that of their counterparts without an FASD. The following two questions were examined:

1. Do individuals with an FASD exhibit more problems related to institutional adjustment than those without an FASD? Specifically, do the groups differ in terms of their institutional incidents, institutional charges, and releases from custody?
2. Do program completion rates differ for offenders with and without an FASD?

Method

Participants

The participants were a subsample of offenders recruited for a larger study examining the prevalence of FASD in a correctional population (see MacPherson et al., 2011). A total of 160 newly-admitted federal offenders were approached over an 18-month period from April 2005 to September 2006 to participate in the research study. The final study sample consisted of 91 men offenders, aged 18 to 30 years of age, and classified to medium security

Study Groups. The current study used the diagnostic outcomes and study groups identified in MacPherson et al.'s (2011) study. Using the Canadian guidelines for diagnosis of FASD (Chudley et al., 2005), participants were assigned to one of four study groups:

1. FASD ($n = 9$): Participants diagnosed under one of the FASD categories (FAS, pFAS, ARND). Of the nine offenders in this group, one was diagnosed with pFAS and eight were diagnosed with ARND.
2. Uncertain (UC; $n = 14$): Participants for whom insufficient information was available to confirm or rule out a diagnosis. This category included two subgroups:
 - a. Significant central nervous system dysfunction in three or more brain domains (criteria for FASD diagnosis) but unable to confirm/eliminate possibility of prenatal alcohol exposure; and
 - b. Confirmed prenatal alcohol exposure but insufficient central nervous system dysfunction (i.e., only two domains rather than three).
3. Central Nervous System (CNS; $n = 41$): Evidence of significant central nervous system dysfunction (at least two domains impaired) not related to prenatal maternal drinking.
4. No Deficits (ND; $n = 27$): No significant central nervous system deficits, with or without confirmed prenatal alcohol exposure.

Measures and Data

Brief Screen Checklist (BSC). This internally-developed checklist assesses behavioural, historical, and maternal drinking information. As part of the BSC, offenders consented to neuropsychological testing and a physical examination of characteristic FASD features

conducted by a trained physician, and completed a self-report questionnaire on personal and family medical history.

The Offender Management System (OMS). Data were extracted from OMS, CSC's administrative offender database system, on participants' demographic characteristics, institutional behaviour, program participation, and releases from the start of the study (April 2005) to the date of data retrieval (April 2009).

Institutional incidents and disciplinary charges. When an institutional incident occurs, attempts are made to resolve the matter informally. If this is unsuccessful, a disciplinary charge may be issued. Disciplinary charges are categorised as serious (e.g., violent incidents, breaches of security, repetitive violations of rules) or minor (other negative or non-productive behaviour contrary to institutional rules; CSC, 2013a).

Correctional programs. CSC provides offenders with programs to target their criminogenic need, or behaviours that contribute to criminal behaviour, with the goal of assisting them to successfully reintegrate back into the community (CSC, 2013b). Correctional programs are structured interventions that address factors directly related to an offender's criminal behaviour, such as substance abuse, sex offending, violence prevention, family violence, life skills, and relapse prevention. In addition to correctional programs, education and employment programs are also offered.

Releases. Release type was included as an indicator of the risk to the community presented by each offender. When they judge the offender's risk to be manageable in the community, members of the Parole Board of Canada may grant a discretionary release (day parole or full parole) to an offender who has served between one- and two-thirds of his sentence. If this does not occur, most offenders receive legislatively-mandated statutory release after serving two-thirds of their sentence.² Offenders who are released on discretionary release are generally deemed lower risk than those released on statutory release.

Analytic Approach

Descriptive analyses were used to examine the types of incidents, charges, and type of first release among the study groups. Proportions were calculated and compared across study groups. In addition to the descriptive distributions, the number of incidents and charges per

² In rare cases when offenders are considered likely to reoffend and cause serious harm, commit a sexual offence against a child, or commit a serious drug offence, they can be detained until the end of their sentence.

offender were compared across groups using one-way Analysis of Variance (ANOVA). In order to further compare institutional incidents and charges, Incident Rate Ratios (IRRs) were calculated for each group. IRRs involve determining an incident rate for each study group and using the FASD group as the comparison.³ An IRR of one means the study group and the FASD group had equivalent involvement in the outcome of interest, while an IRR greater than one means the FASD group has higher rates of involvement and an IRR of less than one means the FASD group had lower rates of involvement.

Similar analyses were conducted for program information. Both descriptive analyses and one-way ANOVAs were completed to examine program participation and completion. IRRs were used to examine rates of time in correctional, education, and employment programs.

³ The rates were calculated using the total number of events for each group and the total time at risk for each group. The time at risk for institutional incidents and charges was defined as the total number of days incarcerated. Time at risk for segregations was defined as the total number of days incarcerated less the number of days in segregation. The number of events divided by time at risk gave a rate of number of events per inmate day for each group for institutional incidents, charges, and segregations.

Results

Participants

Offenders with FASD and those in the other groups did not differ in terms of their age ($M = 24$ years; $F(3, 90) = 1.58, p = ns$) or sentence length ($M = 3.2$ years; $F(3, 87) = 1.08, p = ns$). As can be seen in Table 1, they also did not differ in terms of marital status. The groups did differ, however, on racial background, with all those in the FASD group and relatively fewer in the ND group being of Aboriginal ethnicity. Notably, the very high representation of Aboriginal offenders is reflective of admission patterns at the institution where the study was conducted.⁴

Table 1.

Characteristics of Participants by Study Group

Characteristic	FASD ($n = 9$) %	UC ($n = 14$) %	CNS ($n = 41$) %	ND ($n = 27$) %	χ^2
Marital Status					1.89
Single	56	43	51	56	
Married / Common-Law	44	57	46	44	
Other	0	0	3	0	
Race					13.12*
Caucasian	0	21	29	30	
Aboriginal	100	79	64	52	
Other	0	0	7	18	

* $p < .05$.

Participants' levels of risk and motivation are presented in Table 2. Offenders differed in terms of their overall levels of dynamic risk (also known as dynamic or criminogenic need), as well as in specific dynamic domains: employment / education and attitude. Patterns of difference, however, were inconsistent. Offenders with FASD and in the UC group appeared to be more frequently assessed as presenting higher overall dynamic risk, while those with FASD were most likely to be identified as having considerable need in the employment / education

⁴ During the study period, 61% of admissions under the age of 30 at the study institution were Aboriginal and 24% were Caucasian.

domain. Conversely, offenders with FASD were the least frequently assessed as presenting elevated needs relating to attitudes.

Table 2.

Assessed Risk and Motivation by Study Group

Assessment Area	FASD (n = 9) %	UC (n = 14) %	CNS (n = 41) %	ND (n = 27) %	χ^2
Overall Static Risk (High)	56	43	17	22	11.70
Overall Dynamic Risk (High)	67	64	42	30	17.35**
Employment/Education ^a	33	14	2	7	13.53*
Marital / Family ^a	33	0	12	20	9.49
Associates / Social Interaction ^a	22	36	34	15	6.34
Substance Abuse ^a	56	64	68	41	6.07
Community Functioning ^a	0.0	0	0	0	8.81
Personal / Emotional Orientation ^a	78	79	56	48	8.95
Attitude ^a	0	29	22	11	20.94*
Motivation level ^b (Low)	22	31	31	35	1.66

Note. ^aPercentages reflect the offenders assessed as presenting considerable need. ^bInformation on motivation level was missing for one UC participant, two CNS participants, and one ND participant.

* $p < .05$. ** $p < .01$.

Institutional Adjustment

Rates of institutional incidents and charges. Table 3 presents a summary of participants' involvement in incidents and charges. Offenders with FASD had higher rates of both events, especially as compared to those in the ND group.

Table 3.

Incidents and Charges by Study Group

Study Groups	Events per 100 offender days	Incidence Rate Ratio (IRR) ^a	95% lower CI	95% upper CI
Incidents				
FASD	0.53			
UC	0.27	2.0	1.2	3.2
CNS	0.33	1.6	1.0	2.3
ND	0.28	1.9	1.2	2.9
Charges				
FASD	1.54			
UC	1.04	1.5	1.1	1.9
CNS	1.16	1.3	1.1	1.6
ND	0.69	2.2	1.7	2.9

^aRates are relative to the FASD group. For example, the incident rate for the UC group is 2 times greater than the FASD group. If the rates were less than 1 it would indicate the FASD group exhibits the event less frequently than the other groups.

Institutional incidents. Incidents and charges were all examined in more detail. All participants were involved in at least one institutional incident, whether as instigator or associate, victim, or in an unknown capacity. About half (54%) were involved in a single incident, a third (33%) were involved in two to four incidents, 11% were involved in five to nine incidents, and only 2% were involved in 10 or more incidents. When the incidents recorded for each group were examined by category (violent or non-violent), offenders with an FASD and those from the UC group were more frequently involved in violent incidents in comparison to the CNS and ND groups (see Table 4). Offenders with an FASD were especially likely to be involved in assaults on an offender.

Table 4.

Percentage Distribution of Incident Type by Study Group

Incident Type	FASD	UC	CNS	ND
	(<i>n</i> = 38)	(<i>n</i> = 28)	(<i>n</i> = 87)	(<i>n</i> = 39)
	%	%	%	%
Violent				
Assault on Offender	37	18	6	13
Offender Fight	10	7	3	8
Assault Staff	8	3	1	0
Non-Violent				
Possession of Contraband	24	25	39	23
Disciplinary Problems	13	11	5	2
Major Disturbance	3	7	0	3
Other Incidents	5	29	46	51

Note. *n* represents the number of institutional incidents recorded during the study period.

Patterns regarding the types of incidents in which offenders are most often involved can be further contextualized by considering offenders' roles. As can be seen in Table 5, offenders with an FASD were far more likely than other offenders to be victims in incidents. Offenders who did not display symptoms consistent with a confirmed or unconfirmed FASD (i.e., in the CNS and ND groups) were the most likely to be involved as associates (i.e., as perpetrators, but not the instigator).

Table 5.

Percentage Distribution of Role in Institutional Incidents by Study Group

Role	FASD	UC	CNS	ND
	(<i>n</i> = 38)	(<i>n</i> = 28)	(<i>n</i> = 87)	(<i>n</i> = 39)
	%	%	%	%
Instigator	69	79	56	38
Victim	21	7	3	3
Associate	5	7	36	49
Unknown	5	7	5	10

Note. *n* represents number of institutional incidents recorded during the study period.

Institutional charges. When institutional charges were examined in more detail, differences between groups again emerged. As can be seen in Table 6, more of the charges received by offenders in the FASD group, and, to a lesser extent, those in the UC group, were related to violence / aggression (e.g., fights, assaults, threats against another offender, and participation in or causing a disturbance).

Table 6.

Percentage Distribution of Charge Types by Study Group

Charge Type	FASD	UC	CNS	ND
	(n = 111)	(n = 122)	(n = 365)	(n = 126)
	%	%	%	%
Disobedience	52	46	55	55
Violence / Aggression	21	15	10	9
Contraband	25	29	28	29
Drug-Related	2	4	5	7
Other Charges ^a	-	6	2	-

Note. n represents number of charges recorded for each group during the study period. ^aCharges in this category include being in a prohibited area and attempting or assisting in any of the specific charge types.

Program Participation

During their period of incarceration, similar proportions of offenders in each category took part in correctional programs, employment placements, and education programs (Table 7). The exception was the ND group, who were slightly less likely to participate in correctional and educational programs.

Incidence rate ratios for number of days in correctional, education, and employment programs relative to number of days at risk are presented in Table 8. Generally speaking, there were only modest differences across groups in the total number of days spent in correctional programs, employment placements, and education.

Completion rates for correctional programs ranged from 67% for the FASD group to 90% for the CNS group, with the UC and ND groups completing 75% and 77% of their correctional programs, respectively. Differences between groups were not significant. Comparable analyses for employment placements and educational programs were not appropriate given the manner in which these placements and programs are tracked.

Table 7.

Program Participation by Study Group

	FASD (n = 9)	UC (n = 14)	CNS (n = 41)	ND (n = 27)
Program Type	%	%	%	%
Correctional	78	86	81	70
Educational	89	86	81	70
Employment	100	100	95	96

Table 8.

FASD Incidence Rate Ratios for Days Spent in Programs Relative to Comparison Study Groups

Comparison Study Groups	Incidence Rate Ratio (IRR) ^a	95% lower CI	95% upper CI
Correctional			
UC	1.0	0.9	1.1
CNS	0.9	0.8	0.9
ND	0.7	0.7	0.8
Educational			
UC	1.2	1.1	1.3
CNS	0.9	0.9	1.0
ND	0.9	0.8	0.9
Employment			
UC	1.1	1.0	1.1
CNS	1.1	1.1	1.1
ND	1.1	1.0	1.1

^aRates are relative to the FASD group. For example, for the UC group the correctional program rate is the same as that of the FASD group. Relative to the CNS group, offenders in the FASD group are slightly less likely to be involved in programs.

Releases

Finally, releases granted to participants were examined (see Table 9). Overall, 80% of

participants received some type of release during the study period, with the groups not differing statistically in this respect. Offenders with identified CNS deficits (FASD, UC, and CNS groups), and especially those displaying symptoms consistent with FASD (FASD and UC) were typically first released on statutory release. Offenders in the CNS and ND groups were more likely to be granted day parole.

Table 9.

Release Data by Study Group

	FASD (n = 9)	UC (n = 14)	CNS (n = 41)	ND (n = 27)
Release Information	%	%	%	%
Released	78	86	80	77
Release Type				
Day Parole	0	14	46	66
Full Parole	0	8	0	0
Statutory Release	100	75	55	33

Discussion

This study examined and contrasted the institutional adjustment of federal men offenders who were diagnosed with an FASD, those who exhibited some CNS deficits but did not meet criteria for diagnosis of FASD (i.e., the UC and CNS groups), and those who had no deficits. Overall, individuals with an FASD had more difficulty with institutional adjustment than offenders in the comparison groups. They were also slightly less likely to complete correctional programs and to receive discretionary release (day parole and full parole).

Institutional Adjustment

Offenders with an FASD's higher rates of involvement in institutional incidents and charges was consistent with expectations given individuals with an FASD exhibit difficulty in following rules, obeying authority, and learning from past experiences (Conry & Fast, 2004). The maladaptive behaviour patterns common amongst individuals with an FASD, posited to lead to criminal behaviour (Boland et al., 1998), likely continue to cause problems for these individuals during incarceration. Furthermore, individuals with an FASD's difficulties with interpersonal relationships and vulnerability in social situations may also adversely affect their adjustment to the institutional environment (Bracken, 2008; Fast & Conry, 2004; 2009). Indeed, these patterns likely explain why offenders with an FASD were more likely than others to be victims of incidents while incarcerated. Impulsivity (Boland et al., 1998), together with difficulties with associating cause and effect, learning from mistakes, and learning rules (Conry & Fast, 2004), may all contribute to explaining why those exhibiting FASD symptoms were also more likely to be perpetrators of institutional incidents. Indeed, Boland and his colleagues (1998) have argued that the tendency for those with an FASD to become overwhelmed in social situations and to be overly trusting can result in both victimization and troublemaking.

Offenders with an FASD also exhibited slightly worse institutional adjustment than other offenders in other areas. Though they were involved in correctional programs, employment placements, and educational programs at similar rates to other offenders, they were slightly (and non-significantly) less likely to complete correctional programs. This finding was consistent with arguments put forth by Burd et al. (2003) based on the deficits common among individuals with an FASD.

Not surprisingly, given their higher overall levels of dynamic risk at intake, their more problematic institutional adjustment, and their more limited correctional program success, offenders displaying symptoms of an FASD were also much less likely to be granted a discretionary release. This finding aligns with the arguments of Moore and Green (2004), who suggest that without special programs, supports, and services, offenders with an FASD have a reduced probability of receiving a parole because they are perceived as unlikely to demonstrate progress or rehabilitation.

Limitations

Time and resources dictated that this study be limited to a single institution. The size of the FASD group was therefore very small (nine offenders), which presented a number of challenges. Not only did this small sample make it difficult for statistically reliable findings to be identified, but it also decreased confidence in the generalizability of findings to other offenders with an FASD. Generalizability was also negatively impacted by the proportion of offenders who were of Aboriginal ancestry. Aboriginal offenders comprised 66% of the sample in the current study, which is much higher than the comparable national figure of 21% (Public Safety Canada, 2014). Given rates of FASD are thought to be higher in certain Aboriginal communities than elsewhere in Canada (Boland et al., 2000; Chudley et al., 2005), the results may not reflect what would have been found in CSC regions where Aboriginal offenders are less heavily represented. Nonetheless, as one of the first studies to investigate the institutional adjustment of offenders with an FASD – and in particular, the first to do so with federal offenders in Canada – the study has useful implications.

Operational Implications

In addition to increasing our understanding of offenders with an FASD, the current findings may be useful in terms of staff awareness, training, and program delivery. The finding that offenders with an FASD have higher rates of institutional incidents and charges is important in understanding the unique needs of this population in a correctional environment. Increased staff awareness of both the existence of these patterns and the primary and secondary disabilities associated with FASD that may contribute to explaining them (Streissguth, 1997; 1998) may contribute to increased exploration of informal resolution approaches in certain circumstances. Related training may also be beneficial. When behaviours are attributable at least in part to

FASD-associated deficits rather than deliberate misbehaviour, staff may be able to develop or be trained in strategies to limit or prevent escalation to a point when a formal recording of incident or laying of a charge is required.

Findings regarding offenders' program participation could also have operational implications. Though differences in rates of participation and completion of correctional programs for offenders with an FASD and their counterparts were very modest in the current study, these limited differences may be due to program adaptations made in delivering programs to these offenders. While the deficits associated with FASD may make it difficult for impacted offenders to benefit fully from traditional correctional programs (Burd et al., 2003; Kalberg & Buckley, 2007; Moore & Green, 2004; Streissguth, 1998), CSC's approach to correctional program delivery includes adapting delivery according to offender needs. In fact, a resource kit specific to offenders with an FASD is available to all CSC program facilitators (CSC, 2012). The strategies outlined in this document include suggestions such as rendering abstract concepts more concrete, modifying skills if required, and increasing the amount of skill practice and one-on-one work. Though such strategies exist and are likely to assist offenders with an FASD in benefitting from their program participation, it remains important to identify these offenders to ensure they are offered adapted interventions.

Conclusion

In this first study to examine adjustment to a correctional facility for offenders with an FASD, findings were consistent with previous research showing that FASD is associated with an increased risk of poor social adjustment (e.g., Streissguth et al., 2004; O'Connor & Paley, 2009). Offenders with an FASD demonstrated higher rates of institutional misbehaviour across a number of indices. These findings may contribute to increased awareness of the behaviours of offenders with an FASD and underscore the importance of identifying these offenders in order to better be able to provide interventions suited to their learning abilities. Overall, an increased understanding of offenders with FASD will position CSC to support these offenders' successful community reintegration.

References

- Andrews, D. A. & Bonta, J. (2010). *The Psychology of Criminal Conduct* (5th Ed.) Albany, NY: Anderson Publishing Co.
- Boland, F. J., Burrill, R., Duwyn, M., & Karp, J. (1998). *Fetal alcohol syndrome: Implications for correctional service*. Ottawa, ON: Correctional Service of Canada
- Boland, F. J., Duwyn, M., & Serin, R. (2000). Fetal alcohol syndrome: Understanding its impact. *Forum on Corrections Research*, 12(1).
- Boland, F. J., Chudley, A. E., & Grant, B. A. (2002). The challenge of fetal alcohol syndrome in adult offender populations. *Forum on Corrections Research*, 14(3).
- Bonta, J. (1995). The responsivity principle and offender rehabilitation. *Forum on Corrections Research*, 7(3).
- Bracken, D. C. (2008). Canada's Aboriginal people, fetal alcohol syndrome & the criminal justice system. *British Journal of Community Justice*, 6(3), 21-33.
- Burd, L., Selfridge, R. H., Klug, M. G., & Bakko, S.A. (2004). Fetal alcohol syndrome in the United States corrections system. *Addiction Biology*, 169-176.
- Burd, L., Selfridge, R. H., Klug, M. G., & Juelson, T. (2003). Fetal Alcohol Syndrome in the Canadian corrections system. *Journal of FAS International*, 1.
- Chudley, A. E., Conry, J., Cook, J. L., Looock, C., Rosales, T., & LeBlanc, N. (2005). Fetal alcohol spectrum disorder: Canadian guidelines for diagnosis. *Canadian Medical Association Journal*, 172, s1-s21.
- Chudley, A. E., Kilgour, A. R., Cranston, M., & Edwards, M. (2007). Challenges of diagnosis in fetal alcohol syndrome and fetal alcohol spectrum disorder in the adult. *American Journal of Medical Genetics Part C (Seminars in Medical Genetics)*, 145C, 261-272.
- Correctional Service Canada (2012). *Fetal Alcohol Spectrum Disorder resource kit*. Internal CSC document. Ottawa, ON: Author.
- Correctional Service Canada (2013a). *Commissioner's Directive - 580. Discipline of inmates*. Ottawa, ON: Author.

- Correctional Service Canada (2013b). *Commissioner's Directive - 726. Correctional programs*. Ottawa, ON: Author.
- Fast, D. K. & Conry, J. (2009). Fetal alcohol spectrum disorders and the criminal justice system. *Developmental Disabilities Research Reviews, 15*, 250-257.
- Fast, D.K. & Conry, J. (2004). The challenge of fetal alcohol syndrome in the criminal legal system. *Addiction Biology, 9*, 161-166.
- Fast, D. K., Conry, J., & Loock, C. (1999). Identifying fetal alcohol syndrome among youth in the criminal justice system. *Developmental and Behavioral Pediatrics, 20*, 370-372.
- Health Canada (2006). *It's your health: Fetal alcohol spectrum disorder, Minister of Health*. Retrieved from <http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/diseases-maladies/fasd-etcaf-eng.php>
- Kalberg, W. O. & Buckley, D. (2007). FASD: What types of intervention and rehabilitation are useful? *Neuroscience and Biobehavioral Reviews, 31*, 278-285.
- Kennedy, S. M. (2000). "Treatment responsivity: Reducing recidivism by enhancing treatment effectiveness" in L. Motiuk & R. C. Serin (Eds.), *Compendium 2000 on Effective Correctional Programming*. Ottawa, ON: Correctional Service Canada.
- MacPherson, P. H., Chudley, A. E., Grant, B. A. (2011). *Fetal Alcohol Spectrum Disorder (FASD) in a correctional population: Prevalence, screening and characteristics*. Ottawa, ON: Correctional Service of Canada.
- Moore, T. E. & Green, M. (2004). Fetal alcohol spectrum disorder (FASD): A need for closer examination by the criminal justice system. *Criminal Reports, 19*(1), 99-108.
- Nash, K., Rovet, J., Greenbaum, R., Fantus, E., Nulman, I., & Koren, G. (2006). Identifying the behavioural phenotype in fetal alcohol spectrum disorder: sensitivity, specificity and screening potential. *Archives of Women's Mental Health, 9*, 181-186.
- O'Connor, M. J. & Paley, B. (2009). Psychiatric conditions associated with prenatal alcohol exposure. *Developmental Disabilities Research Reviews, 15*, 225-234.
- Public Safety Canada (2014). *Corrections and conditional release statistical overview 2013*. Ottawa, ON: Public Works and Government Canada.

Statistics Canada. (2013). *Aboriginal peoples in Canada: First Nations people, Métis and Inuit: National household survey, 2011*. Ottawa, ON: Author.

Streissguth, A. (1997). *Fetal alcohol syndrome: A guide for families & communities*. Baltimore, MD: Paul H. Brookes Publishing Co.

Streissguth, A. P. (1998). Attaining human rights, civil rights and criminal justice for people with fetal alcohol syndrome. *TASH Newsletter*, 234.

Streissguth, A. P., Aase, J. M., Clarren, S. K., Randels, S. P., LaDue, R., & Smith, D. F. (1991). Fetal alcohol syndrome in adolescents and adults. *Journal of the American Medical Association*, 265, 1961-1967.

Streissguth, A. P., Bookstein, F. L., Barr, H. M., Sampson, P. D., O'Malley, K., & Young, J. K. (2004). Risk factors for adverse life outcomes in fetal alcohol syndrome and fetal alcohol effects. *Developmental and Behavioral Pediatrics*, 25, 228-238.

Streissguth, A. P. & Kanter, J. (1997). *The Challenge of Fetal Alcohol Syndrome: Overcoming secondary disabilities*. Seattle, WA: University of Washington Press.