

Psychopathology, Cultural, and School Difficulties Among First Nations Youth

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M.A. Thesis

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Abstract

Introduction: Indigenous youth experience increased rates of psychopathology and school difficulties, compared to non-Indigenous peers. Literature suggests that psychopathology is associated with school difficulties among youth. Cultural engagement has been negatively associated with psychopathology among Indigenous youth. The purpose of this study was to investigate the associations between psychopathology (internalizing and externalizing difficulties), cultural difficulties (cultural stress, lack of spirituality/religion as a strength, cultural identity, engaging in rituals) and school difficulties (attendance, achievement, behavior) among First Nations youth. It was hypothesized that psychopathology would be positively associated with school difficulties.

Method: Our sample consisted of First Nations youth referred to a community-based First Nations-led organization between February 2013 and July 2022 who completed the Child and Adolescent Needs and Strengths Mental Health Acute (CANS-Acute) and the Child and Adolescent Needs and Strengths Mental Health (CANS-MH).

Results: Internalizing difficulties were strongly correlated with school attendance difficulties, while externalizing difficulties were strongly correlated with school behavior difficulties. Both internalizing and externalizing difficulties were correlated with school achievement difficulties. Cultural stress was significantly correlated with school attendance difficulties.

Implications: Findings from this study has improved our understanding of the relationships between psychopathology, culture, and school difficulties among First Nations youth.

Psychopathology, Cultural, and School Difficulties Among First Nations Youth

Various terms are used throughout this paper to identify Indigenous peoples, such as Indigenous, Aboriginal, First Nations (FNs), American Indian, and the names of distinct nations. The terms used in the primary literature cited are used.

Psychopathology Among Canadian Children and Adolescents

Internalizing and externalizing are terms often used to group mental health difficulties (Achenbach, 1966; Achenbach et al., 2016). Internalizing difficulties (IDs) are over-inhibited or internally focused symptoms (e.g., anxiety, depression, somatic complaints, etc.), while externalizing difficulties (EDs) are disinhibited or externally focused behaviors (e.g., aggression, conduct problems, delinquent behaviors, oppositionality, hyperactivity, attention difficulties, etc.; Achenbach, 1978; Forns et al., 2014; Willner et al., 2016). IDs have been found to be highly comorbid, with anxiety and depression comorbidity rates between 25-50% among community youth samples and up to 75% in clinical youth samples (Garber & Weersing, 2010). EDs have also been found to be highly comorbid. For example, attention deficit hyperactivity disorder has comorbidity rates between 35-49% with oppositional defiant disorder, and 47-64% with conduct disorder (Andrade et al., 2022).

The prevalence of IDs and EDs among Canadian youth vary by study. Regarding the prevalence of IDs, approximately 3% of children or youth living in Canada have an anxiety disorder (Canadian Mental Health Association, 2018). Additionally, 11% of Canadian youth have experienced depression in their lifetime and 7% experienced depression in the past year (Findlay, 2017). In contrast to these findings, a study by Georgiades and colleagues (2019) investigated past six-month prevalence of DSM-IV-TR disorders among a large sample of Ontario children (ages 4 to 11) and adolescents (ages 12 to 17), using data from the 2014 Ontario

Child Health Study. Parent interviews suggest that 8.7% of children had an anxiety disorder (i.e., generalized, separation, social phobia, and specific phobia), 1.1% had a major depressive episode, and 11.9% had a behavioral disorder (i.e., attention deficit/hyperactivity, oppositional, and conduct). Among youth, parent interviews suggest that 11.3% had an anxiety disorder, 5.2% had a major depressive episode, and 9.9% had a behavioral disorder (Georgiades et al., 2019). Regarding behavioral disorders, conduct disorder had the lowest rates across both age ranges. Georgiades and colleagues (2019) study suggests that EDs may be more prevalent among Canadian children, while IDs may be more prevalent among Canadian adolescents.

Researchers have identified several predictors of psychopathology among children and adolescents. A longitudinal study by Weeks and colleagues (2014) identified predictors of childhood and adolescent onset of IDs (i.e., anxiety and depressive symptoms) among a large sample of Canadian children (ages 4-5; baseline) and adolescents (ages 14-15). Maternal depression, family dysfunction, and difficult temperament predicted childhood onset of IDs (Weeks et al., 2014). Adolescent onset is predicted by gender (three times more likely if female), experiencing stressful life events, hostile parenting, and two EDs – aggression and hyperactivity (Weeks et al., 2014). Other possible risk factors for IDs in childhood are early social difficulties such as poor peer acceptance, social isolation, and perceived social incompetency (Hymel et al., 1990). A study by Price and colleagues (2013) found that physical abuse, aggression between siblings, and lack of clean/organized home conditions were predictors of EDs among early elementary-aged children. These studies suggest that predictors of IDs and EDs among children and adolescents can be largely environmental.

Psychopathology Among Indigenous Youth

Prevalence data for psychopathology among Indigenous youth are difficult to ascertain. Prevalence studies typically access health services data, but Indigenous peoples are often underrepresented in those data due to limitations with self-reported identity, and lower health services utilization rates (Lemstra et al., 2011; Smylie & Firestone, 2015). What data are available indicate that Indigenous children and adolescents experience rates of IDs and EDs that are higher than the non-Indigenous population (Baydala et al., 2006; Lemstra et al., 2011; Owais et al., 2022). For example, Lemstra and colleagues (2011) investigated the prevalence of depressive mood in 204 FNs youth (grades 5 to 8) living on-reserve in Saskatchewan. Twenty-five percent of the youth had moderate depressive symptoms. Another study by Owais and colleagues (2022) compared psychopathology among FNs and non-FNs youth (ages 12 to 17). FNs youth reported significantly greater symptoms of conduct, oppositional, attention deficit/hyperactivity, major depressive, and separation anxiety disorder compared to non-FNs youth (Owais et al., 2022).

Regarding EDs specifically, American Indian children (ages 9, 11, and 13) have been found to have similar rates of conduct disorder to that of White children (Costello, et al., 1997). Baydala and colleagues (2006) investigated the prevalence of ADHD symptoms among 75 Aboriginal children (grades 1 to 4) from Northern Alberta. Seventeen children (22.7%) demonstrated at least one clinically elevated ADHD symptom. Ten of the seventeen children (58.8%) met criteria for the *DSM-IV* Hyperactivity/Impulsive Index while twelve children (70.6%) met criteria for the *DSM-IV* Inattentive Index (Baydala et al., 2006). Aboriginal female children scored higher than boys on both indices. These results indicated, that among this population, not only that ADHD symptoms are significantly higher amongst Aboriginal children, but also that females experience higher rates than males – atypical for the general population

(CDC, 2020; Ramtekkar et al., 2010). Babydala and colleagues (2006) indicate that the higher percentage of inattentive ADHD symptoms among Aboriginal female children may have been due to a lack of referral bias. These studies suggest that both IDs and EDs are prevalent among Aboriginal children and adolescents. Regarding the hypothesis for the present study that psychopathology will be associated with school difficulties, the relationship between these difficulties may be more pronounced in a FNs youth sample, given the higher rates of psychopathology found among FNs youth.

Psychopathology and School Attendance

Research has found associations between IDs and school attendance difficulties (Finning et al., 2019a; Finning et al., 2019b; Finning et al., 2020; Fornander & Kearney, 2020). Finning and colleagues (2019a) conducted a systematic review and meta-analysis investigative the association between depression and school attendance difficulties. Small to medium effect sizes were found between depression and school attendance difficulties (i.e., absenteeism and unexcused absences) among youth ages 8 to 23. Finning and colleagues (2019b) conducted another systematic review, investigating the associations between anxiety and school attendance difficulties. Across studies, anxiety disorders (e.g., generalized, separation, and social) were associated with unexcused absences and school refusal among youth ages 4 to 21 (Finning et al., 2019b). Another study by Fornander and Kearney (2020) investigated the relationship between various IDs and school absenteeism behavior and found that worry and fatigue were most consistent across school absenteeism severity. These studies suggest that IDs can negatively impact school attendance among youth.

There is less research that investigates the relationships between EDs and school attendance difficulties. A study by Lawrence and colleagues (2019) investigated the impact of

psychopathology on school attendance among Australian school youth (ages 7 to 17). They found that conduct disorder had similarly high associations with absenteeism as anxiety disorders and major depressive disorder among secondary school youth (Lawrence et al., 2019). Another study by Gubbels and colleagues (2019) conducted a meta-analysis including 75 studies which highlighted a total of 781 risk factors for absenteeism. Of the risk factors, ‘anti-social behavior/cognitions’, ‘other internalizing problems’ (i.e., other than anxiety and depression), ‘psychiatric symptoms/disorders’, and ‘delinquent behavior’ yielded large effect sizes, while ‘depression’ had a medium effect size and ‘anxiety’ a small effect size. Results from Gubbels and colleagues’ (2019) study suggest that severe EDs (i.e., anti-social behavior/cognitions) may have a large impact on school attendance. These studies suggest that both IDs and EDs can result in school attendance difficulties. Given that more research has found IDs to be related to school attendance difficulties, IDs more so than EDs were expected to be associated with school attendance difficulties for the present study.

Psychopathology and School Achievement

Research has found associations between IDs and school achievement difficulties (López-López et al., 2021; Mazzone et al., 2007; Owens et al., 2012; Pedersen et al., 2019). For example, Pedersen and colleagues (2019) investigated the association between self-reported and teacher-reported IDs (i.e., anxiety and depression) and school achievement among a large sample of school children (ages 8 to 12). Self-reported and teacher-reported depressive symptoms were associated with poor academic achievement, while anxiety was not (Pedersen et al., 2019). A study by Owens and colleagues (2012) explored the relationship between anxiety and depression with academic performance among UK school children ages 12 to 13. Anxiety and depression were associated with lower academic performance (Owens et al., 2012). López-López and

colleagues (2021) found that depressive symptoms were associated with lower academic achievement among a large sample of British youth. Another study by Mazzone and colleagues (2007) found lower grades among youth (ages 8 to 16) with higher self-reported anxiety symptoms compared to those with low self-reported anxiety symptoms. These studies suggest that IDs can have a negative impact on school achievement.

There are similar findings when looking at the effects of EDs on academic achievement (Kremer et al., 2016; Liu et al., 2017; Pagerols et al., 2022; van Der Ende et al., 2016; van Lier et al., 2012; Wu et al., 2014). A study by van Lier and colleagues (2012) investigated the influence of EDs (i.e., aggression, destructive behaviors, oppositional defiant problems) on academic achievement in a large sample of Canadian children (ages 6-8). EDs were associated with academic underachievement, and academic underachievement predicted further increase in EDs and IDs (van Lier et al., 2012). Kremer and colleagues (2016) found that externalizing behaviors (e.g., impulsivity and argumentative) had a negative impact in reading scores among a large sample of school children (ages 3-12). Another study by Liu and colleagues (2017) found that school aged youth with ADHD had decreased school performance compared to control youth. A couple of studies that have investigated the impact of both IDs and EDs on school achievement have found greater influence of EDs compared to IDs on school achievement difficulties (Pagerols et al., 2022; van Der Ende et al., 2016; Wu et al., 2014). These studies suggest that EDs can have negative impacts on school achievement. Given the literature, both IDs and EDs were expected to be associated with school achievement difficulties for the present study.

Psychopathology may hinder school achievement by negatively impacting school engagement. A study by Olivier and colleagues (2020) investigated the impact of IDs and EDs on school engagement (i.e., behavioral, emotional, and cognitive) among 3rd to 6th grade and 7th

to 8th grade Canadian youth. EDs (i.e., hyperactivity/inattention and oppositional/defiant) were associated with lower behavioral engagement (e.g., wanting to follow teachers' instructions), among students of both grade ranges. Among 3rd to 6th grade students, IDs (i.e., anxiety and depression) were associated with lower cognitive engagement (e.g., taking time to make sure they understand assignments), while anxiety was also associated with lower emotional engagement (e.g., enjoying what they do in school). Among 7th to 8th grade students, depression was associated with lower emotional engagement.

School Difficulties Among Indigenous Youth

There is limited research on school difficulties among Indigenous youth, and most of the existing research focuses on educational attainment. School attrition/dropout rates are higher amongst FNs youth compared to non-FNs youth (Brady, 1996; Indigenous Services Canada, 2019; Statistics Canada, 2021). As of 2020, approximately 17% of off-reserve FNs peoples (ages 25 to 26) did not graduate high school, compared to 8% of Canada's total population (Statistics Canada, 2021). As of 2018, 44% of on-reserve FNs peoples (ages 18-24) have completed high school, compared to 88% of other Canadians (Indigenous Services Canada, 2019). Cultural connectedness may be a way to decrease the school completion discrepancy between FNs and non-FNs students. Snowshoe and colleagues (2017) investigated the effects of cultural connectedness (i.e., identity, traditions, and spirituality) on mental wellness among FNs youth (grades 7 to 12). One outcome variable was school connectedness. Predictors such as age, gender, and stressful life events on their own did not predict school connectedness (Snowshoe et al., 2017). However, once cultural connectedness was added to the model, 6% of the variance in school connectedness was accounted for (Snowshoe et al., 2017). Whitbeck and colleagues (2001) found a significant relationship between enculturation and school success in a sample of

American Indian children (grade 5 to 8). Cultural language may play a role in school attrition as well. A study by Hallett (2005) investigated the effects of Aboriginal language knowledge on school attrition rates, among Aboriginal youth in British Columbia. Although not statistically significant, language knowledge was negatively associated with school drop-out. Another study by Deyhle (1995) found that Navajo youth who had stronger connection with their traditional culture had greater academic success than those less connected, in a predominantly White school where Navajo youth experienced frequent racism from non-Navajo peers. These studies suggest that cultural connectedness and language may foster school completion rates among Aboriginal youth.

Protective Effects of Culture Among Indigenous Youth

Cultural identity (Blacklock et al., 2020; Flanagan et al., 2011; Jones & Galliher, 2006; Rieckmann et al., 2004; Tyser et al., 2014), cultural activity participation (Ball et al., 2013), language (Hallett, 2005; Hallett et al., 2007), and spirituality (Garrouette et al., 2003) may protect against IDs and EDs among Indigenous peoples. Cultural identity refers to identifying with or having a sense of belonging to a cultural group based on nationality, ethnicity, race, gender, and religion, and is fostered through sharing knowledge of traditions, language, and customs (Chen, 2014). Rieckmann and colleagues (2004) found that higher scores on a measure of Navajo cultural identity correlated with lower scores on a measure of depressive symptoms among a large sample of Navajo adolescents. Tyser and colleagues (2014) showed that among American Indian youth, those higher in American Indian cultural identity experienced fewer depressive symptoms. Blacklock and colleagues (2020) demonstrated that cultural identity was negatively associated with IDs in Naskapi youth. However, this association was only present among youth ages 14-to-18 but not among those younger than 14, suggesting an age influence (Blacklock et

al., 2020). A study by Chandler and Lalonde (1998) investigated the influence of six markers of cultural continuity (i.e., self-government, land claims, education, health services, cultural facilities, and police/fire services) on Aboriginal youth suicide rates in British Columbia. All six markers of cultural continuity were associated with reduction in suicide rates (Chandler & Lalonde, 1998). Another study by Baldwin and colleagues (2011) explored the relationships between American Indian cultural identity, risky behaviors, and depressed mood among American Indian youth (ages 15 to 24). Cultural identity had no direct effects, but it was related to social support, and protective family and peer influence, which were negatively related to depressed mood and risky behaviors, respectively. Lastly, a study by Kenyon and Carter (2011) examined the relationships between ethnic identity, sense of community, and psychological well-being among a sample of American Indian adolescents (ages 14 to 20). Ethnic identity is a complex process involving emotions, perception, and thoughts pertaining to how people relate to and understand their ethnic awareness (Kenyon & Carter, 2011). Ethnic identity was positively associated with sense of community and positive affect but was not related to depressive or psychosomatic symptoms. Given their results, Kenyon and Carter (2011) suggest that ethnic identity may be a protective factor among American Indian youth, but that a lack of ethnic identity may not be detrimental. These studies suggest that cultural identity among Aboriginal youth may protect against psychopathology.

As with IDs, cultural identity may protect against EDs among Aboriginal youth. Flanagan and colleagues (2011) found cultural identity to be negatively correlated with both peer physical aggression and relational aggression among Naskapi youth (ages 11 to 19). Strong cultural identity accounted for 7% and 17% of the variability in physical and relational aggression, respectively (Flanagan et al., 2011). Having interest in learning one's American Indian culture

(Pu et al., 2013) and sense of belonging (Jones & Galliher, 2006) has been associated with decreased violence/delinquent behavior among American Indian adolescents.

Indigenous language and spirituality have been found to be negatively associated with suicide among Indigenous youth. Hallett and colleagues' (2007) study investigated the effects of the same six cultural community factors as Chandler and Lalonde (1998) on Aboriginal youth suicide rates, but also included Aboriginal language as a factor. Communities with more than 50% of the population having language knowledge had fewer youth suicides than communities with lower levels of language knowledge (13 suicides per 100,000 versus 96.59 per 100,000, respectively; Hallett et al., 2007). In light of their findings, Hallett and colleagues (2007) described Aboriginal language as a marker of cultural persistence, fostering the health and well-being of Aboriginal peoples. Another study by Ball and colleagues (2013) utilized data from the 2002-2003 and 2007-2010 First Nations Regional Health Surveys. They discovered that intermediate-fluent FNs language knowledge was related to lower rates of suicidal ideation and attempts compared to little-no FN language knowledge (Ball et al., 2013). A study by Garrouette and colleagues (2003) investigated the relationship between cultural spirituality and suicide attempts in a large sample of American Indian tribal members (ages 15 to 57). Cultural spirituality was significantly associated with few suicide attempts, where those with high levels of cultural spirituality had reduced prevalence of suicide attempts compared to those with low levels of cultural spirituality. It is possible that having language knowledge and connection with spirituality. Regarding the present study's hypothesis that psychopathology would be associated with school difficulties, this relationship could be weaker among FNs youth with less cultural difficulties.

The Present Study and Hypotheses

There is little research to date that investigates the relationships between psychopathology, cultural difficulties, and school difficulties among FN youth. Thus, the purpose of this study was to investigate these relationships, with a sample of FN youth. This study sought to test the hypothesis that psychopathology would be positively associated with school difficulties.

Method

This study was discussed with and approved by a partnering community-based FN-led mental health organization as well as the Research Ethics Board at Lakehead University. All data for the study were collected and are owned by the partnering organization. Staff members of the partnering organization removed all identifiable information from the data before providing the author with the data. Therefore, all data utilized in this study were de-identified secondary data. The partnering organization and research team/supervisor endorse and abide by the First Nations Principles of OCAP (Ownership, Control, Access, and Possession). The OCAP principles assert that ideally, FN communities should have control over data collection processes. FN also control how the data are stored, interpreted, used, and shared (First Nations Information Governance Centre [FNIGC], n.d.).

Participants and Procedure

Participants were FN youth referred to the partnering organization between February 2013 and July 2022. Youth could be self-referred, or referred by school personnel, parents/guardians, physicians, or social workers. Youth completed the Child and Adolescent Needs and Strengths Mental Health Acute (CANS Acute; see Appendix B) from 2013 to 2022, and the Child and Adolescent Needs and Strengths Mental Health (CANS MH; Lyons et al.,

2004) from 2013 to 2016. All youth completed the CANS-Acute during in-take. If referred to a mental health specific program, staff members had youth complete the CANS-MH¹.

Measures

CANS Acute

The CANS is an information integration tool, designed for retrospective assessment and to guide planning services (Lyons et al., 2004). Items on the CANS either assess need or strength areas (Lyons et al., 2004). Each item has anchors or ratings representing the level/degree of each need and strength on a 4-point Likert scale ranging from 0 to 3 (Lyons et al., 2004). The meaning attributed to each rating anchor differs across domains to communicate the level of intervention required (Lyons et al., 2004).

The CANS Acute consists of 51-items across six domains: Mental Health Needs, Risk Behaviors, Family/Caregiver Needs and Strengths, Functioning, Care Intensity and Organization, and Individual Strengths. Items of the first five domains (i.e., needs) are scored differently on the 4-point Likert scale (0 = *no evidence*; 1 = *history, mild, suspicion*; 2 = *moderate – action needed*; 3 = *severe, disabling, dangerous – immediate action needed*) compared to the Individual Strengths domain (0 = *center-piece strength*; 1 = *useful strength*; 2 = *identified strength*; 3 = *no strength identified*). All domains allow for open-ended comments. Across domains, higher ratings indicate greater impairment, need for intervention, or a lack of strength.

Internalizing Difficulties. There were two internalizing items used, both of which fall under the Mental Health Needs domain: anxiety and mood. Anxiety refers to symptoms associated with social anxiety, panic attacks, obsessive-compulsive disorder, phobias, and

¹ Staff members of the mental health organization all have CANS training. To obtain CANS certification, members must have reliability within .70 when rating a case vignette.

separation anxiety. Rating of this item is based on the severity of anxiety difficulties (N/A, mild, moderate, and severe) and the impairment in functioning across domains (e.g., peer or family relationships, activity or school avoidance). Mood refers to symptoms of depressed mood, hypomania, and mania. Ratings of this item is the same as for anxiety (i.e., severity and impairment across domains).

Externalizing Difficulties. There were four externalizing items used, all of which fall under the Mental Health Needs domain: attention deficit/impulse control (AD/IC), oppositional behavior, conduct behavior, and adjustment to trauma. Ratings for AD/IC are based on symptom severity (N/A, mild, moderate, severe) in terms of the degree to which attention and impulse difficulties impair functioning (e.g., staying on task and safety risks). Oppositional behavior refers to non-compliance to authority. Ratings of this item is based on the severity (N/A, mild, moderate, severe) to which a youth is disobedient to adult instruction. Conduct behavior refers to breaking social rules, norms, and laws, such as shoplifting, lying, vandalism, cruelty to animals, and assault. Ratings of this item is based on severity (N/A, mild, moderate, severe) and frequency of planned aggressive behavior or antisocial behavior across settings. Trauma adjustment refers to the reactions of a youth to experiences of traumatic experiences such as abuse, neglect, loss of a significant relationship, separation from family, death of family member, or witnessing violence. Ratings of this item is based on notable symptoms of grief, depression, anxiety, or disturbances in conduct in context of adjustment difficulties.

School Difficulties. There were three school outcome items used, all of which fall under the Functioning domain: school achievement, school behavior, and school attendance. School achievement refers to the degree to which a youth's school grades are consistent with the national norms. Whether the youth has an individual education plan is taken into consideration.

Ratings of this item is based on the youth's average grade, number of grades below the norm, and classes failed. School behavior refers to a youth's behavior in school settings. Ratings of this item is based on the degree to which behavioral difficulties arise in relation to teachers and peers, and the severity that behavioral disruptions have on the youth's school functioning. School attendance refers to whether a youth has difficulties attending school. Ratings of this item is based on the number of excused and unexcused absences per month or weekly basis.

Cultural Difficulties. There were two cultural items used: culture stress and spiritual/religious. Culture stress is found under the Functioning domain and refers to whether a youth's cultural identity is being met with hostility within their environment. This can be due to differences in attitudes, behaviors, and beliefs between the youth and those around them.

Experiences of racism would be noted within culture stress. Culture stress severity is based on the level of dysfunction arising from such difficulties within various life domains.

Spiritual/religious is found under the Individual Strengths domain and refers to whether youth receive comfort and support from spirituality or religion. Ratings of this item is based on the degree to which spirituality or religious beliefs comfort the youth during difficult times, and their degree of utilizing or interest in pursuing spirituality or religious beliefs.

CANS MH

The CANS MH consists of 176 items that represent either needs or strengths. The needs section of the CANS MH consists of 11 domains: Executive Functioning, Emotional Regulation, Cognitive Flexibility Skills, Social Skills, Language, Sensory Motor Skills, Daily Functioning, Acculturation, Mental Health Needs, Risk Behaviors, and Educational Needs. All needs items are scored on a 4-point Likert scale (0 = *no evidence of problem – no need for action*; 1 = *history – watchful waiting and prevention*; 2 = *moderate need – action required*; 3 = *severe*

problem/need – immediate/intensive action required). The strengths section of the CANS MH consists of three domains: Youth Individual Strengths, Youth Environmental Strengths, and Caregiver/Family Strengths and Needs. The strengths section also includes a Residential Treatment module (e.g., home visits, goals/objectives progress, discharge preparation). All items within the strengths domains and the module are scored on a 4-point Likert scale (0 = *centerpiece strength*; 1 = *useful strength*; 2 = *identified strength*; 3 = *no strength identified*). All domains and the module allow for open-ended comments.

The CANS MH entails seven additional modules: Trauma, Substance Use, Violence, Sexually Aggressive Behaviors, Runaway, Youth Justice, and Fire Setting. A module is only completed if the specific needs area is identified as problematic for the child or adolescent.

Internalizing Difficulties. There were two internalizing items used: anxiety and mood disturbance. Both items fall under the Mental Health Needs domain and have similar rating guidelines as they do in the CANS Acute.

Externalizing Difficulties. There were five externalizing items used: attention deficit/hyperactivity (AD/H), impulse control, oppositional behavior, conduct behavior, and adjustment to trauma. All items fall under the Mental Health Needs domain and have similar ratings as they do in the CANS Acute.

School Difficulties. There were four school outcome items used, all of which fall within the Educational Needs domain: school achievement, classroom behavior, non-classroom behavior, and school attendance. School achievement and attendance are rated the same as they are for the CANS Acute. School behavior is split between classroom and non-classroom behavior. Classroom behavior difficulties are rated based on the frequency of classroom participation and disruptive behavior (i.e., N/A, does not participate but is not disruptive,

occasionally disruptive, and regularly disrupts). Non-classroom difficulties are rated based on getting through non-classroom tasks (i.e., lunch, study hall, passing through hallways) with/without minor incidents (e.g., arguments) or major incidents (e.g., physical fights; N/A, occasional minor incidents, weekly minor incidents, major incident in past month).

Cultural Difficulties. There were four cultural items used: cultural identity (as a need), cultural identity (as a strength), ritual, and parent/caregiver's cultural stress. Cultural identity (as a strength) falls under the Youth Environmental Strengths domain and is rated based on how connected youth are to others who support their cultural identity. Cultural identity (as a need), ritual, and parent/caregiver's cultural stress fall under the Acculturation domain. Cultural identity (as a need) is rated based on whether youth are experiencing confusion or struggling with their cultural identity, resulting in difficulties. Ritual is rated based on the degree to which youth are able to practice rituals that are consistent with their cultural identity. Parent/caregiver's cultural stress is rated based on the degree of dysfunction across life domains due to cultural stress.

Analyses

Statistical analyses were completed using Jamovi (2.3.18). SPSS (28.0.1.1) was used for assumption testing.

To test the hypothesis that psychopathology is significantly associated with school difficulties, Kendall's Tau-b (τ_b) correlations were conducted between psychopathology and school difficulties. Kendall's Tau-b correlations were also conducted between these difficulties and cultural difficulties. Ordinal logistic regression models were conducted between strongly correlated variables, to compute odds ratios. All correlations and ordinal logistic regression models were split by sex (i.e., female and male).

Results

Descriptive Statistics

A total of 561 youth completed the CANS Acute. After removal of youth under the age of six (154)², and those with date of birth coding errors (i.e., missing date of birth or entered incorrectly; 46), missing an assessment date (6), and missing responses to variables of interest (25), the remaining sample size was 330. Youth ranged in age from 6.01 years to 18.9 years, with a mean age of 11.5 years; 49.1% (162) were female, 47.6% (157) were male, and 3.3% (11) were coded as ‘Do not know’.

A total of 85 youth completed the CANS MH. After removal of youth under the age of six (8), and those missing responses to variables of interest (9), the remaining sample size was 68. Youth ranged in age from 6.03 years to 17.2 years, with a mean age of 11.0 years; 35.3% (24) were female, 51.5% (35) were male, and 13.2% (9) were coded as ‘Do not know’. For the CANS Acute and MH, youth with sex entered as ‘Do not know’ were not included in analyses.

CANS Acute

Psychopathology

Females reported higher rates of moderate to severe IDs than males, while males reported higher rates of moderate to severe EDs. For example, 53% and 33.3% of females reported moderate to severe anxiety and mood difficulties, compared 38.9% and 26.8% of males (refer to Table 3 for CANS Acute item response frequencies). Regarding EDs, 32.4%, 10.1%, and 38.2% of males reported moderate to severe oppositional behavior, conduct behavior, and AD/IC difficulties, respectively, in contrast to, 12.3%, 4.3%, and 22.8% of females.

Among females and males, IDs (i.e., anxiety and mood) were significantly correlated ($\tau_a = .309, p < .001$, and $\tau_b = .234, p < .001$, respectively). EDs (i.e., AD/IC, oppositional behavior,

² Age six was the minimum cut-off, as this is the age that children in Ontario are required to attend schooling.

and conduct behavior) were all significantly correlated (p -values less than .001), with τ_b coefficients ranging from .265 (AD/IC and conduct behavior among females) to .449 (conduct behavior and oppositional behavior among males). Among females, anxiety was significantly correlated with AD/IC ($\tau_b = .173, p < .05$), while mood was significantly correlated with AD/IC ($\tau_b = .163, p < .05$), oppositional behavior ($\tau_b = .256, p < .001$), and conduct behavior ($\tau_b = .169, p < .05$). Among males, all IDs and EDs were significantly correlated with each other, with τ_b coefficients ranging from .162 (anxiety and conduct behavior; $p < .05$) to .341 (anxiety and AD/IC; $p < .001$). Among females, trauma adjustment difficulties were significantly correlated with mood ($\tau_b = .147, p < .05$). Among males, trauma adjustment difficulties were significantly correlated with anxiety ($\tau_b = .172, p < .05$).

School Difficulties

Males reported higher rates of moderate to severe school achievement (26.7%) and behavior difficulties (34.4%), compared to females (17.9% and 14.9%, respectively). Males and females reported similar rates of moderate to severe school attendance difficulties (22.9% and 26.5%, respectively).

For both females and males, school difficulties (i.e., attendance, achievement, and behavior) were all significantly correlated, with the strongest correlations between school achievement and behavior ($\tau_b = .500, p < .001$, and $\tau_b = .584, p < .001$, respectively), then school achievement and attendance ($\tau_b = .465, p < .001$, and $\tau_b = .445, p < .001$), and lastly school attendance and behavior ($\tau_b = .330, p < .001$, and $\tau_b = .304, p < .001$).

Cultural Difficulties

Youth reported low rates of cultural stress difficulties, with 98.8% of females and 99.3% of males reporting no evidence of cultural stress or mild cultural stress. Regarding

spirituality/religion, 61.1% of female and 63.7% of males reported spirituality/religion as an identified strength or no strength identified. For females and males, correlations between cultural stress and spirituality/religion as a strength were inconclusive ($\tau b = .062, p = .397$, and $\tau b = .099, p = .182$, respectively).

Psychopathology and School Difficulties

Among females and males, school achievement difficulties were significantly correlated with anxiety ($\tau b = .161, p < .05$, and $\tau b = .250, p < .001$, respectively; refer to Tables 5 and 6), mood ($\tau b = .185, p < .01$, and $\tau b = .174, p < .05$), oppositional behavior ($\tau b = .150, p < .05$, and $\tau b = .277, p < .001$), and conduct behavior ($\tau b = .192, p < .01$, and $\tau b = .299, p < .001$). For males, school achievement difficulties were also significantly correlated with AD/IC difficulties ($\tau b = .371, p < .001$).

Among females and males, school behavior difficulties were significantly correlated with mood ($\tau b = .178, p < .05$, and $\tau b = .261, p < .001$, respectively), AD/IC ($\tau b = .269, p < .001$, and $\tau b = .478, p < .001$), oppositional behavior ($\tau b = .375, p < .001$, and $\tau b = .521, p < .001$), and conduct behavior ($\tau b = .288, p < .001$, and $\tau b = .471, p < .001$). For males, school behavior difficulties were also significantly correlated with anxiety ($\tau b = .157, p < .05$).

For females and males, school attendance difficulties were significantly correlated with anxiety ($\tau b = .316, p < .001$, and $\tau b = .209, p < .01$, respectively) and mood ($\tau b = .288, p < .001$, and $\tau b = .246, p < .001$). For males, school attendance difficulties were also significantly correlated with AD/IC difficulties ($\tau b = .142, p < .05$), oppositional behavior ($\tau b = .187, p < .01$), and conduct behavior ($\tau b = .252, p < .001$). All correlations between trauma adjustment and school difficulties were inconclusive.

Internalizing Difficulties and School Attendance

Overall, IDs had the strongest correlations with school attendance difficulties. Ordinal logistic regression models were conducted separately for females and males with IDs as explanatory variables and school attendance as the dependent variable. ‘*No evidence*’ of difficulty was the reference level for the explanatory variables and dependent variable. The models sufficed the four ordinal logistic regression assumptions: (1) ordinal dependent variable, (2) continuous, ordinal, or categorical independent variable(s), (3) no multicollinearity³, and (4) proportional odds⁴. Omnibus likelihood ratio tests indicate that including anxiety and mood outperformed the null for the female model ($\chi^2(3) = 20.35, p < .001$, and $\chi^2(3) = 9.15, p = .027$, respectively), but not the male model ($\chi^2(3) = 5.56, p = .135$, and $\chi^2(3) = 6.54, p = .088$).

Females experiencing mild anxiety difficulties or had a history of mild anxiety difficulties were four times more likely to report school attendance difficulties compared to those with no evidence of anxiety difficulties (adjusted OR = 4.02, 95% CI [1.16, 18.89], $p = .044$), while those experiencing moderate or severe anxiety difficulties were 4.5 or 28.5 times more likely to report school attendance difficulties compared to those with no evidence of anxiety difficulties (adjusted OR = 4.51, 95% CI [1.36, 20.63], $p = .025$, and adjusted OR = 28.55, 95% CI [6.25, 165.76], $p < .001$, respectively). Among males, those experiencing mild or moderate anxiety difficulties were not significantly more likely to report school attendance difficulties compared to those with no evidence of anxiety difficulties (adjusted OR = 1.41, 95% CI [.548, 3.79], $p = .480$, and adjusted OR = 1.82, 95% CI [.720, 4.82], $p = .213$, respectively). Males experiencing severe anxiety difficulties were 5.5 times more likely to report school attendance

³ The variation inflation factor (VIF) for anxiety and mood was computed. VIFs for the female and male models were 1.14 and 1.09. Although there is no exact rule, it is argued that VIFs greater than 10 resemble poor estimates due to high collinearity (Ferré, 2009).

⁴ Proportional odds assumption was tested by computing the ordinal logistic regression models in SPSS and looking at the test of parallel lines. The tests of parallel lines were not statistically significant, thus upholding the assumption of proportional odds.

difficulties compared to those with no evidence of anxiety difficulties (adjusted OR = 5.49, 95% CI [1.26, 24.64], $p = .023$).

Female and males experiencing mild mood difficulties or had history of such difficulties did not have significantly greater odds of reporting school attendance difficulties compared to those with no evidence of mood difficulties (adjusted OR = 2.03, 95% CI [.890, 4.66], $p = .093$, and adjusted OR = 2.01, 95% CI [.860, 4.78], $p = .108$, respectively). Female and males experiencing moderate mood difficulties were approximately 2.5 times more likely to report school attendance difficulties compared to those with no evidence of mood difficulties (adjusted OR = 2.48, 95% CI [1.09, 5.75], $p = .032$, and adjusted OR = 2.52, 95% CI [1.01, 6.33], $p = .047$, respectively). Female and males experiencing severe mood difficulties were 7.5 and 5.5 times more likely to report school attendance difficulties compared to those with no evidence of mood difficulties (adjusted OR = 7.53, 95% CI [1.62, 38.24], $p = .011$, and adjusted OR = 5.77, 95% CI [.995, 32.79], $p = .045$, respectively).

Externalizing Difficulties and School Behavior

Overall, EDs had the strongest correlations with school behavior difficulties. Ordinal logistic regression models were conducted separately for females and males with EDs as explanatory variables and school behavior as the dependent variable. Conduct behavior difficulties were not included in the models because females and males reported very little conduct difficulties and including it in the model would hinder model fit.

The male model sufficed the four ordinal logistic regression assumptions. The female model violated the proportional odds assumption, having a significant test of parallel lines. Omnibus likelihood ratio tests indicate that including AD/IC and oppositional behavior outperformed the null for the male model ($\chi^2(3) = 21.2, p < .001$, and $\chi^2(3) = 26.4, p < .001$,

respectively). For the female model, including oppositional behavior but not AD/IC outperformed the null ($\chi^2(3) = 18.17, p < .001$, and $\chi^2(3) = 6.94, p = .074$, respectively).

Females experiencing mild or moderate AD/IC difficulties or had a history with such difficulties were not significantly more likely to experience school behavior difficulties compared to those with no history of AD/IC difficulties (adjusted OR = .766, 95% CI [.255, 2.13], $p = .619$, and adjusted OR = 1.86, 95% CI [.651, 5.07], $p = .234$). In contrast, males experiencing mild and moderate AD/IC difficulties were approximately three times more likely to experience school behavior difficulties compared to those with no history of AD/IC difficulties (adjusted OR = 3.66, 95% CI [1.55, 8.89], $p = .003$, and adjusted OR = 3.05, 95% CI [1.27, 7.40], $p = .013$, respectively). Female and males experiencing severe AD/IC difficulties were approximately 12.5 and 26 times more likely to experience school behavior difficulties compared to those with no history of AD/IC difficulties (adjusted OR = 12.44, 95% CI [1.19, 139.01], $p = .029$, and adjusted OR = 25.94, 95% CI [5.24, 154.03], $p < .001$, respectively).

Females and males experiencing mild oppositional difficulties or had a history with such difficulties were 3.8 and 3 times more likely to experience school behavior difficulties compared to those with no evidence of oppositional symptoms (adjusted OR = 3.84, 95% CI [1.58, 9.42], $p = .003$, and adjusted OR = 2.97, 95% CI [1.31, 6.91], $p = .010$, respectively). Females and males experiencing moderate oppositional difficulties were 8 and 9 times more likely to experience school behavior difficulties compared to those with no history of oppositional behavior difficulties (adjusted OR = 8.24, 95% CI [2.54, 29.28], $p < .001$, and adjusted OR = 9.10, 95% CI [3.54, 24.47], $p < .001$). Females and males experiencing severe oppositional behavior difficulties were 20 and 35 times more likely to experience school behavior difficulties compared

to those with no history of oppositional behavior difficulties (adjusted OR = 19.75, 95% CI [1.76, 246.84], $p = .013$, and adjusted OR = 34.62, 95% CI [4.76, 337.33], $p < .001$).

Psychopathology and Cultural Difficulties

For females, all correlations between spirituality/religion as a strength and psychopathology were inconclusive. All correlations between cultural stress and psychopathology were inconclusive, except for a significant correlation between cultural stress and mood ($\tau_b = .161$, $p < .05$; refer to Table 7). Among males, the lack of spirituality/religion as a strength was significantly correlated with mood ($\tau_b = .164$, $p < .05$; refer to Table 8) and oppositional behavior difficulties ($\tau_b = .160$, $p < .05$), while all correlations between cultural stress and psychopathology were inconclusive.

Cultural Difficulties and School Difficulties

Among both females and males, cultural stress was significantly correlated with school attendance difficulties ($\tau_b = .185$, $p < .05$, and $\tau_b = .174$, $p < .05$, respectively; refer to Tables 9 and 10). Among females, cultural stress was also significantly correlated with school achievement difficulties ($\tau_b = .162$, $p < .05$). Among females, lack of spiritual/religious as a strength was correlated with school attendance difficulties ($\tau_b = .142$, $p < .05$). Among males, all correlations between spiritual/religious and school difficulties were inconclusive.

CANS MH

Psychopathology

Females reported higher rates of IDs compared to males, while males reported higher rates of EDs compared to females. For example, 45.8% of females reported moderate or severe anxiety difficulties, while 33.3% reported moderate or severe mood difficulties. In contrast, 31.5% of males reported moderate or severe anxiety difficulties, while 17.2% reported moderate

or severe mood difficulties. Regarding EDs, 34.3%, 37.2%, 25.7%, and 5.7% of males reported moderate to severe AD/H, impulse control, oppositional, and conduct difficulties (refer to Table 4 for CANS MH item response frequencies). In contrast, 0%, 0%, 20.9%, and 4.2% of females reported moderate to severe AD/H, impulse control, oppositional, and conduct difficulties.

For females and males, IDs (i.e., anxiety and mood disturbance) were significantly correlated with each other ($\tau_b = .550, p < .01$, and $\tau_b = .416, p < .01$, respectively). For females, the only EDs that were significantly correlated with each other were conduct behavior and oppositional behavior ($\tau_b = .458, p < .05$). All EDs were significantly correlated among males, except for the correlation between conduct behavior and impulse control difficulties ($\tau_b = .174, p = .264$). The strongest significant correlation was between impulse control and AD/H difficulties ($\tau_b = .595, p < .001$), while the weakest significant correlation was between conduct behavior and AD/H difficulties ($\tau_b = .307, p < .05$). Among females, all correlations between IDs and EDs were inconclusive. For males, mood disturbance was significantly correlated with oppositional behavior ($\tau_b = .596, p < .001$), while anxiety was significantly correlated with oppositional behavior and conduct behavior ($\tau_b = .336, p < .05$, and $\tau_b = .400, p < .05$). For females, all correlations between trauma adjustment difficulties and other psychopathology difficulties were inconclusive. For males, trauma adjustment difficulties were significantly correlated with anxiety, mood disturbance, and oppositional behavior difficulties ($\tau_b = .468, p < .01$, $\tau_b = .479, p < .01$, and $\tau_b = .369, p < .05$).

School Difficulties

Females and males reported similar rates of moderate and severe school achievement (29.1% and 34.3%) and attendance difficulties (37.5 % and 34.5%). Males reported higher rates

of moderate to severe classroom (37.2%) and non-classroom behavior difficulties (22.9%), compared to females (16.6% and 8.3%).

For females and males, school attendance was significantly correlated with school achievement difficulties ($\tau_b = .481, p < .01$, and $\tau_b = .416, p < .01$, respectively), while classroom behavior was significantly correlated with non-classroom behavior difficulties ($\tau_b = .548, p < .01$, and $\tau_b = .482, p < .01$).

Cultural Difficulties

Large majority of females and males reported no evidence of ritual difficulties (95.8% and 100%, respectively), cultural identity as a need (91.7% and 97.1%), and caregiver cultural stress (100% and 94.3%). When viewed as a strength, 66.7% and 54.3% of females and males reported having cultural identity as a centerpiece or useful strength.

For females, cultural identity difficulties (as a need) were significantly correlated with ritual difficulties ($\tau_b = .692, p < .001$). Among males, cultural identity difficulties (as a need) were significantly correlated with caregiver cultural stress ($\tau_b = .712, p < .001$). All other correlations between cultural difficulties were inconclusive.

Psychopathology and School Difficulties

For females, school attendance difficulties were significantly correlated with anxiety and mood disturbance ($\tau_b = .599, p < .001$, and $\tau_b = .468, p < .05$; refer to Table 11), while non-classroom behavior difficulties were significantly correlated with attention deficit/hyperactivity difficulties and conduct behavior ($\tau_b = .456, p < .05$, and $\tau_b = .395, p < .05$), and classroom behavior difficulties were significantly correlated with oppositional behavior ($\tau_b = .669, p < .001$). All correlations between school achievement difficulties and psychopathology were inconclusive.

For males, school attendance difficulties were significantly correlated with anxiety ($\tau_b = .369, p < .05$; refer to Table 12). Classroom behavior difficulties were significantly correlated with mood disturbance ($\tau_b = .330, p < .05$), and all EDs except conduct behavior ($\tau_b = .190, p = .222$), with the strongest correlation with impulse control difficulties ($\tau_b = .676, p < .001$) and the weakest with AD/H ($\tau_b = .519, p < .001$). Non-classroom behavior difficulties were significantly correlated with all psychopathology difficulties except for conduct behavior ($\tau_b = .256, p = .104$) and trauma adjustment difficulties ($\tau_b = .264, p = .076$), with the strongest correlation with mood ($\tau_b = .502, p < .001$) and weakest with anxiety ($\tau_b = .295, p < .05$). All correlations between school achievement difficulties and psychopathology were inconclusive.

Psychopathology, School, and Cultural Difficulties

For females, cultural identity difficulties (as a need) were significantly correlated with impulse control difficulties ($\tau_b = .470, p < .05$). For males, all correlations between cultural difficulties and psychopathology were inconclusive. For females and males, all correlations between cultural and school difficulties were inconclusive.

Discussion

Summary and Hypotheses

This study examined the relationships between psychopathology, cultural, and school difficulties among FNs youth (ages 6 to 18) referred to a First Nations-led mental health organization between February 2013 and July 2022, who completed the CANS Acute and CANS MH. Kendall's tau-b correlations were conducted to explore the relationships between these difficulties and ordinal logistical regression models were conducted between difficulties with the strongest correlations to compute odds ratios. There was evidence to support the hypothesis that psychopathology is associated with school difficulties among our sample of FNs youth.

Key Findings

CANS Acute and CANS MH Findings

There were fewer significant correlations among the CANS MH data compared to the CANS Acute data. This could be due to the reduced sample size for the CANS MH analyses. It could also be that youth who are referred to a mental health specific program have fewer comorbid but more severe difficulties, reducing the number of significant correlations between difficulties but increasing the strength of correlations that are significant. Nonetheless, there were common trends between the CANS Acute and MH. Given the larger sample size for the CANS Acute, any percentages mentioned are in reference to the CANS Acute results.

Psychopathology

Approximately 82% of females and 72% of males reported mild or more severe anxiety difficulties, making anxiety symptoms the most frequently reported psychopathology difficulties. In contrast, approximately 12% of females and 17% of males reported mild or more severe conduct behavior difficulties, making conduct behavior symptoms the least reported psychopathology difficulties. These findings support that of Georgiades and colleagues' (2019) study, which found that anxiety disorders were the most prevalent, and conduct disorder one of the least prevalent mental disorders in Ontario youth ages 4 to 17.

Overall, IDs (i.e., anxiety and mood) were most strongly correlated with each other. This is consistent with the literature that assesses the comorbidity between IDs (Garber & Weersing, 2010; Scott et al., 2022; Sørensen et al., 2005). Comorbidity rates of anxiety and depression are as high as 75% in clinical samples (Garber & Weersing, 2010). Within our sample, 53% of females and 45% of males who reported mild or worse anxiety difficulties reported mild or worse mood difficulties. A study by Sørensen and colleagues (2005) investigated the

comorbidity of depression with other psychological difficulties in a clinical sample of youth (ages 8 to 13). Depression was most highly comorbid with anxiety disorders (i.e., generalized and separation anxiety). A study by Scott and colleagues (2022) who had an Indigenous youth sample (American Indian youth; ages 8 to 13) investigated experiences of anxiety and depression. Youth ratings of anxiety and depressive symptoms were highly correlated ($r = .730$, $p < .01$). Caregiver and teacher ratings of anxiety and depressive symptoms of youth were also highly correlated ($r = .740$, $p < .01$, and $r = .66$, $p < .01$, respectively). These studies are consistent with our findings that IDs are highly correlated among clinical and Indigenous youth samples.

Overall, EDs (i.e., AD/IC, oppositional behavior, and conduct behavior) were most strongly correlated with other EDs. This is consistent with the literature (Gnanavel et al., 2019; Harvey et al., 2016; Waschbusch, 2002; Whitbeck et al., 2006). Whitbeck and colleagues (2006) which had an Indigenous youth sample (American Indian youth; ages 10 to 12) found that 13 of the 56 youth (23%) who met ADHD criteria also met conduct disorder criteria, 22 of the 58 children (38%) who met oppositional defiant disorder criteria also met conduct disorder criteria, and 20 of the 56 children (36%) who met ADHD criteria also met oppositional defiant disorder criteria (Whitbeck et al., 2006). For our sample, 8.6% of females and 14.6% of males who reported mild or worse AD/IC difficulties also reported mild or worse conduct behavior, 8.6% of females and 15.9% of males who reported mild or worse oppositional behavior also reported mild or worse conduct behavior, and 25.3% of females and 41.1% of males who reported mild or worse AD/IC difficulties also reported mild or worse oppositional behavior. Our findings support those of Whitbeck and colleagues (2006), suggesting high comorbidity of EDs among Indigenous youth.

Our study also found significant correlations between IDs and EDs, which is consistent with the literature (Boylan et al., 2007; Nock et al., 2007; Melegari et al., 2018). Boylan and colleagues (2007) conducted a systematic review investigating the association between oppositional difficulties and IDs among youth and found that the prevalence of comorbid oppositional defiant disorder and major depression ranged from 15% to 46%, while the prevalence of comorbid oppositional defiant disorder and anxiety disorder ranged from 7% to 14%. Their finding of higher comorbid oppositional defiant disorder and depression difficulties compared to comorbid oppositional defiant disorder and anxiety difficulties is consistent with our findings. Our study also found correlations between AD/IC difficulties and IDs. A study by Melegari and colleagues (2018) found that 16% of their sample of children with ADHD had comorbid generalized anxiety disorder. Gümüş and colleagues (2015) found in their sample that approximately 28% of youth with ADHD had comorbid anxiety disorders. Our study supports these findings, suggesting comorbidity between IDs and EDs among youth.

School Difficulties

School difficulties were significantly correlated with each other. Furthermore, school achievement difficulties were strongly correlated with both school behavior and attendance difficulties. This is consistent with the literature (Gottfried, 2009; Morrissey et al., 2014; Roby, 2003). For example, a study by Roby (2003) also found that school achievement was significantly correlated with school attendance in a sample of grades 4, 6, 9, and 12 students. Another study by Gottfried (2009) found that the number of days present in school was significantly correlated with school achievement among a large sample of elementary and middle school students. Lastly, Morrissey and colleagues (2014) found a relationship between school absences and poor grades, among a sample of kindergarten to grade 4 children. Although

these studies and our own were all correlational studies, it is possible that the direction of the relationship between attendance and achievement could go both ways: increased school absences could result in decreased completion of class material and learning, resulting in achievement difficulties. Alternatively, frustration and disappointment due to school achievement difficulties could result in school avoidance. Nonetheless, these studies support our findings of the association between school achievement and school attendance. The relationship between school achievement and behavioral difficulties may be best explained through the relationships between school achievement and EDs.

Psychopathology and School Difficulties

Psychopathology was significantly correlated with school difficulties. EDs more correlated with school behavior difficulties when contrasted with IDs in our sample. These results are consistent with Percy and colleagues' (1993) findings. Their study had third, fourth, and fifth grade teachers read vignettes of school children experiencing IDs and EDs and rate their need for referral to mental health treatment. Teachers rated schoolchildren experiencing EDs higher compared to those experiencing IDs for needing mental health treatment, suggesting that teachers view EDs as more disruptive in the school setting. This could suggest that many of the youth in our study experiencing EDs were referred due to school behavior difficulties. In our study, oppositional behavior had the strongest correlation with school behavior difficulties among youth. It is possible that argumentative/defiant behaviors may be viewed as more disruptive by teachers than hyperactivity, inattention, and conduct related difficulties in the school setting.

Compared to EDs, IDs were more correlated with school avoidance difficulties. This finding is consistent with the literature, highlighting the relationships between anxiety and mood

with school absenteeism behavior (Finning et al., 2019a; Finning et al., 2019b; Finning et al., 2020; Fornander & Kearney, 2020). Finning and colleagues (2019a) conducted a systematic review on the association between anxiety and school attendance. Separation, generalized, and social anxiety disorders were associated with school refusal (Finning et al., 2019a). Finning and colleagues conducted another review on the association between depression and school attendance. Their meta-analysis yielded small-to-medium effect sizes between depression and school absenteeism (Finning et al., 2019b). Another study by Finning and colleagues (2020) found that in a large sample of UK youth, those with diagnosed anxiety and depression had significantly greater teacher-reported authorized and unauthorized absences compared to youth with no diagnosis.

A mixture of IDs and EDs were significantly correlated with school achievement difficulties. This finding is consistent with literature, highlighting the impact that IDs (Owens et al., 2012; Pedersen et al., 2019) and EDs (Kremer et al., 2016; Liu et al., 2017; Pagerols et al., 2022; van Der Ende et al., 2016; van Lier et al., 2012) have on school achievement. Of note in our study, correlations between AD/IC and school achievement difficulties were significant among males but not females. This is consistent with Kamal and colleagues (2021) study that found boys with ADHD had more academic difficulties compared to girls, while girls with ADHD had more social difficulties. It is possible this could be due to different ADHD symptoms that present among females versus males. Females with ADHD have been found to be more verbally aggressive, while males have increased rule-breaking and externalizing behavior (Abikoff et al., 2002). Rule-breaking and externalizing behaviors could be more associated with school achievement difficulties compared to verbal aggression.

Cultural Difficulties

Cultural stress was associated with school attendance difficulties for both females and males. Approximately 99% of youth reported no evidence to mild cultural stress. This zero-inflated finding may warrant caution when interpreting these findings. The relationship between cultural stress and school attendance among Indigenous youth could arise due to difficulties connecting with mainstream curriculum, which lack Indigenous perspectives, knowledge, and teachings. Berger and colleagues (2006) found that irrelevant curriculum resulted in school attendance, discipline, and achievement difficulties among Inuit youth. Another factor could be experiences of racism by peers and teachers. Hare and Pidgeon (2011) investigated educational experiences among Anishinaabe youth. An overwhelming number of Anishinaabe youth reported racism while attending predominantly White schools. Some of the youth reported teachers as being racially biased against them (Hare & Pidgeon, 2011). Notably, some youth indicated that teachers failed to respond positively to them when they shared their culture in the classroom.

Lack of spirituality or religion as a strength was significantly correlated with mood and oppositional difficulties among males, while cultural stress was significantly correlated with mood difficulties among females. Although there are no studies investigating the relationship between spirituality/religion and oppositional difficulties, a meta-analysis by Braam (2009) found that spiritual/religious motivation was associated with decreased depressive symptoms, and spirituality/religion was associated with social connectedness. Spirituality has also been found to be associated with decreased grief difficulties (Braam, 2009). Although it is unknown whether the majority of our sample endorsed having a strength related to FNs traditionally spirituality or religion (e.g., Christianity or other religious beliefs), connections with FNs spirituality and/or religion appear to have a negative association with some psychopathology difficulties among our sample of FNs youth.

Limitations

This study has limitations. First, as the participants of this study were those referred to a mental health organization, the results of this study may not be generalizable to the general population of FNs youth. Although cultural stress is likely experienced to a similar degree among other FNs youth, the prevalence and correlations among psychopathology difficulties may be more pronounced in our sample. Another limitation is that this study utilizes cross sectional data. Longitudinal data could allow for a more in-depth investigation of the relationship between psychopathology, cultural, and school difficulties. Another limitation is that there was little variation in cultural difficulties among the sample. A larger variation in cultural difficulties could potentially provide a clearer understanding of the relationships between cultural difficulties with psychopathology and school difficulties.

Future Research

As this is the first study of its kind, more research is encouraged to investigate the relationships between psychopathology, cultural, and school difficulties among FNs youth. Future research should aim to utilize psychopathology specific (e.g., Beck Depression Inventory, Beck Anxiety Inventory, Child Behavior Checklist, etc.), and FNs culture specific (e.g., Cultural Connectedness Scale) measures to provide a better understanding of the relationship between these variables among FNs youth. Utilizing such measures would allow researchers to better understand the associations between specific symptoms that comprise broad difficulties.

Implications

Given the limited research investigating psychopathology, cultural, and school difficulties among FNs youth, this study has increased our knowledge of the relationships between these difficulties among FNs youth. Although our finding between cultural stress and

school attendance should be interpreted with caution, this finding suggests the potential importance of reducing cultural stress among FNs youth in school settings to foster school attendance. Results from this study highlight the need for more consideration on how we can support youth with such difficulties in the school settings, whether this entails interventions that target youth with internalizing or externalizing profiles, or furthering communication with school personnel as to how to detect these difficulties and how these difficulties uniquely effect school outcomes. This study also provides researchers with an example of how to successfully collaborate with a FNs-led mental health organization to produce meaningful research for FNs peoples.

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Appendix A: Tables

Table 1.

CANS Acute Descriptive Statistics

	Sex	Test Age (years)
N	Female (162)	----
	Male (157)	----
Mean	Female	11.9
	Male	11.0
SD	Female	3.30
	Male	3.19
Min	Female	6.01
	Male	6.04
Max	Female	18.7
	Male	18.9

Table 2.

CANS MH Descriptive Statistics

	Sex	Test Age (years)
N	Female (24)	----
	Male (35)	----
Mean	Female	11.7
	Male	10.5
SD	Female	2.85
	Male	2.72
Min	Female	6.27
	Male	6.03
Max	Female	15.8
	Male	17.2

Table 3.

Response Frequencies to CANS Acute Items

Item	Sex	Rating			
		0 n (%)	1 n (%)	2 n (%)	3 n (%)
Anxiety	Female	29 (17.9)	47 (29.0)	72 (44.4)	14 (8.6)
	Male	44 (28.0)	52 (33.1)	51 (32.5)	10 (6.4)
Mood	Female	70 (43.2)	38 (23.5)	47 (29.0)	7 (4.3)
	Male	65 (41.4)	50 (31.8)	37 (23.6)	5 (3.2)
AD/IC	Female	94 (58.0)	31 (19.1)	35 (21.6)	2 (1.2)
	Male	61 (38.9)	36 (22.9)	43 (27.4)	17 (10.8)
Oppositional	Female	103 (63.6)	39 (24.1)	18 (11.1)	2 (1.2)
	Male	65 (41.4)	41 (26.1)	39 (24.8)	12 (7.6)
Conduct	Female	143 (88.3)	12 (7.4)	7 (4.3)	0 (0.0)
	Male	131 (83.4)	10 (6.4)	12 (7.6)	4 (2.5)
Trauma Adj.	Female	38 (23.5)	45 (27.8)	70 (43.2)	9 (5.6)
	Male	36 (22.9)	43 (27.4)	67 (42.7)	11 (7.0)
Achievement	Female	105 (64.8)	28 (17.3)	20 (12.3)	9 (5.6)
	Male	84 (53.5)	31 (19.7)	25 (15.9)	17 (10.8)
Behavior	Female	119 (73.5)	19 (11.7)	21 (13.0)	3 (1.9)
	Male	76 (48.4)	27 (17.2)	33 (21.0)	21 (13.4)
Attendance	Female	97 (59.9)	22 (13.6)	24 (14.8)	19 (11.7)
	Male	107 (68.2)	14 (8.9)	17 (10.8)	19 (12.1)
Culture Stress	Female	151 (93.2)	9 (5.6)	1 (0.6)	1 (0.6)
	Male	155 (98.7)	1 (0.6)	1 (0.6)	0 (0.0)
Spiritual/Religious	Female	51 (31.5)	12 (7.4)	20 (12.3)	79 (48.8)
	Male	39 (24.8)	18 (11.5)	22 (14.0)	78 (49.7)

Note. All items except for spiritual/religious have rating descriptions as follows: 0 = No Evidence, 1 = Mild/History, 2 = Moderate, 3 = Severe. For spiritual/religious, 0 = Center-piece strength, 1 = Useful strength, 2 = Identified strength, 3 = No strength identified.

Table 4.
Response Frequencies to CANS MH Items

Item	Sex	Rating			
		0 n (%)	1 n (%)	2 n (%)	3 n (%)
Anxiety	Female	8 (33.3)	5 (20.8)	6 (25.0)	5 (20.8)
	Male	11 (31.4)	13 (37.1)	10 (28.6)	1 (2.9)
Mood Disturbance	Female	12 (50.0)	4 (16.7)	5 (20.8)	3 (12.5)
	Male	21 (60.0)	8 (22.9)	3 (8.6)	3 (8.6)
AD/H	Female	23 (95.8)	1 (4.2)	0 (0.0)	0 (0.0)
	Male	16 (45.7)	7 (20.0)	7 (20.0)	5 (14.3)
Impulse Control	Female	17 (70.8)	7 (29.2)	0 (0.0)	0 (0.0)
	Male	15 (42.9)	7 (20.0)	10 (28.6)	3 (8.6)
Oppositional	Female	14 (58.3)	5 (20.8)	4 (16.7)	1 (4.2)
	Male	18 (51.4)	8 (22.9)	7 (20.0)	2 (5.7)
Conduct	Female	21 (87.5)	2 (8.3)	0 (0.0)	1 (4.2)
	Male	24 (68.6)	9 (25.7)	2 (5.7)	0 (0.0)
Trauma Adj.	Female	9 (37.5)	5 (20.8)	7 (29.2)	3 (12.5)
	Male	8 (22.9)	10 (28.6)	13 (37.1)	4 (11.4)
Attendance	Female	12 (50.0)	3 (12.5)	2 (8.3)	7 (29.2)
	Male	21 (60.0)	2 (5.7)	3 (8.6)	9 (25.7)
Class. Beh.	Female	17 (70.8)	3 (12.5)	2 (8.3)	2 (8.3)
	Male	14 (40.0)	8 (22.9)	10 (28.6)	3 (8.6)
Non-class Beh.	Female	19 (79.2)	3 (12.5)	0 (0.0)	2 (8.3)
	Male	19 (54.3)	8 (22.9)	5 (14.3)	3 (8.6)
Achievement	Female	12 (50.0)	5 (20.8)	2 (8.3)	5 (20.8)
	Male	18 (51.4)	5 (14.3)	3 (8.6)	9 (25.7)
Caregiver Cultural Stress	Female	24 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Male	33 (94.3)	1 (2.9)	1 (2.9)	0 (0.0)
Ritual	Female	23 (95.8)	1 (4.2)	0 (0.0)	0 (0.0)
	Male	35 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)
Cultural Identity (need)	Female	22 (91.7)	2 (8.3)	0 (0.0)	0 (0.0)
	Male	34 (97.1)	1 (2.9)	0 (0.0)	0 (0.0)
Cultural Identity (strength)	Female	13 (54.2)	3 (12.5)	1 (4.2)	7 (29.2)
	Male	15 (42.9)	4 (11.4)	3 (8.6)	13 (37.1)

Note. All items except for cultural identity (strength) have rating descriptions as follows: 0 = No Evidence, 1 = Mild/History, 2 = Moderate, 3 = Severe. For cultural identity (strength), 0 = Center-piece strength, 1 = Useful strength, 2 = Identified strength, 3 = No strength identified.

Table 5.

Correlations Between Psychopathology and School Difficulties Among Females (CANS Acute)

	Anxiety	Mood	AD/IC	Opposition	Conduct	Trauma Adj.	Achieve	Behavior	Attendance
Anxiety	----								
Mood	.309***	----							
AD/IC	.173*	.163*	----						
Opposition	.075	.256***	.432***	----					
Conduct	-.015	.169*	.265***	.310***	----				
Trauma Adj.	-.035	.147*	-.042	.032	.061	----			
Achieve	.161*	.185*	.034	.150*	.192**	.002	----		
Behavior	.104	.178*	.269***	.376***	.288***	-.067	.500***	----	
Attendance	.316***	.288***	.040	.109	.123	-.079	.465***	.330***	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 6.

Correlations Between Psychopathology and School Difficulties Among Males (CANS Acute)

	Anxiety	Mood	AD/IC	Opposition	Conduct	Trauma Adj.	Achieve	Behavior	Attendance
Anxiety	----								
Mood	.234***	----							
AD/IC	.341***	.313***	----						
Opposition	.182**	.299***	.426***	----					
Conduct	.162*	.329***	.382***	.449***	----				
Trauma Adj.	.172*	.126	.102	.026	.075	----			
Achieve	.250***	.174*	.371***	.277***	.299***	-.014	----		
Behavior	.157*	.261***	.478***	.512***	.471***	-.039	.584***	----	
Attendance	.209**	.246***	.142*	.187**	.252***	-.034	.445***	.304***	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 7.

Correlations Between Psychopathology and Cultural Difficulties Among Females (CANS Acute)

	Anxiety	Mood	AD/IC	Opposition	Conduct	Trauma Adj.	Culture Stress	Spiritual/Religious
Anxiety	----							
Mood	.309***	----						
AD/IC	.173*	.163*	----					
Opposition	.075	.256***	.432***	----				
Conduct	-.015	.169*	.265***	.310***	----			
Trauma Adj.	-.035	.147*	-.042	.032	.061	----		
Culture Stress	-.064	.161*	.018	.035	.133	-.008	----	
Spiritual/Religious	.019	.083	.075	-.031	-.121	-.111	.062	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 8.

Correlations Between Psychopathology and Cultural Difficulties Among Males (CANS Acute)

	Anxiety	Mood	AD/IC	Opposition	Conduct	Trauma Adj.	Culture Stress	Spiritual/Religious
Anxiety	----							
Mood	.309***	----						
AD/IC	.173*	.163*	----					
Opposition	.075	.256***	.432***	----				
Conduct	-.015	.169*	.265***	.310***	----			
Trauma Adj.	-.035	.147*	-.042	.032	.061	----		
Culture Stress	-.017	.082	-.116	-.048	-.049	-.033	----	
Spiritual/Religious	.033	.164*	.104	.160*	.084	-.088	.099	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 9.

Correlations Between Cultural and School Difficulties Among Females (CANS Acute)

	Achieve	Behavior	Attendance	Culture Stress	Spiritual/Religious
Achieve	----				
Behavior	.584***	----			
Attendance	.445***	.304***	----		
Culture Stress	.162*	.106	.185*	----	
Spiritual/Religious	.004	-.092	.142*	.062	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 10.

Correlations Between Cultural and School Difficulties Among Males (CANS Acute)

	Achieve	Behavior	Attendance	Culture Stress	Spiritual/Religious
Achieve	----				
Behavior	.584***	----			
Attendance	.445***	.304***	----		
Culture Stress	.054	.027	.174*	----	
Spiritual/Religious	.081	.057	.051	.099	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 11.

Correlations Between Psychopathology and School Difficulties Among Females (CANS MH)

	Anxiety	Mood	AD/H	Impulse	Opposition	Conduct	Trauma Adj.	Attendance	Class Beh.	Non-class Beh.	Achieve
Anxiety	----										
Mood	.550**	----									
AD/H	.271	.317	----								
Impulse	.038	.318	.325	----							
Opposition	.121	.050	-.160	.204	----						
Conduct	.119	-.081	-.078	.318	.458*	----					
Trauma Adj.	.224	.272	-.218	.057	.177	.060	----				
Attendance	.599***	.468*	.261	.121	-.006	-.073	.149	----			
Class Beh.	-.012	-.093	-.126	.008	.669***	.331	-.054	.051	----		
Non-class Beh.	-.027	-.065	.456*	.328	.283	.395*	-.201	.190	.548**	----	
Achieve	.319	.126	.288	.127	.218	-.054	.167	.481**	.213	.304	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 12.

Correlations Between Psychopathology and School Difficulties Among Males (CANS MH)

	Anxiety	Mood	AD/H	Impulse	Opposition	Conduct	Trauma Adj.	Attendance	Class Beh.	Non-class Beh.	Achieve
Anxiety	----										
Mood	.416**	----									
AD/H	.150	.163	----								
Impulse	-.031	.226	.595***	----							
Opposition	.336*	.596***	.356*	.537***	----						
Conduct	.400*	.305	.307*	.174	.514*	----					
Trauma Adj.	.468**	.479**	.179	.142	.369*	.191	----				
Attendance	.369*	.098	.021	-.142	-.003	.273	.116	----			
Class Beh.	.095	.330*	.519***	.676***	.603***	.190	.132	-.073	----		
Non-class Beh.	.295*	.502***	.338*	.421**	.459**	.256	.264	-.019	.482**	----	
Achieve	.153	.137	.272	.204	.237	.117	.178	.416**	.232	.173	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 13.

Correlations Between Psychopathology and Cultural Difficulties Among Females (CANS MH)

	Anxiety	Mood	AD/H	Impulse	Opposition	Conduct	Trauma Adj.	Cultural Identity (N)	Ritual	Cultural Identity (S)
Anxiety	----									
Mood	.550**	----								
AD/H	.271	.317	----							
Impulse	.038	.318	.325	----						
Opposition	.121	.050	-.160	.204	----					
Conduct	.119	-.081	-.078	.318	.458*	----				
Trauma Adj.	.224	.272	-.218	.057	.177	.060	----			
Cultural Identity (N)	-.331	-.087	-.063	.470*	.313	-.112	.063	----		
Ritual	-.229	-.181	-.043	.325	.144	-.078	-.218	.692***	----	
Cultural Identity (S)	.145	.208	-.174	-.035	-.181	-.028	.063	-.069	.079	----

Note. * p < .05, ** p < .01, *** p < .001

Table 14.

Correlations Between Psychopathology and Cultural Difficulties Among Males (CANS MH)

	Anxiety	Mood	AD/H	Impulse	Opposition	Conduct	Trauma Adj.	Cultural Identity (N)	Caregiver Cultural Stress	Cultural Identity (S)
Anxiety	----									
Mood	.550**	----								
AD/H	.271	.317	----							
Impulse	.038	.318	.325	----						
Opposition	.121	.050	-.160	.204	----					
Conduct	.119	-.081	-.078	.318	.458*	----				
Trauma Adj.	.224	.272	-.218	.057	.177	.060	----			
Cultural Identity (N)	.000	-.128	-.158	-.167	-.147	-.112	-.221	----		
Care. Cultural Stress	.000	.000	-.095	-.238	-.210	-.160	-.082	.712***	----	
Cultural Identity (S)	.212	.210	-.010	.039	.148	.264	-.060	-.009	-.122	----

Note. * p < .05, ** p < .01, *** p < .001

Table 15.

Correlations Between Cultural and School Difficulties Among Females (CANS MH)

	Attendance	Class Beh.	Non-class Beh.	Achievement	Cultural Identity (N)	Ritual	Cultural Identity (S)
Attendance	----						
Class Beh.	.051	----					
Non-class Beh.	.190	.548**	----				
Achievement	.481**	.213	.304	----			
Cultural Identity (N)	-.266	.143	.180	.186	----		
Ritual	-.184	-.126	-.104	.182	.692***	----	
Cultural Identity (S)	.111	-.130	-.219	.055	-.069	.079	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 16.

Correlations Between Cultural and School Difficulties Among Males (CANS MH)

	Attendance	Class Beh.	Non-class Beh.	Achievement	Cultural Identity (N)	Caregiver Cultural Stress	Cultural Identity (S)
Attendance	----						
Class Beh.	.051	----					
Non-class Beh.	.190	.548**	----				
Achievement	.481**	.213	.304	----			
Cultural Identity (N)	.240	.008	-.140	.121	----		
Care. Cultural Stress	.086	-.112	-.037	-.012	.712***	----	
Cultural Identity (S)	.279	.063	.115	-.075	-.009	-.122	----

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Female Ordinal Logistic Regression Model with School Attendance as Dependent Variable and Internalizing Difficulties as Explanatory Variables (CANS Acute)

Model Fit Measures

Model	Deviance	AIC	BIC	R ² _{McF}	R ² _N	Overall Model Test		
						χ^2	df	p
1	320	338	366	0.112	0.141	40.2	6	< .001

Note. The dependent variable 'SchoolAttendance_sev' has the following order: No Evidence | Mild/History | Moderate | Severe

Omnibus Likelihood Ratio Tests

Predictor	χ^2	df	p
Anxiety_sev	20.35	3	< .001
Mood_sev	9.15	3	0.027

[3]

Model Coefficients - SchoolAttendance_sev

Predictor	Estimate	SE	Z	p	Odds ratio	95% Confidence Interval	
						Lower	Upper
Anxiety_sev:							
Mild/History – No Evidence	1.392	0.691	2.01	0.044	4.02	1.155	18.89
Moderate – No Evidence	1.507	0.672	2.24	0.025	4.51	1.358	20.63
Severe – No Evidence	3.352	0.820	4.09	< .001	28.55	6.248	165.76
Mood_sev:							
Mild/History – No Evidence	0.706	0.420	1.68	0.093	2.03	0.890	4.66
Moderate – No Evidence	0.908	0.423	2.14	0.032	2.48	1.086	5.75
Severe – No Evidence	2.019	0.793	2.55	0.011	7.53	1.622	38.24

Male Ordinal Logistic Regression Model with School Attendance as Dependent Variable and Internalizing Difficulties as Explanatory Variables (CANS Acute)

Model Fit Measures

Model	Deviance	AIC	R ² _{McF}	Overall Model Test		
				χ^2	df	p
1	286	304	0.0638	19.5	6	0.003

Note. The dependent variable 'SchoolAttendance_sev' has the following order: No Evidence | Mild/History | Moderate | Severe

Omnibus Likelihood Ratio Tests

Predictor	χ^2	df	p
Anxiety_sev	5.56	3	0.135
Mood_sev	6.54	3	0.088

[3]

Model Coefficients - SchoolAttendance_sev

Predictor	Estimate	SE	Z	p	Odds ratio	95% Confidence Interval	
						Lower	Upper
Anxiety_sev:							
Mild/History – No Evidence	0.345	0.489	0.707	0.480	1.41	0.548	3.79
Moderate – No Evidence	0.599	0.481	1.245	0.213	1.82	0.720	4.82
Severe – No Evidence	1.704	0.749	2.276	0.023	5.49	1.263	24.64
Mood_sev:							
Mild/History – No Evidence	0.699	0.435	1.608	0.108	2.01	0.860	4.78
Moderate – No Evidence	0.923	0.465	1.986	0.047	2.52	1.013	6.33
Severe – No Evidence	1.753	0.874	2.005	0.045	5.77	0.995	32.79

Female Ordinal Logistic Regression Model with School Behavior as Dependent Variable and Externalizing Difficulties as Explanatory Variables (CANS Acute)

Model Fit Measures

Model	Deviance	AIC	R ² _{MCF}	Overall Model Test		
				χ^2	df	p
1	231	249	0.127	33.5	6	< .001

Note. The dependent variable 'SchoolBehavior_sev' has the following order: No Evidence | Mild/History | Moderate | Severe

Omnibus Likelihood Ratio Tests

Predictor	χ^2	df	p
AD/IC_sev	6.94	3	0.074
Oppositional_sev	18.17	3	< .001

[3]

Model Coefficients - SchoolBehavior_sev

Predictor	Estimate	SE	Z	p	Odds ratio	95% Confidence Interval	
						Lower	Upper
AD/IC_sev:							
Mild/History – No Evidence	-0.267	0.537	-0.497	0.619	0.766	0.255	2.13
Moderate – No Evidence	0.618	0.520	1.190	0.234	1.856	0.651	5.07
Severe – No Evidence	2.521	1.154	2.185	0.029	12.443	1.192	139.01
Oppositional_sev:							
Mild/History – No Evidence	1.345	0.453	2.970	0.003	3.837	1.580	9.42
Moderate – No Evidence	2.131	0.619	3.444	< .001	8.424	2.543	29.28
Severe – No Evidence	2.983	1.206	2.473	0.013	19.749	1.761	246.84

Male Ordinal Logistic Regression Model with School Behavior as Dependent Variable and Externalizing Difficulties as Explanatory Variables (CANS Acute)

Model Fit Measures

Model	Deviance	AIC	R ² _{McF}	Overall Model Test		
				χ^2	df	p
1	300	318	0.236	92.6	6	< .001

Note. The dependent variable 'SchoolBehavior_sev' has the following order: No Evidence | Mild/History | Moderate | Severe

Omnibus Likelihood Ratio Tests

Predictor	χ^2	df	p
AD/IC_sev	21.2	3	< .001
Oppositional_sev	26.4	3	< .001

[3]

Model Coefficients - SchoolBehavior_sev

Predictor	Estimate	SE	Z	p	Odds ratio	95% Confidence Interval	
						Lower	Upper
AD/IC_sev:							
Mild/History – No Evidence	1.30	0.444	2.92	0.003	3.66	1.55	8.89
Moderate – No Evidence	1.11	0.447	2.49	0.013	3.05	1.27	7.40
Severe – No Evidence	3.26	0.852	3.82	< .001	25.94	5.24	154.03
Oppositional_sev:							
Mild/History – No Evidence	1.09	0.422	2.58	0.010	2.97	1.31	6.91
Moderate – No Evidence	2.21	0.491	4.50	< .001	9.10	3.54	24.47
Severe – No Evidence	3.54	1.058	3.35	< .001	34.62	4.76	337.33

Appendix B: Measures

CANS Acute

Mental Health Needs Domain

Psychosis
Anxiety
Mood
Attention Deficit/Impulse Control
Oppositional Behavior
Conduct Behavior
Emotional Control
Parent-Child Relational Problems
Adjustment to Trauma
Autism Spectrum
Situational Consistency
Temporal Consistency

Risk Behaviors Domain

Suicide Risk
Self-Injuring Behavior
Danger to Others
Elopement
Substance Abuse
Social Behavior
Crime/Delinquency
Involvement in Treatment

Family/Caregiver Needs and Strengths Domain

Physical/Mental Health
Knowledge
Residential Stability
Resources
Safety

Functioning Domain

Sensory Processing
Communication
Motor
Self-Care
Sleep
Family
Peer
School Achievement
School Behavior
School Attendance
Sexual Development

Culture Stress

Care Intensity and Organization Domain

Monitoring

Service Permanence

Educational

Individual Strengths Domain

Family

Interpersonal

Relationship Permanence

Life Skills

Well-Being

Optimism

Spiritual/Religious

Talents/Interests

Community Involvement

Self-Expression

Flexibility/Adaptability to Change

Note. All domains except for the Individual Strengths domain has the following Likert scale ratings: 0 = *No evidence*, 1 = *History, mild, suspicion*, 2 = *Moderate, action needed*, 3 = *Severe, disabling, dangerous, immediate action needed*. The Individual Strengths domain has the following Likert scale ratings: 0 = *Centerpiece strength*, 1 = *Useful strength*, 2 = *Identified strength*, 3 = *No strength identified*.

CANS-MH**Needs Domains**

-
- 0 = *No evidence of problem – no need for action*
 1 = *History – Watchful waiting and prevention*
 2 = *Moderate need – Action required*
 3 = *Severe problem/need – Immediate/Intensive action required*
-

Executive Functioning Domain

Decision Making Skills
 Ability to Pay Attention

Emotional Regulation Skills Domain

Self-Management
 Moodiness
 Anger Control
 Over-Reaction

Cognitive Flexibility Skills Domain

Adaptation to Change
 Transitions

Social Skills Domain

Social Functioning
 Building Relationships
 Empathy
 Social Perception

Language Domain

Receptive Language
 Expressive Language
 Pragmatic Language

Sensory Motor Skills Domain

Gross Motor
 Fine Motor
 Coordination
 Sensory Integration

Daily Functioning Domain

Activities of Daily Living
 Autonomy
 Eating
 Sleeping
 Sexual Development

Acculturation Domain

Language
 Identity
 Ritual
 Parent/Caregiver Cultural Stress

Mental Health Needs Domain

Psychosis
 Anxiety
 Mood Disturbance
 Attention Deficit/ Hyperactivity
 Impulse Control
 Eating Disturbance
 Oppositional Behavior
 Conduct Behavior
 Adjustment to Trauma
 Attachment
 Substance Use
 Autism Spectrum
 Parent-Child Relationship

Risk Behaviors Domain

Suicide Risk
 Self-Injuring Behavior
 Other Self Harm
 Aggression Towards Objects
 Cruelty to Animals
 Danger to Others
 Sexual Aggression
 Elopement/Running away
 Delinquent Behavior
 Fire Setting
 Intentional Misbehavior
 Bullying

Educational Needs Domain

School Attendance
 Classroom Behavior
 Non-classroom Behavior
 School Discipline
 School Achievement
 Academic Persistence
 Learning Disability
 Special Education
 Intellectual

Strengths Domains

0 = *Centerpiece strength*
 1 = *Useful strength*
 2 = *Identified strength*
 3 = *No strength identified*

Youth Individual Strengths Domain

Talents/Interests

Extra-curricular Activities

Optimism

Leadership

Creativity/ Imagination

Peer Relations

Self-Expression

Flexibility/Adaptability to Change

Life Skills

Resiliency

Youth Environmental Strengths Domain

Family Strengths

Natural Supports

Community Involvement

Cultural Identity

Resourcefulness

Caregiver/Family Strengths & Needs Domain

Supervision

Involvement with Care

Problem Solving

Knowledge

Ability to communicate

Understanding of Own Behavior on Child

Organization

Social Resources

Stable Living Situation

Physical Health

Mental Health

Substance Use

Development

Family Functioning

Family Nurturance

Family Stress

Safety

Note: This list does not include the additional modules.