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[See table of contents](#)

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### Article abstract

*Fetal Alcohol Spectrum Disorder (FASD) is a lifelong disorder with no cure and is accompanied by neurological deficits. FASD is a health concern that is increasingly gaining attention within the justice system. Research has identified an association between delinquency and prenatal alcohol exposure. This study looked at resources of resilience for young offenders and addressed questions regarding the association between enculturation and resilience, and whether offence histories differed between youth with and without a diagnosis of FASD. Ninety-four young offenders between 13 and 23 years of age participated, 47 diagnosed with FASD and 47 without. While this study was not intended to be a study on Aboriginal adolescence, given the overrepresentation of FASD among Aboriginal youth involved in justice settings, the Multigroup Ethnic Identity Measure (MEIM) was included to assess levels of enculturation among youth. The Child and Youth Resilience Measure (CYRM) was used to assess resilience. Results showed a positive association between the resilience-enhancing resources and enculturation, indicating that the two are intricately connected. Neither group differed in their rates on the resilience-enhancing resources or the enculturation measure. While the resilience measure was not significantly associated with official conviction data, it did demonstrate significant associations with self-reported offending data. Finally, no significant results emerged to suggest that FASD had an influence on the association between the resilience measure and offence history or the enculturation measure and offence history. Findings suggest the importance of incorporating cultural components into services targeted to produce resilience and positive outcomes, and that different groups may have different service needs.*

## Resilience and enculturation: Strengths among young offenders with Fetal Alcohol Spectrum Disorder

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### Abstract

*Fetal Alcohol Spectrum Disorder (FASD) is a lifelong disorder with no cure and is accompanied by neurological deficits. FASD is a health concern that is increasingly gaining attention within the justice system. Research has identified an association between delinquency and prenatal alcohol exposure. This study looked at resources of resilience for young offenders and addressed questions regarding the association between enculturation and resilience, and whether offence histories differed between youth with and without a diagnosis of FASD. Ninety-four young offenders between 13 and 23 years of age participated, 47 diagnosed with FASD and 47 without. While this study was not intended to be a study on Aboriginal adolescence, given the overrepresentation of FASD among Aboriginal youth involved in justice settings, the Multigroup Ethnic Identity Measure (MEIM) was included to assess levels of enculturation among youth. The Child and Youth Resilience Measure (CYRM) was used to assess resilience. Results showed a positive association between the resilience-enhancing resources and enculturation, indicating that the two are intricately connected. Neither group differed in their rates on the resilience-enhancing resources or the enculturation measure. While the resilience measure was not significantly associated with official conviction data, it did demonstrate significant associations with self-reported offending data. Finally, no significant results emerged to suggest that FASD had an influence on the association between the resilience measure and offence history or the enculturation measure and offence history. Findings suggest the importance of incorporating cultural components into services targeted to produce resilience and positive outcomes, and that different groups may have different service needs.*

### Introduction

*Fetal Alcohol Spectrum Disorder (FASD) is an umbrella term that consists of a range of behavioural, physical and cognitive deficits resulting from prenatal alcohol exposure (PAE; Chudley et al., 2005). Effects of FASD can include growth delays, dysmorphic facial features, and central nervous system (CNS)*

impairments (Caley et al., 2005; Pacey, 2008). Effects of FASD are variable and can range in type, combination and severity depending on the frequency, amount and timing of alcohol consumption (Nicholson, 2008; Health Canada, 2003; Healthy Child Manitoba and Manitoba Education, Citizenship and Youth, 2009). A number of primary and secondary disabilities (adverse outcomes) are commonly associated with PAE. Primary disabilities are functional deficits that result from CNS injury (Streissguth et al., 1997). Neuropsychological domains of impairment for youth affected by FASD include executive functioning impairments, such as deficits in memory, understanding abstract concepts such as cause and effect, and decision making and planning (Nicholson, 2008). Furthermore, individuals affected by FASD may have poor judgment, engage in lying and stealing, and have little remorse for the consequences of their actions. Secondary disabilities can be understood as adverse outcomes that are prevalent in individuals with FASD. Streissguth et al. (1997) identified a number of adverse outcomes in their large scale study of adolescents and adults with the diagnosis: 90% experienced mental health problems; 60% experienced disrupted school; 60% experienced trouble with the law; 50% reported experiencing confinement, either in-patient treatment or incarceration for criminal behaviours; 50% exhibited inappropriate sexual behaviours; and 30% had experienced alcohol and/or drug problems (Streissguth et al. 1997).

## Fetal Alcohol Spectrum Disorder and the justice system

FASD is a health concern that is increasingly gaining attention within the justice system. The intersection between FASD and the justice system is of interest because, as a result of associated primary and secondary disabilities, individuals affected by FASD can often experience difficulties within the justice system (Cunningham, Mishibinijima, Mohammed, Mountford, & Santiago, 2010). Of the possible diagnoses under the umbrella term FASD it is thought that the less visibly affected adolescents, who lack facial dysmorphological features, are more likely to exhibit delinquent behaviours. Fast, Conry, and Looch (1999) estimate that 60% of those with FASD have some sort of contact with the legal system and that of the youth remanded to forensic psychiatric facilities for inpatient assessments, 23.3% and 1% met criteria for FAS/FAE and full FAS respectively, suggesting a significant overrepresentation. When corrective measures are used on youth affected by FASD, it can result in frustration as oftentimes these individuals struggle with cause and effect (Healthy Child Manitoba and Manitoba Education, Citizenship and Youth, 2009).

## Identity

### Fetal Alcohol Spectrum Disorder, enculturation, and identity

Enculturation can be defined as the process by which ethnic individuals learn about their own ethnic culture, the extent to which they connect with that culture (Zimmerman & Ramirez-Valles, 1996), and is analogous to ethnic identity (Phinney, Chavira, & Tate, 1993). While there is variability in the construct of ethnic identity, there are also central components. The first component is self-identification, that is, a self-label that differentiates between self-identification (what ethnic identity an individual identifies with) and biological ethnicity. Affect is another central component, including feeling a sense of belonging, pride, and knowledge of the groups' history and traditions. Behaviours and practices are additional aspects; this refers to individualism versus collectivism, social activities, and cultural traditions (Phinney, 1992, 2000). Berry (1999) found that behavioural expression of identity was highest among Inuit and lowest among Métis, and adults demonstrated higher rates of identity compared to children and youth. Findings also showed that adults had stronger identities than children and adolescents. These findings are relevant because identity acquisition, whether social or ethnic identity, is an important part of adolescent development (Erikson, 1968; Kroger, 2003). In adolescence, youth are more concerned with how they are viewed by peers and fitting in with subculture rather than identity formation (Erikson, 1968; Larson & Richards, 1991). Identity acquisition in adolescence involves a process of exploration, which ultimately results in a commitment to identity (Roberts et al., 1999).

With respect to FASD and identity, it is important to discuss FASD in relation to Aboriginal<sup>2</sup> people in Canada, as studies have indicated increased prevalence in rural Aboriginal communities (Williams, Odaibo, & McGee, 1999). While this study was not intended to be a study on Aboriginal adolescence, there is a common misconception that FASD is an “ethnic problem,” in which those of Aboriginal ancestry are genetically at-risk for FASD (Chudley et al., 2005). Though First Nation communities are at high risk, it is not a genetically-based problem. Such comments do not consider the social determinants of health that increase the risk for Aboriginal populations (Tait, 2003) and do not include context such as colonization efforts and effects. The high risk for FASD among Aboriginal people can in part be attributed to colonization (i.e., residential school system, sixties scoop<sup>3</sup>) and its effects on subsequent generations (Tait, 2003). As Wemigwans (2005) notes, “Aboriginal communities are particularly sensitive to the stigma associated with FASD because it is not often contextualized as the product of a social problem but as a racial stereotype related to the evils of ‘Indians and Drinking’” (p. 9). Colonization of Aboriginal people has had dramatic and calamitous effects on Aboriginal families and communities. This is compounded by social determinants of health, including high rates of poverty and homelessness and low rates of education and employment contributing to substance abuse (Mitten, 2004).

## Resilience

Of particular interest in the present study are factors that are associated with resilience and its relationship to offending patterns and histories. Rutter (1987) explains that resilience refers to the different ways in which individuals respond to risk. It is not a fixed attribute, but rather, the manner in which individuals respond to stress varies across time and situations. Ungar (2005a) explains that many understand resilience as something innate to the individual, a special intrinsic quality within the person that helps them overcome adversity. However, it is important to understand resilience as something more than an internal quality; understanding resilience should involve contextual, environmental, societal, and cultural aspects as well as relationships and opportunities that are available to individuals (Ungar, 2005a, b).

### *Theories of resilience*

Across the literature, operational definitions of resilience appear to be inconsistent, though two prominent conceptualizations of resilience include resilience as a trait and resilience as a process. As a trait, resilience is best understood as those personal characteristics that allow for success in the face of adversity (Fougere & Daffern, 2011; Jacelon, 1997; Richardson, 2002). In terms of resilience as a trait, researchers have come to agreement on a triad of resilient traits, including personal characteristics such as easy temperament, family characteristics such as having a supportive family environment, and external supports such as positive role models (Fougere & Daffern, 2011). Though relative agreement on the triad

<sup>2</sup> The term Aboriginal is inclusive of First Nations, Inuit, and Métis peoples. These terms will be used interchangeably and will all be intentionally capitalized. This terminology will be used to define the first inhabitants in Canada, the United States, Australia and New Zealand. It is not the intention to group First Nations peoples into one homogenous group (van der Woerd & Cox, 2003).

<sup>3</sup> The sixties scoop represents a period of time (1960-1970s) when large amounts of Aboriginal children (an estimated 20,000) were removed from their families and placed in the child welfare system and non-Aboriginal foster homes (Tait, 2003).

of resilience traits has been achieved, this level of agreement is not present when considering resilience as a process (Jacelon, 1997). On one hand, resilience as a process has been conceptualized as acquiring the triad of resilient traits (Richardson, 2002). Conversely, others have imposed a nested process on the triad in which protective processes exist within individual-level factors (traits), which in turn exists within the social-level factors (family support), and together they exist within societal-level factors (external support; Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003). The latter will be the theoretical framework that guided the present study.

### *Resilience and crime*

A common limitation in research examining young offenders is a failure to examine strengths and protective factors. Resilience is one such protective factor that is thought to reduce the risk for crime and antisocial behavior (Rennie & Dolan, 2010). It has been argued that a continuum exists with resilience and vulnerability on opposing ends. When faced with adversity, people respond through a dynamic process, and depending on the response, they will end up at some point along the continuum (Jacelon, 1997). Youth labeled as at-risk, with delinquency limited to their adolescent years, show similarities to youth labeled as resilient (Fougere & Daffern, 2011; Ungar, 2001), suggesting that at-risk youth can still demonstrate resilience and the two constructs co-exist simultaneously at varying levels. Specifically, both groups may employ similar strategies in an effort to maintain their sense of well being (e.g., join a group), however, those who engage in antisocial behavior or crime will result in a deviant course through the system. Youth may gravitate towards delinquent peers and take part in delinquent behaviour as a way to fill a void or to acquire something that they need (Ungar, 2001). Echoing this view, Greene et al. (2003) note that health professionals believed that individuals would do whatever it takes to survive. For example, those who have unhealthy home environments may join gangs to gain a sense of belonging. In a gang, they have a sense of family; they are adapting to get what they need.

## **The present study**

As part of a larger program of research examining the psycholegal abilities, risks, and needs of young offenders with FASD (McLachlan, in press), this study sought to target identifiable resilience aspects that could be used to develop intervention programs and inform the risk management literature. The overarching goal of this study aimed to move beyond psychopathologizing young offenders with FASD and towards a strength-based understanding of the association among resilience resources, enculturation and offending. Four research questions were asked, and hypotheses were subsequently tested. Research Question 1: What is the association between enculturation and resilience? Protective factors including traditions, ceremonies and the strength of one's ethnic identity are rooted in culture (O'Dougherty, Wright, & Masten, 2005). Given the intricate connection between resilience and culture, it was hypothesized that there would be a positive correlation between enculturation and resilience for each group in the study. Research Question 2: How do youth with and without FASD differ in terms of resilience and enculturation? Youth with FASD often come from marginalized communities and might feel very stigmatized due to the negative social connotations associated with this label and associated cognitive and behavioral challenges. It was hypothesized that individuals with FASD would endorse lower rates of resilience and enculturation. Research Question 3: Are specific areas of resilience components



(individual, caregivers, sense of belonging) associated with offence severity/history? While no hypotheses were formulated, interest in this question is rooted in previous literature, which theorizes a relationship between resilience and delinquent behaviours (Rennie & Dolan, 2010; Ungar, 2001). Research Question 4: Does the presence of FASD have a moderating effect on the association between offence history and resilience? Because some of the cognitive abilities (planning, impulse control) that have been identified as compromised or absent in individuals with FASD serve as resilience factors, it was hypothesized that the relationship between resilience resources and offending histories would function differently for youth with FASD, that is, the relationship would decrease for youth with FASD.

## Method

### *Participants*

Participants were 94 justice-involved adolescents between 13 and 23 years of age (77 male, 17 female). Forty-seven of the participants had a confirmed diagnosis of FASD based on Canadian diagnostic guidelines (Chudley et al., 2005). The remaining 47 participants served as the comparison group and did not have a diagnosis of FASD. Participants were recruited within the provinces of British Columbia (BC) and Manitoba. Recruitment of the FASD sample was conducted in collaboration with diagnostic programs with specialized referral streams for justice-involved youth. Recruitment of the comparison sample was done in collaboration with probation offices in the same jurisdictions from which the FASD sample was gathered. Recruitment of the comparison sample made efforts to match the samples on age, gender, and offence severity. Youth were excluded from the comparison group if there was suspicion of FASD or PAE.

### *Measures*

**The Multigroup Ethnic Identity Measure.** The Revised (12-item) Multigroup Ethnic Identity Measure (MEIM; Roberts et al., 1999) was used to measure enculturation/ethnic identity. This 12-item measure is designed to assess enculturation and is based on Erickson's (1968) Developmental Theory and Tajfel and Turner's (1986) Social Identity Theory. A factor analysis of the MEIM yielded two factors; the first factor includes five items and is a developmental cognitive component termed ethnic identity search (EIS). The second factor, including seven items, is an affective component termed affirmation, belonging, and commitment (ABC). Psychometrics for this measure demonstrates adequate reliability (.81 in high school students and .90 in college students; Roberts et al., 1999). Cronbach's alpha in the current study was .94.

**The Child and Youth Resilience Measure.** The Child and Youth Resilience Measure (CYRM; Ungar et al., 2008) was used to measure characteristics and supports that enhance resilience. This 28-item measure is a culturally sensitive measure of resilience among youth. This measure focuses on individual, relationship-caregiver, and community-sense of belonging domains that reflect resilience. Psychometrics for this measure demonstrates adequate reliability (Ungar et al., 2008). Cronbach's alpha in the current study was .86.

**Self Report of Offending.** The Self Report of Offending (SRO) questionnaire (Huizinga, Esbensen, & Weiher, 1991) was used to measure offence history. The SRO collects information about self-reported offending behaviour throughout the lifetime. Information collected from the SRO may include offences that have not resulted in criminal convictions, and offences for which the individual has not been caught. The SRO includes aggressive, income related and public order offences. This questionnaire has good psychometric properties (Knight et al., 2004).

## Procedure

Recruitment was undertaken in collaboration with service providers in the participating diagnostic clinics and probation offices. Service providers informed prospective participants about the study and provided researchers with the contact information of youth who expressed interest in participating. Active parental consent was obtained for all participants below the age of majority in each jurisdiction. All study procedures were consistent with ethical guidelines (Ethical Principles of Psychologists and Code of Conduct, 2002). Participants were met at diagnostic clinics, FASD justice programs, probation offices, detention facilities, and public libraries. As part of a larger study, participants were administered a battery of tests and an interview in addition to the three questionnaires in this study (MEIM, CYRM, SRO). Instructions were provided orally and youth were asked to be as honest as possible. The total interview was approximately three hours. Upon completion of the interview, tests, and questionnaires, participants were assessed for self-harm, debriefed and given \$25 gift cards for local attractions as compensation for their participation.

## Results

### Descriptive statistics

In order to deal with missing data, scores for missing items were imputed based on mean substitution of specific domains (Schafer & Graham, 2002). Seven participants failed to complete the CYRM entirely, leaving one or two items unanswered.

Descriptive statistics were calculated for both samples as well as for each predictor and dependent variable (see Table 1). Descriptive statistics showed that the majority of youth were male (81.9%), of Aboriginal heritage (71.3%,  $n = 67$ ), and an average age of 17.5 ( $SD = 1.61$ ). Of those who self-identified as Aboriginal, 59.7% ( $n = 40$ ) indicated having Indian Status, 29.2% ( $n = 20$ ) did not have Indian status, and 11.1% ( $n = 7$ ) were unsure of their status. In terms of social demographics, 55.3% of the youth in this study were in custody at the time of being interviewed, and the remaining 44.7% were in the community. A total of 70.2% of the youth had prior or ongoing contact with child welfare services, with an average age of first placement beginning at 9.41 ( $SD = 16.67$ ), and an average of 7.5 ( $SD = 7.41$ ) placements. See Table 2 for group comparisons.



Table 1: Sample and Variable Descriptive Statistics

	All (n = 94)	FASD (n = 47)	Comparison (n = 47)
<b>Sample</b>	<b>Mean (SD)</b>	<b>Mean (SD)</b>	<b>Mean (SD)</b>
<b>Age</b>	17.50 (1.61)	17.53 (1.85)	17.47 (1.33)
	<b>Frequency (%)</b>	<b>Frequency (%)</b>	<b>Frequency (%)</b>
<b>Gender</b>			
Male	77 (81.9)	39 (83.0)	38 (80.9)
Female	17 (18.1)	8 (17.0)	9 (19.1)
<b>Ethnicity</b>			
Caucasian	17 (18.1)	6 (12.8)	11 (23.4)
Aboriginal	67 (71.3)	40 (85.1)	27 (57.4)
Asian	1 (1.1)	1 (2.1)	-
African	3 (1.1)	-	3 (6.4)
E.Indian	1 (3.2)	-	1 (2.1)
Other	5 (5.3)	-	5 (10.6)
<b>Variable</b>	<b>Mean (SD)</b>	<b>Mean (SD)</b>	<b>Mean (SD)</b>
<b>MEIM</b>	2.69 (.72)	2.60 (.76)	2.77 (.67)
<i>EIS</i>	2.39 (.78)	2.34 (.80)	2.44 (.76)
<i>ABC</i>	2.90 (.77)	2.78 (.81)	3.02 (.70)
<b>CYRM</b>	3.82 (.59)	3.75 (.65)	3.90 (.51)
<i>Individual</i>	4.07 (.58)	3.97 (.64)	4.18 (.50)
<i>Personal Skills</i>	4.15 (.65)	4.05 (.75)	4.25 (.53)
<i>Peer Support</i>	3.84 (1.02)	3.75 (1.01)	3.93 (1.03)
<i>Social Skills</i>	4.03 (.63)	3.92 (.70)	4.15 (.54)
<i>Relationship-Caregiving</i>	3.74 (.92)	3.67 (.98)	3.81 (.86)
<i>Physical</i>	3.60 (1.00)	3.53 (1.03)	3.66 (.97)
<i>Psychological</i>	3.80 (1.05)	3.73 (1.06)	3.87 (1.04)
<i>Context-Belonging</i>	3.61 (.76)	3.56 (.76)	3.66 (.76)
<i>Spiritual</i>	2.99 (1.20)	3.04 (1.18)	2.94 (1.20)
<i>Education</i>	3.69 (1.15)	3.68 (1.16)	3.69 (1.16)
<i>Cultural</i>	3.95 (.79)	3.83 (.88)	4.07 (.69)
<b>LSRO</b>	40.15 (19.43)	35.77 (18.17)	44.42 (19.86)
<i>Aggressive-related</i>	1.30 (.83)	1.13 (.76)	1.46 (.88)
<i>Income-related</i>	1.76 (.89)	1.55 (.86)	1.97 (.89)

EIS = Ethnic Identity Search; ABC = Affirmation, Belonging, Commitment

Table 2: Demographic Descriptive Statistics

<b>Variable</b>	<b>FASD (n = 47)</b> <b>Frequency (%)</b>	<b>Comparison (n = 47)</b> <b>Frequency (%)</b>
Custody	25 (53.2)	27 (57.4)
Community Accommodation Prior to Custody	22 (46.8)	20 (42.6)
<i>Birth Parent(s)</i>	8 (30.8)	16 (55.1)
<i>Foster Home</i>	3 (11.5)	3 (10.3)
<i>Step Parent(s)</i>	-	2 (6.8)
<i>Adoptive Parents</i>	-	1 (3.4)
<i>Relative</i>	5 (19.2)	-
<i>Sibling</i>	-	1 (3.4)
<i>Independent</i>	1 (3.8)	3 (10.3)
<i>Group Home</i>	7 (26.9)	1 (3.4)
<i>No Fixed Address</i>	1 (3.8)	-
<i>Other</i>	1 (3.8)	1 (3.4)
Community Youth Accommodation		
<i>Birth Parent(s)</i>	6 (12.8)	10 (21.3)
<i>Foster Home</i>	8 (17)	3 (6.4)
<i>Step Parent(s)</i>	1 (2.1)	-
<i>Relative</i>	-	1 (2.1)
<i>Sibling</i>	-	1 (2.1)
<i>Independent</i>	3 (6.4)	4 (8.5)
<i>Group Home</i>	5 (10.6)	1 (2.1)
<i>No Fixed Address</i>	1 (2.1)	-
<i>Other</i>	-	1 (2.1)
Ever MCFD	43 (91.5)	23 (48.9)
Ever Homeless	15 (31.9)	14 (30.4)
Ever Custody	45 (95.7)	43 (93.5)
School Now	12 (25.5)	18 (38.3)
Ever Alt. School	41 (87.2)	33 (70.2)
	<b>Mean (SD)</b>	<b>Mean (SD)</b>
Age 1 <sup>st</sup> Apprehended to MCFD	5.05 (5.46)	17.57 (25.64)
# MCFD Placements	8.38 (7.89)	5.82 (6.23)
# Times Homeless	5.13 (6.47)	9.21 (25.60)
Age 1 <sup>st</sup> Homeless	13.73 (2.22)	20.36 (22.45)
Total Days in Custody ( <i>lifetime</i> )	352.71 (382.35)	360.26 (279.02)
Last Grade Completed	8.55 (1.68)	8.87 (1.72)

## Question 1: Association between resilience and enculturation

Given the intricate connection between resilience and culture, it was hypothesized that there would be a positive correlation between enculturation and resilience for each group in the study. Pearson product-moment correlation coefficients (Pearson's  $r$ ) were computed to assess the association between resilience and enculturation. Consistent with predictions, a positive correlation was found between mean CYRM and MEIM scores for all youth in the study. For all youth in the study, enculturation was positively correlated with resilience,  $r = .47, p < .001$ , demonstrating a relationship between the components of resilience and enculturation.

Next, correlations between enculturation and resilience resources were assessed separately for each group in order to make comparisons. Positive correlations between the CYRM and MEIM total scores emerged for both the FASD group,  $r = .49, p = .001$ , and comparison group,  $r = .41, p = .004$ . As shown in Table 3, group differences emerged with respect to the associations between the CYRM's individual domain, and relationship-caregiver domain and the MEIM's ethnic identity search, and affirmation, belonging, and commitment factors. In the FASD group, the individual domain of the CYRM was significantly associated with enculturation (MEIM total score),  $r = .31, p = .035$ , in particular the ethnic identity search factor,  $r = .34, p = .019$ , but not with the affirmation, belonging, commitment factor,  $r = .25, p = .087$ . That is, youth affected by FASD who endorsed actively exploring their ethnic identity also indicated having individual level resilience (e.g., personal and social skills). However, the opposite was true for the comparison group as the individual domain was only significantly correlated with the affirmation, belonging, commitment factor,  $r = .30, p = .038$ . That is, youth in the comparison group who endorsed an affirmation and commitment to their ethnic identity also indicated higher individual levels of resilience. With respect to the relationship-caregiver CYRM domain, the FASD group showed significant correlations with the MEIM factors, while the comparison group did not. For instance, youth affected by FASD who endorsed both exploration and commitment to ethnic identity also endorsed resilience related to caregiver relationships (e.g., having physical and psychological caregiver support). Interestingly, both groups had significant associations with respect to the context-sense of belonging domain of the CYRM and the MEIM. That is, youth who endorsed an exploration of and affirmation of ethnic identity also endorsed increased levels of resilience related to a sense of belonging (e.g., spiritual and cultural supports).

Table 3: Correlations Among Predictors and Criterion Variables for All Youth

	FAS D	No FAS D	FAS D	No FAS D	FA S D	No FAS D	FAS D	No FAS D	FA S D	No FAS D	FAS D	No FAS D
Variable	2.		2a.		2b.		3.		3a.		3b.	
1.CYRM Total Score	.487 <sup>†</sup>	.414 <sup>†</sup>	.460 <sup>†</sup>	.360*	.45 2 <sup>†</sup>	.402 <sup>†</sup>	- .332°	-.355*	- .33 2°	- .319*	- .232	- .400 †
<u>Individual</u>	.308°	.265	.340°	.170	.25 3	.303*	-.215	-.294*	- .29 3	- .307 *	- .095	- .249
Personal Skills	.197	.365 *	.270	.304*	.12 4	.363*	-.219	-.288	- .28 8	- .301 *	-.117	-.235
Peer Support	.319°	- .069	.242	-.206	.33 8°	.046	.073	-.141	.02 4	-.189	.134	-.148
Social Skills	.350°	.243	.347°	.139	.31 4°	.291*	-.205	-.264	- .27 3	-.214	-.100	-.199
<u>Relation- Caregiver</u>	.356°	.151	.309°	.134	.35 0°	.144	-.297	-.359*	- .25 4	- .332 *	-.154	- .488 †
Physical	.296°	-.010	.261	.018	.28	-.031	-.059	-.146	- -	- -	.043	-.237

					9°				.028	.093		
Psychological	.342°	.179	.295°	.149	.338°	.178	-	-.359*	-.314°	-.350*	-.213	-.477†
<u>Context-Belonging</u>	.554†	.468†	.504†	.447†	.529†	.423†	-	-.332°	-.300°	-.115	-.325°	-.184
Spiritual	.468†	.404†	.529†	.521†	.374†	.260	-.239	-.048	-.217	.048	-.273	-.103
Education	.050	.244	-.044	.163	.111	.275	-.246	-.280	-.260	-.217	-.165	-.207
Cultural	.554†	.451†	.469†	.336*	.554†	.480†	-.243	-.168	-.198	-.165	-.257	-.166
2.MEIM Total Score	1	1	-	-	-	-	-.121	.037	-.010	.025	-.161	.036
2a. <u>EIS</u>	-	-	1	1	-	-	-.137	.081	-.034	.096	-.206	.056
2b. <u>ABC</u>	-	-	-	-	1	1	-.097	-.002	.0909	-.033	-.111	.015
3.LSRO Total Score	-	-	-	-	-	-	1	1	-	-	-	-
3a. <u>Agg.</u>	-	-	-	-	-	-	-	-	1	1	-	-
3b. <u>Inc.</u>	-	-	-	-	-	-	-	-	-	-	1	1

† = Correlation significant at .01 level. ° = Correlation significant at .05 level

EIS = Ethnic Identity Search; ABC = Affirmation, Belonging, Commitment

LSRO = Lifetime Self-Reported Offences; Agg. = Aggression-Related Self Reported Offences; Inc. = Income-Related Self-Reported Offences

## Question 2: Group differences of resilience and enculturation

Given the cognitive difficulties often associated with FASD (specifically insight as it relates to introspection), it was hypothesized that individuals with FASD would endorse lower rates of resilience and enculturation. Inconsistent with predictions, both groups demonstrated similarly high scores on both the CYRM and MEIM. Table 4 presents previously unpublished normative data for the CYRM in order to provide a benchmark for scores in the current study. The normative data is inclusive of both youth with complex needs and those identified as at lower risk. Youth at-risk and youth with poor social outcomes who were involved with two or more mandated services (e.g., mental health, justice) characterized the sample of youth with complex needs. Data from the current showed comparable mean and standard deviation scores to the normative data. An independent-samples t-test was conducted to compare

differences in resilience patterns between the FASD and comparison groups. No significant differences emerged in the scores for either group. This non-significant pattern was also true of enculturation between groups. Overall young offenders endorsed moderate rates of enculturation and resilience, demonstrating a connection with their ethnic identity and resilience at comparable rates.

Table 4: CYRM Normative and Project Data

Normative Data		Project Data	
	Mean (SD)		Mean (SD)
<b>All Youth</b> ( <i>n</i> =2198)	108.60 (18.66)	<b>All</b> ( <i>n</i> =94)	107.08 (16.38)
<b>Complex Needs Youth</b> ( <i>n</i> =1071)	103.85 (20.18)	<b>FASD</b> ( <i>n</i> =47)	104.92 (18.11)
<b>Low Risk Youth</b> ( <i>n</i> =1128)	113.12 (15.82)	<b>Comparison</b> ( <i>n</i> =47)	109.24 (14.32)

### Question 3: Association between resilience and offence history

While no formal hypotheses were proposed with respect to potential associations between CYRM domains and offence history, it was thought that there would be an overall negative correlation between the total CYRM and offending. Pearson's *r* correlations were computed to assess the association between resilience and offence history. As shown in Table 3, significant negative correlations were found between lifetime self-reported offending behaviours (total score, income-related and aggressive-related scores) and resilience domains, suggesting the more youth reported characteristics and support related to resilience, the less they reported offending in their lifetime.

Resilience (CYRM total score) was negatively correlated with lifetime self-reported offending,  $r = -.29$ ,  $p = .006$ , including both aggression-related,  $r = -.28$ ,  $p = .008$  and income related offences,  $r = -.26$ ,  $p = .012$ . With respect to the association between domains of resilience and offence history, several group differences emerged. In the CYRM individual domain, no significant correlations emerged for the FASD group, however the comparison group showed significant correlations between the individual domain and lifetime self-reported offending,  $r = -.29$ ,  $p = .050$ , specifically the aggression-related offences,  $r = -.31$ ,  $p = .038$ . That is, youth in the comparison group who endorsed having higher levels of individual resilience (e.g., personal and social skills) also self reported less frequent rates of past aggressive offending. The same trend was evident in the FASD group, yet not at a level of statistical significance. These results suggest that for young offenders without FASD, higher self-reported levels of individual-level resilience, such as personal skills, were indicative of also reporting fewer previous offending behaviors. With respect to the CYRM relationship-caregiver domain, significant correlations emerged for the comparison group with respect to the association with lifetime self-reported offending,  $r = -.36$ ,  $p = .016$ , aggression-related,  $r = -.33$ ,  $p = .024$ , and income-related offences,  $r = -.49$ ,  $p = .001$ , but not for the FASD group. That is, youth in the comparison group who endorsed having resilience relative to their caregiver relationships (e.g., having physical and psychological caregiver support) also self-reported engaging in less offending (both aggressive and income related offences). Youth affected by FASD who endorsed resilience relative to caregiver relationships demonstrated the same negative correlations, yet at a level of statistical significance. However, total lifetime self-reported offending was significantly correlated with

psychological caregiving for both the FASD group,  $r = -.36, p = .017$ , and the comparison group,  $r = -.36, p = .015$ . All youth in the study who indicated having resilience related to psychological caregiving (e.g., connection with and sense of safety from caregivers) reported less offending. Finally, with respect to the CYRM context-sense of belonging domain, no significant correlations emerged for the comparison group with self-reported offending, however the FASD group showed significant correlations between the context-sense of belonging domain and self-reported offending,  $r = -.32, p = .027$ , specifically aggression-related,  $r = -.30, p = .048$ , and income-related offences,  $r = -.33, p = .027$ . Youth affected by FASD who endorsed resilience related to a sense of belonging also self-reported less offending, while the same negative correlation for youth in the comparison group did not reach statistical significance. Overall, the relationship between resilience and enculturation seems to be more salient when it involves cultural and spiritual components for youth with FASD, whereas caregiving support and individual level characteristics in relation to enculturation appears more salient for youth without FASD.

#### Question 4: FASD as a moderator

It was hypothesized that the presence of FASD would moderate the association between resilience resources and offence history such that the relationship between resilience resources and offence history would function differently for youth with FASD, that is decrease this relationship. In order to examine this hypothesis, moderated regression analyses were conducted, in which, the criterion variables (lifetime self-reported offending and crime severity index) were regressed on the grouping variable (FASD versus comparison group), CYRM mean score, and the interaction between CYRM and the grouping variables. Results did not support the presence of a significant moderation between resilience and self-reported offending,  $R^2 = .16, F(3,85) = 5.53, p = .002, \beta = -.19, p = .53$ , suggesting that a diagnosis of FASD did not interact with the relationship between resilience and self-reported offending.

## Discussion

A considerable amount of research on justice-involved youth is conducted with a psychopathologizing lens. The current study sought to target factors that influence resilience for justice-involved youth that can be later used in developing intervention programs.

Results from the present study indicated a positive association between resilience and overall ethnic identity for both the youth affected by FASD and those unaffected, such that youth who reported more resilience aspects also endorsed more cultural connection, belonging and overall ethnic identity. This association is consistent with literature noting an intricate connection between the two constructs; culture is embedded in resilience (O'Dougherty, Wright, & Masten, 2005). This association is particularly important because it speaks to the need for a focus on cultural aspects when building resilience capacity and positive outcomes. This association suggests two possibilities: first, those who have an increased sense of ethnic identity may seek out culturally relevant supports that work towards resilience. Second, those who access resilience-enhancing supports with cultural components (e.g., smudging) may gain a sense of ethnic identity in the process.



Examining differences in the association between enculturation and resilience among each group highlights the fact that youth affected by FASD may have differing needs and may require different foci within supports they receive. For instance, in terms of areas in which supports could focus, results specific to the FASD group suggest that youth exploring their ethnic identity may benefit from resilience enhancing supports that focus on the individual level (e.g., social skills), the psychological caregiving level (e.g., meaningful relationships with those who care for youth), and the sense of belonging level (e.g., spiritual and cultural aspects such as smudging or sweat lodges). On the other hand, youth affected by FASD who have already established their ethnic identity could benefit from efforts focusing on developing social skills (or other areas of individual resilience such as receiving peer support), receiving adequate physical and psychological caregiving, in addition to a focus on spiritual and cultural aspects. As can be seen in the literature, those with a diagnosis of FASD often have impaired social skills (Streissguth et al, 2004). Results specific to the comparison group suggest that both youth exploring their ethnic identity and youth who have already established their ethnic identity could benefit from supports that address individual level resilience factors (e.g., addressing anti-social attitudes), in addition to accessing supports that focus on spiritual and cultural components.

In this study neither group differed in their rates of resilience or enculturation, suggesting that when it comes to levels of self-identified ethnic identity and resilience, youth in this study held similar self-views. This finding was consistent with earlier, unpublished research indicating no differences between youth with complex needs and low risk youth. These results, in conjunction with the associations between resilience and enculturation previously mentioned suggest that while youth with FASD report resilience at the same rate as their non-affected counterparts, they may require different foci within resilience-enhancing supports.

Though no normative data on the enculturation measure (MEIM) was available for comparison, results from this study indicate that no significant differences were found between youth with and without FASD. A factor that may have contributed to the minimal differences in enculturation between groups could be that those of Caucasian ethnicity may not have thought about how their ethnicity affects them. Results from a study on identity found that individuals of African or mixed heritages valued racial ethnic identity in relation to self-concept more than Caucasians, while those of Caucasian descent indicated with higher frequencies that ethnic identity was not important at all to their self-concept (Jaret & Reitzes, 1999).

Furthermore, having a diagnosis of FASD did not differentially impact the relationship between resilience and rates of past offending, suggesting that youth with and without a diagnosis share the same relationship between resilience and offending behavior. This result makes sense in light of the lack of variability between groups in both areas. Though the two groups did differ significantly with respect to self-reported total offending rates, no significant differences were found when these were correlated with rates of resilience. These findings highlight the similarities that youth with and without FASD have in terms of the relationship between resilience and offending patterns. With respect to implications for intervention and supports designed for young offenders with FASD, such supports should focus on enhancing resilience.

In this study, resilience was significantly associated with lower rates of self-reported offending and these patterns differed between the two groups. With respect to reducing offending behaviours, results specific to the FASD group suggests that efforts should be made to enhance the youth's sense of spiritual and cultural belonging while enhancing caregiver support. For instance, participating in traditional activities, such as sweat lodges, and teachings from Elders, in addition to having healthy and nurturing caregivers may enhance cultural and spiritual connections, thereby serving as potential protective mechanisms through which youth may desist from offending. On the other hand, results specific to the comparison group speak to the possibility of a need for supports that enhance individual level factors (e.g., activities centered around mentorship programs). For instance, participating in activities that enhance personal social and vocational skills may enhance individual level competencies, thereby serving as a potential protective mechanism against offending. In spite of differences, both the FASD and comparison groups could benefit from caregiving ensuring psychological wellbeing as a mechanism to reduce offending behaviour. That is, youth who have healthy connections with their caregivers and feel psychologically and physically supported may decrease their offending behaviours. For instance, fostering parenting/caregiving skills can enhance educational outcomes and resilience among youth (Leve, Fisher, & Chamberlain, 2009). Overall, youth who were found to have more resilience also demonstrated lower rates of offending. This finding is particularly important as it speaks to the importance of building on strengths and resilience capacities within young offenders as a mechanism to produce positive outcomes.

## Limitations

This research represents an important first step towards better understanding aspects of identity and resilience resources, however it was not without limitations. First, the use of self-report questionnaires may have introduced a source of inaccuracy, as it is possible that participants were dishonest or did not report accurately in efforts to demonstrate social desirability. Also, due to the cognitive deficits in areas including logic, reasoning, and insight, it is possible that youth with FASD had difficulty understanding the questions asked or lacked the insight to appropriately answer. However, comparable mean scores on several instruments provide evidence of the validity of these questionnaires in the FASD sample. Furthermore, limitations in logic and insight are also commonplace in adolescents owing to ongoing maturation and development of these skills (Beckman, 2004). A limitation of the MEIM is that some of the individuals who identified as "Caucasian" indicated they did not feel that the measure was relevant and had a hard time answering questions because they did not consider being Caucasian (often voiced as "white" or "Canadian" by participants) an ethnicity. In an attempt to develop a culturally relevant and sensitive measure, the authors of the tool (Roberts et al., 1999) may have overcompensated and made the measure irrelevant for Caucasian populations.

## Future directions and implications

Though limitations exist, there are also strengths to this study. This is the first step in a program of research that will contribute to a body of research on FASD and adverse outcomes, such as involvement in the justice system. This research project may serve as a foundation upon which future research can build, and provides further impetus to focus on the importance of strength and resilience in marginalized populations. Future studies could examine the pathways of resilience and the process of being resilient to

further explore how resilience exists among young offenders. For instance, there is a need to understand how and when youth affected by FASD initially become involved in the justice system, in order to determine the critical “turning point” for this group of youth. Furthermore, determining how youth affected by FASD move between stages of delinquency and offending behaviours could provide useful information for interventions. Finally, understanding what is necessary to engage young offenders affected by FASD in programs that enhance resilience would be beneficial. Alternatively, research could examine other protective factors that may be unique to youth with FASD that were not examined in this particular study (e.g., consistency in support, cultural specific teachings). With respect to understanding protective factors and strengths of justice-involved youth affected by FASD, it would be beneficial to explore this from multiple points of view. That is, it would be beneficial to speak with youth themselves and ask them what they believe their strengths are and what they need to desist from offending. Other perspectives that could be sought include parents and/or primary caregivers, extending family and/or Elders, teachers, support workers, and service providers (e.g., youth probation officers and child welfare workers). Understanding the strengths and protective mechanisms of youth affected by FASD who are not justice-involved would provide useful information as to what aspects to enhance among justice-involved youth. An examination of family systems and dynamics in relation to offending could provide information useful for building strengths. That is, understanding how family dynamics and systems protect youth affected by FASD from offending could provide useful information for family interventions targeted at justice-involved youth affected by FASD. Finally, it would be beneficial to examine more thoroughly the association between the social determinants of health in Aboriginal populations and FASD; that is to focus on the issue of FASD solely within an Aboriginal sample, as this could provide context to the stigmatizing comments of FASD being an Aboriginal problem.

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