A Multimethod Approach to Resilience Against Alcohol Use, Depression, and Suicide among Indigenous Youth in a Northern Quebec Community

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Abstract

A Multimethod Approach to Resilience against Alcohol Use, Depression, and Suicide Among Indigenous Youth in a Northern Quebec Community

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Colonization, historical loss and intergenerational trauma have given rise to mental health disparities among Indigenous communities. For over 100 years, assimilation policies have directly targeted Indigenous youth. While many Indigenous youth have thrived despite the experience of intergenerational trauma and ongoing colonization, problems with alcohol use, depression, and suicide risk continue to be reported. Yet, little research has looked at the temporal sequence of these mental health problems among Indigenous youth. In turn, interventions have often been based off of research among non-Indigenous youth, which have been limited at best. In turn, there is a need to return to Indigenous ways of knowing in order to promote the well-being of Indigenous youth. Using quantitative (Study 1) and qualitative (Study 2) studies, the goal of this dissertation was to develop a community-specific model of alcohol use, depressive symptoms, and suicide resilience among Indigenous youth in one Northern Quebec community. Study 1 (N=110) utilized a longitudinal design to examine change in alcohol use and negative affect (a symptoms of depression) and reciprocal associations in a sample of Indigenous youth. Results demonstrated that when an Indigenous adolescent drank more alcohol than expected at one time point, they reported higher levels of negative affect than expected at the following assessment. This may suggest that drinking alcohol precedes negative affect. Study 2 (N=14) utilized semi-structured interviews with community members to understand alcohol and suicide resilience from an Indigenous perspective. Through the voices of Indigenous people

in the community, colonization was identified as the primary problem that led to alcohol use and suicide risk. Complementary to Study 1, most of the participants highlighted that drinking alcohol precedes suicidal ideations and behaviours. Connecting as a community and returning to living off of the land is where the participants believed recovery would be found. Taken together, both studies shed light on understanding alcohol use, negative affect and suicidality rooted in systemic factors and a continued call for supporting Indigenous peoples in revitalizing their cultures.

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Contribution of Authors

The following thesis is comprised of two manuscripts:

Study 1 (Chapter 2)

Reynolds, A., Paige, K.J., Colder, C.R. *et al.* (2024). Negative affect and drinking among Indigenous youth: Disaggregating within- and between-person effects. *Research on Child and Adolescent Psychopathology*. https://doi.org/10.1007/s10802-024-01173-1

Study 2 (Chapter 3)

Reynolds, A., Bomfim, E., Dumont, J. et al. (2024). Finding peace in family and nature: Indigenous voices on healing from alcohol use and suicidality. Manuscript in preparation for publication.

I am responsible for the conceptualization of the research program presented in this dissertation, including the quantitative and qualitative studies. In collaboration with my supervisor, Dr. Rosin O'Connor, I developed the research questions, study designs, hypotheses, and statistical analyses. I secured funding to support this research, including a Helene Linder Doctoral Fellowship award, a Fonds de la recherche en Santé du Québec graduate training award, and an Institut Universitaire sur les Dépendances award: Soutien Financier pour la Rédaction Intensive d'une Thèse. Dr. Roisin O'Connor also contributed funds from a small research award from the Network for Aboriginal Mental Health Research (NAMHR) and by a Project Grant and New Investigator Award from Canadian Institutes of Health Research.

For both studies, I conducted a literature review, developed the research question, and acquired ethics approval. Dr. Roisin O'Connor played a pivotal role in providing theoretical, conceptual, and design-related consultation during the development of each study. Several research collaborators including Dr. Jacob A. Burack, Dr. Dennis C. Wendt, Dr. Craig Colder,

and Dr. Emiliana Bomfim and Katie J. Paige provided guidance throughout. Volunteers from the Young Adult and Alcohol Research Lab and the McGill Youth Study Team provided support when needed. The final manuscripts represent a substantial combined effort from all authors. All authors reviewed the final manuscript and approved of the contents.

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Chapter 1: General Introduction

It was recently estimated that the Indigenous population worldwide is approximately 476 million people (United Nations Development Programme, 2021). The broad term "Indigenous peoples" refers to individuals who hold roots in native lands that precede colonization (Wilson & Richmond, 2009; World Health Organization, 2007). In Canada, First Nations, Metis, and Inuit people are collectively defined as Indigenous peoples and represent approximately 1.8 million people (Statistics Canada, 2022). They are the fastest growing and youngest population in Canada (Statistics Canada, 2022). Specifically, over 50% of Indigenous youth are under the age of 25 years old (Statistics Canada, 2021), placing Indigenous youth mental health as a top priority for many Indigenous peoples and communities. While the term "Indigenous" will be used throughout this dissertation, it is recognized that the term does not capture the differences among communities within Canada. For example, in Canada, First Nations people represent at least 650 individual and unique First Nations communities with at least 11 different dialects (Kirmayer et al., 2016). In Canada, Indigenous people are also often grouped together based on whether they live off- or on-reserve. Approximately 50% of the Indigenous population in Canada reside in cities, while the remaining population live within an array of settings spanning peri-urban reserves to small and remote communities (Kirmayer et al., 2016).

The Impact of Colonialism

In Canada and elsewhere, Indigenous ways of living were grossly interrupted with the arrival of European and Canadian invaders. Policies were put forth by the Canadian government to ban Indigenous traditional practices and ancestral ceremonies. For more than 100 years Canadian Indigenous youth were the focus of assimilation policies, such as the creation of the government-mandated Indian Residential School systems (Miller, 1996; Milloy, 1996). These

schools were explicitly designed to “kill the Indian in the child” (Truth and Reconciliation Commission, 2015). Children were removed from their families and forbidden to practice any cultural values (including their native language). They were subject to horrific experiences including physical and sexual abuse. To those who survived the residential schools, many went on to have views of child-rearing practices that were tainted by institutional values. Other government-led practices that disrupted Indigenous families, included the “Sixties Scoop” whereby the child protection system removed children from their families and placed them among non-Indigenous families throughout Canada, the United States, and even overseas. When these children were removed from their families there was no plan to preserve their cultural identity (Sinclair, 2016). While Indigenous children within the youth protection system have decreased, they continue to be over-represented in foster care (Statistics Canada, 2021), often still residing in non-Indigenous homes. From an Indigenous perspective, the lived experience of colonialism includes the loss of lands, resources, self-governance, and a severe disruption to their cultures and traditions (Association of Faculties of Medicine of Canada, 2017). Indeed, colonialism continues to be present at the political, legal, and social context.

Past and current colonial attacks have been implicated as the cause and structure by which mental health problems have been defined (Duran & Duran, 1995; Durie et al., 2009; Gone, 2013, 2009; Kirmayer et al., 2000; Waldram, 2009, 2004). Indigenous peoples have heightened health disparities including risks for mental health problems and chronic health conditions, despite evidence of strength and resilience (Archibald, 2006; Gracey & King, 2009; Kim, 2019; Sasakamoose et al., 2016; Tjepkema et al., 2019; Wilk et al., 2017). Problematic substance use and related problems have also been linked to the experiences of colonialism and

intergenerational trauma (Gameon & Skewes, 2021; Gone et al., 2019; Marsh et al., 2015; Wiechelt et al., 2012).

Mental Health Inequities among Indigenous youth

While many Indigenous youth have thrived despite the experience of intergenerational traumas and ongoing colonization, mental health inequities, including problems with alcohol use, depression, and suicide risk continue to be reported. According to the First Nations Regional Health Survey (2018), 25% of Quebec's Indigenous youth drank alcohol, with over 50% of these youth binge drinking at least monthly. Engaging in binge drinking was more prominent among Indigenous youth who had a parent or grandparent who attended an Indian Residential School (RHS, 2018), demonstrating the devastating impacts of post-colonialism. While it is understood that there is substantial variability in alcohol use across and within Indigenous communities, including many youth who abstain from alcohol use, there is a consensus that Indigenous youth tend to initiate and progress into regular use at a younger age (Bachman et al., 1991; Beauvais, 1998; Blum et al., 1992; Schick et al., 2021; Spillane et al., 2015; Vaeth et al., 2017; Whitesell et al., 2012; Whitbeck & Armenta, 2015). Further, the type of drinking and the associated consequences related to drinking may be more detrimental among Indigenous youth (Spillane et al., 2020; Swaim & Stanley, 2018; Whitesell et al., 2014). An earlier onset of drinking among Indigenous youth has been associated with alcohol-related and other mental health problems in early adulthood (Friese et al., 2011; Whitbeck et al., 2014).

Depression is considered to be one of the most common mental health challenges during the period of adolescence (Petito et al., 2020). In the United States, Indigenous youth have the highest rates of lifetime and past-year symptoms of depression (U.S. Department of Health and Human Services, 2019). In Canada, approximately one in five Indigenous youth reported a

diagnosis of a mood disorder (Statistics Canada, 2021). Further, in a Canadian study, depressive symptoms among Indigenous youth began to increase after the age of 12 years old and reached a peak around the age of 16 years old (Ames et al., 2015). Indigenous youth are also at a greater risk for suicidal ideations, attempts, and completed suicides compared to non-Indigenous populations (Centre for Disease Control and Prevention, 2020; Statistics Canada, 2019). For example, in Canada the suicide rate was highest among youth between the ages of 15-24 years old (Kumar & Tjepkema, 2019). Further, First Nations youth who had at least one parent or grandparent who attended the Residential School system were more likely to seriously consider suicide at one point in their life (RHS, 2018). A complementary study also found that when an individual's parents attended a residential school, they were more likely to experience suicidal thoughts and attempts at an earlier age. Accordingly, Indian Residential School attendance not only increases psychological distress and suicidal risk, but also accelerates the onset of such mental health problems (Bombay et al., 2019).

Indigenous youth who reported greater depressive symptoms were more likely to initiate drinking alcohol at a younger age (Cheadle & Whitbeck, 2011). Moreover, in a qualitative study, the majority of Indigenous youth reported drinking alcohol as a means to escape and/or try to regulate their depression (Tingey et al., 2017). Clinically, the co-occurrence of alcohol use and depressive symptoms among youth has been associated with an increase in severity and duration of depressive symptoms, as well as an increased risk for experiencing suicidal ideations (Boschloo et al., 2011; Gardemann et al., 2012; Hasin et al., 1996). While there is a need for more recent research to document the co-occurrence of alcohol use and suicidal behaviours, it is believed that the co-occurrence of drinking alcohol and suicidal behaviours among Indigenous youth is particularly high. For example, 64% of Indigenous youth were drunk or high at the time

of death by suicide, 75.7% during a suicide attempt and 49.4% while they were having suicidal ideations (Barlow et al., 2012). Drinking alcohol may be acting as a risk factor, a facilitator, and/or a method of suicide among Indigenous youth (Cwik et al., 2015). One longitudinal study found that there was an overlap between the onset of binge drinking and endorsing suicidal ideations, suggesting that binge drinking may present as a unique risk factor for suicidal risk among Indigenous youth (Cwik et al., 2018).

Multiple relations between drinking alcohol, depression, and suicide have been proposed. (1) Drinking alcohol may influence depression and suicidal behaviours. (2) Depression and suicidal behaviours may influence drinking behaviours. (3) Drinking alcohol, depression, and suicidal behaviours may influence each other. (4) Drinking alcohol may indirectly influence suicidal risk by aggravating other factors associated with depression and suicide. (5) Drinking alcohol, depression and suicidal risk may instead be affected by a fourth variable (e.g., Gossop, 2005). Yet, there is little research looking at these possibilities and especially among Indigenous youth. Having a better understanding of the temporal association between drinking alcohol, depression, and suicide risk could better inform the type and timing of prevention and intervention strategies for Indigenous youth.

Healing from Colonization

In order to develop successful prevention and intervention strategies that target alcohol use, depression, and suicidality, it is imperative to examine how Indigenous people can heal from the atrocities that they have faced. The Truth and Reconciliation Commission (2015) has recommended that Indigenous peoples not only be made aware of the history of colonization and assimilation, but that they be supported in revitalizing their collective cultural identities. Culturally-based healing practices are essential in promoting wellness for Indigenous people who

are attempting to heal from Canada's colonial policies (Fiedeldey-Van Dijk et al., 2016). Helping Indigenous youth build a strong sense of cultural identity may allow these youth to be better equipped to conquer the burden associated with colonialism by turning back to traditional ways of life and re-establishing their cultural identity (Kirmayer et al., 2016). Chandler and Lalonde (1998, 2008) highlighted that communal attempts at promoting and preserving cultural practices and continuity were linked to lower rates, and even an absence, of suicide among First Nations community youth.

While reconnecting to traditional cultural practices can promote better-suited intervention and prevention strategies against alcohol, depression, and suicide risk, research continues to be primarily carried out by settlers who do not include Indigenous concepts and epistemologies in their work (Waldram, 2009, 2004). Much of the current research continues to ignore Indigenous perspectives (Fritzsche et al., 2011; Waldram, 2004) that can contribute to the misrepresentation and misunderstanding of mental health problems among Canadian Indigenous youth. Colonialism is still implanted within the health care system and makes it difficult for Indigenous people to trust and reach out to mental health services (Browne, 2007; Fiske & Brown, 2006; Varcoe et al., 2013). All too often, mental health intervention and prevention strategies are developed in non-Indigenous cultures and are simply applied to Indigenous communities. These mainstream intervention and prevention strategies have been ineffective and, in many cases, even harmful (Gone, 2022; Sue et al., 2019). In order to appropriately address the mental health concerns of Canadian Indigenous youth, it is imperative to place Indigenous youth within their cultures, context, and process of cultural change that took place through assimilation (Kirmayer et al., 2016). Settlers must work side by side with Indigenous people in order to integrate their knowledge and methods of healing to arrive at better-suited intervention and prevention

strategies for Indigenous youth. Through integration, Indigenous people may be more likely to hold positive attitudes towards mental health services and in turn more likely to seek support (Gone, 2021; Josewski, 2012; Nelson & Wilson, 2017; McCall & Laurisden-Hoegh, 2014).

Overview of the Current Research

The aim of the present two-study dissertation was to understand the associations between alcohol use, depression, and suicidality, as well as pathways towards healing from these mental health problems among Indigenous youth in a remote northern Quebec community. Both studies were built on the foundation of a longstanding collaborative relationship between the research team and the community. Throughout the project, multiple Indigenous individuals in the community were consulted in order to guide the research team on the empirical and qualitative study of youth alcohol use and depression resilience. For Study 1, members of the community highlighted which measures and factors were most relevant when looking at the temporal order of alcohol use, depression symptoms, and suicidality. They also provided their feedback on the interpretation of the results to ensure accuracy. For Study 2, individuals in the community helped shape the qualitative interview by ensuring that the questions that needed to be addressed during the interviews were presented in a culturally appropriate manner and helped identify various people in the community to speak to in order to get a good representation of the community.

Study 1

The aim of the first study was to extend the current literature on the association between alcohol use and negative affect (depression/anxiety) among Indigenous youth. The study utilized an empirical approach by having multiple cohorts of youth (grades six to eleven) in the community complete self-report questionnaires over the past five years (2011-2018) in a school-based study. In this study, we introduced the use of analytic approaches that allow for the

examination of reciprocal associations between negative affect and alcohol use over time. In addition, we teased apart between- and within-person effects. Disaggregating within- and between-person effects is in line with the self-medication theory (Khantzian, 1997). For example, self-medication theory would suggest that youth who have greater symptoms of negative affect (depression/anxiety) will drink more alcohol (e.g., between-person association). Additionally, when youth experience an increase in their symptoms of negative affect (depression/anxiety), relative to their typical level of negative affect at one point in time, they will increase their alcohol use, relative to their typical level of alcohol use at a subsequent point in time (e.g., within-person association). Moreover, reciprocal associations between two constructs imply the disaggregation of between- and within-person effects, as earlier changes in one construct influence later changes in the other, and vice versa (Curran et al., 2014). We used a longitudinal design and Latent Curve Model with Structured Residuals (LCM-SR) to examine prospective reciprocal associations and to distinguish within- and between-person associations.

Hypotheses

Three hypotheses were proposed:

1) On average, high levels of negative affect (depression/anxiety symptoms) would be related to high levels of alcohol use (between-person level).
2) When looking at the individual, high levels of negative affect (depression/anxiety symptoms) would prospectively predict high levels of alcohol use over time, accounting for their average levels of negative affect and alcohol use (within-person level).
3) When looking at the individual, high levels of alcohol use would prospectively predict high levels of negative affect (depression/anxiety symptoms) over time, accounting for their average levels of negative affect and alcohol use (within-person level).

Taken together, by investigating the developmental trajectories of negative affect and alcohol use during adolescence, we were aiming to move towards a better understanding of how to foster Indigenous youth mental health, including suicide risk.

Study 2

The second study was complementary to the first study by investigating factors that influence alcohol and suicide resilience from an Indigenous perspective. The second study drew on Indigenous knowledge through interviews conducted with members of the community. The McGill Illness Narrative Interview (MINI; Groleau et al., 2006) and the Cultural Formulation Interview (CFI; American Psychiatric Association, 2013) were both adapted to obtain information about the impact of culture on alcohol and suicide risk and resilience. The MINI is a semi-structured interview used to elicit experiences, narratives, and help-seeking behaviours related to alcohol use and suicide. While the interview originally contained 46 questions, with the help of the community members and fellow researchers, the interview was adapted to include 36 questions. The CFI is a brief semi-structured (16 question) interview used to assess cultural factors on mental health. For the purposes of the current study, it was used as a checklist to ensure that questions were asked on the cultural definition of alcohol use and suicide, cultural perceptions of the cause, cultural perceptions of stressors and supports, the role of cultural identity, and cultural perceptions of coping and help-seeking. All interview data were transcribed *verbatim* by a professional transcription company, named Rev, based in Texas in the United States of America, and were entered into NVivo 12 (QSR International Pty Ltd) software after de-identification and quality-checking transcripts for accuracy. Conventional thematic content analysis was used for categorizing codes and identifying shared themes.

Through the interviews the study aimed to contribute to the current state of the literature by understanding if there are community-specific factors related to alcohol use and suicide resilience among Indigenous youth. Last, the interviews would also provide insight to any culturally relevant practices that are put into place that foster the mental health of youth within their community including cultural renewal and establishing a collective identity. Together, both studies were designed to highlight a bottom-up process in targeting alcohol use, depression and suicide behaviours among Indigenous community youth. While the output of the studies was community-specific, the research process can be portable to other communities given the focus on cultural renewal, strength and resilience across communities.

Chapter 2: Study 1

Negative Affect and Drinking among Indigenous Youth: Disaggregating Within and Between-Person Effects

Reynolds, A., Paige, K. J., Colder, C. R., Mushquash, C. J., Wendt, D. C., Burack, J. A., & O'Connor, R. M. (a version of this manuscript published in Research on Child and Adolescent Psychopathology).

Negative Affect and Drinking among Indigenous Youth: Disaggregating Within- and Between-Person Effects

Introduction

In Canada, First Nations, Métis, and Inuit peoples are collectively defined as Indigenous peoples. Approximately 4.9% of the population in Canada report an Indigenous identity. These Indigenous peoples have demonstrated tremendous resilience and thrived, despite hardships and traumas that they have experienced and continue to experience (Burack et al., 2014, 2017; Kirmayer et al., 2011). Through colonization and assimilation policies such as the creation of the government-mandated Indian Residential School system, Indigenous peoples have faced many deleterious consequences high dropout rates in the current school system (Louie & Gereluk, 2021), an over-representation in the child and family protection system (Ma, 2020), racialized and sexualized violence towards women and girls (Lavell-Harvard & Brant, 2016; Razack, 2016), high rates of incarceration (Chartrand, 2019) and a shorter life expectancy (Tjepkema et al., 2019). While many Indigenous individuals have thrived despite historical traumas and ongoing colonization (Burack et al., 2014, 2017), mental health inequities, including problems with alcohol use and negative affect, continue to be reported. In particular, we focused on the development of two indicators of mental health inequities – negative affect and alcohol use – among Indigenous youth that have also been linked to the histories of colonization and oppression (Thira, 2014).

Depression/Anxiety and Alcohol Use

Negative affect, such as anxiety and depression, often co-occur with alcohol use during the developmental period of adolescence (Marmostein, 2009). Some research indicates the prevalence of depression and anxiety among Indigenous youth may be similar, lower, or higher

when compared with non-Indigenous youth (Andrade et al., 2006; Hop Wo et al., 2020; Scott et al., 2022). In a survey by Statistics Canada (2021), one in five and almost one in four Indigenous youth reported being diagnosed with a mood or anxiety disorder, However, the prevalence rates may reflect only those individuals who are help-seeking and therefore were able to get a diagnosis. In an American study of the development of depressive symptoms among Indigenous adolescents between the ages of 9 to 13 years old who were followed for 8 years, Martinez and Armenta (2020) found that 63% of Indigenous adolescents experienced depressive symptoms at some point. Moreover, at least 21% of these adolescents demonstrated consistent elevated levels of depression over time and were more likely to develop an alcohol use disorder. Depression and anxiety are well-established comorbid conditions that affect Indigenous peoples and put them at a greater risk for problems with substances including alcohol (Kenney & Singh, 2016; Rieckmann et al., 2012; Warne et al., 2017; Warne & Lakimodiere, 2015).

Alcohol use rates and patterns vastly differ across Indigenous communities in North America, with high incidences of abstinence among some (Cunningham et al., 2016; Rieckmann et al., 2012) and earlier onset of drinking among others (Cheadle & Whitbeck, 2011). Of concern is the disparities in the consequences associated with alcohol use including high rates of substance use disorders, health complications related to alcohol use, and alcohol-related deaths (Centers for Disease Control, 2018; Indian Health Service, 2018; Singh et al., 2017; Substance Abuse and Mental Health Services Administration, 2019; Tann et al., 2007).

Negative Reinforcement and The Dual Failure Model

Two dominant models for understanding the risks that lead youth in general to alcohol use include negative reinforcement motives for drinking and the Dual Failure model. Both theories highlight the role of internalizing and externalizing symptoms. Negative reinforcement

motives for drinking occur when individuals use substances as a strategy to dampen unpleasant emotions and psychological suffering (Cooper et al., 1995; Kuntsche et al., 2005), suggesting that internalizing symptoms such as negative affect may precede alcohol use. Brockie et al. (2015) found that Indigenous youth who reported high rates of historical loss were at an increased risk for depressive symptoms, PTSD symptoms, and substance use. Additionally, Stewart et al. (2011) found that depressive symptoms were directly linked to drinking to cope, which in turn was linked to heavy alcohol use among Indigenous youth in Canada. Conversely, the Dual Failure Model (Capaldi, 1991; 1992) would suggest that adolescent drinking occurs in the larger context of externalizing symptoms such as rule breaking and aggressive behaviours, which lead to negative consequences and in turn can lead to depressive symptoms (Colder et al., 2013; Paige et al., 2021). Indeed, externalizing symptoms tend to precede and overlap with substance use among Indigenous youth (Greenfield et al., 2017; Whitbeck et al., 2014).

The Current Study

In this paper, we introduce the use of analytic approaches that allow for the examination of reciprocal associations between negative affect and alcohol use over time with a group of Indigenous youth. In addition, we will disaggregate between- and within-person effects (e.g., Martinez & Armenta, 2020). Disaggregating within- and between-person effects is in line with the self-medication theory (Khantzian, 1985, 1997), as it invokes individual differences and the utility of considering both between- and within-person-level change over time. According to self-medication theory (Khantzian, 1985, 1997), individuals who have increased symptoms of negative affect (depression/anxiety) tend to drink more (e.g., between-person association). Additionally, if an individual experiences an increase in symptoms of negative affect (depression/anxiety), relative to their typical level of negative affect at one point in time, they are

likely to increase their alcohol use, relative to their typical level of alcohol use at a subsequent point in time (e.g., within-person association). Moreover, reciprocal associations between two constructs imply the disaggregation of between- and within-person effects, as earlier changes in one construct influence later changes in the other, and vice versa (Curran et al., 2014). We used a longitudinal design and Latent Curve Model with Structured Residuals (LCM-SR; Curran et al., 2014) to examine prospective reciprocal associations and to distinguish within- and between-person associations among a group of First Nations youth from a northern community.

Hypotheses

Three hypotheses were proposed: One, on average, high levels of negative affect (depression/anxiety symptoms) were expected to be related to high levels of alcohol use over time (between-person level). Two, in considering the individual level, high levels of negative affect (depression/anxiety symptoms) were expected to prospectively predict high levels of alcohol use over time, accounting for their average levels of negative affect and alcohol use (within-person level). Three, in considering the individual level, high levels of alcohol use were expected to prospectively predict high levels of negative affect (depression/anxiety symptoms) over time, accounting for their average levels of negative affect and alcohol use (within-person level).

Method

The education administration of the First Nations community approved the battery of measures that were administered to the participants of this study. Additionally, a subcommittee in the community reviewed and approved this manuscript. The study was approved by the ethics committees at Concordia University and McGill University.

Participants and Procedures

Nearly all students in grades 6 to 11 (i.e., grade 11 being end of secondary education in Quebec) were recruited to participate. While most of the students identified as First Nations, some youth identified as Métis or Inuit. In the early years of school, the children are taught in their native language and are later taught in English. All participants were most familiar with the English language outside of their native language. Participation was premised on parental consent and participant assent. The parents or legal guardians were provided the option to inform the school if they did not want their child to participate. Additionally, the students were told that they could withdraw from the study at any time. All questionnaires were administered in English. The data were drawn from multiple cohorts during the academic years of 2011-2018. The final dataset included 110 students (44% male; M_{age}=12.46-16.28; grades 6-10). Retention across grades 7 to 11 was 83.6% (n = 93), 77.3% (n = 85), 82.7% (n = 91), 72.7% (n = 80), and 56.4% (n = 62), respectively. Given attrition and the small number of participants in grade 11, only data from grades 6 through 10 (T1-T5) were used. A full-information maximum likelihood estimation was used to minimize the impact of missing data. This approach allowed for inclusion of all of the participants, even those with some missing data.

Demographics. The participants were asked to indicate their age, gender (0 = girl, 1 = boy), and grade at each assessment.

Youth Self-Report (YSR; Achenbach & Rescorla, 2001). The YSR is a self-report questionnaire that includes 112 items describing behaviour problems that have occurred in the last year among children aged 11 to 18 years. The YSR has been shown to be correlated with other measures of depression in over 50 different cultural groups (Achenbach & Rescorla, 2007). The YSR has also been used to assess depression symptomatology among Indigenous

adolescents in the United States, and in comparison to other measures of depression has been found to have strong predictive validity (Thrane et al., 2004). The anxious/depressed subscale (13-items) was used to assess negative affect (Watson, 2005). The participants indicated the truth of each statement on a three-point scale (0 = *not true* to 2 = *very true or often true*) over the past six months. A sum score was derived as a measure of depression/anxiety symptoms.

Self-Report Delinquency Scale (Elliott, Huizinga, & Menard, 1989). One item from the self-report delinquency scale was used to measure frequency (0 = *never*; 1 = *1-2 times*; 2 = *3-5 times*; 3 = 6-9 times; 4 = *10-19 times*; 5 = *20-39 times*; 6 = *40+ times*) of alcohol use in the past year.

Data Analytic Strategy

Hypothesized Pathways

An LCM-SR model (Curran et al., 2014) was used to test the hypotheses because it allowed us to disaggregate within- and between-person effects and test prospective cross-lags (see Figure 1). A major advantage of the LCM-SR framework is that it imposes a structure onto the time-specific residuals of the observed repeated measures for each construct. Therefore, the residuals are conceptualized as time-specific deviations between the observed repeated measure and the underlying growth curve. This time-specific residual structure represents the within-person portion of the model. The growth factors represent the between-person variance (Curran et al., 2014).

Model building occurred in several steps. First, univariate growth curves for alcohol use and depression/anxiety symptoms were tested. Next, we imposed a structure on the time-specific residuals and specified autoregressive and cross-lagged parameters of this residual structure. We then compared the fit of a series of models resulting from imposing equality constraints on

several model parameters (i.e., time-specific covariances, autoregressions, and cross-lags). Modification indices and residual correlations were examined, and we considered freeing residual covariances if residual correlations exceeded 0.10 in absolute value (Kline, 2010). Finally, covariates (gender) were added to the model. All of the models were specified in Mplus 8.2 using Full-information Maximum Likelihood estimation (FIML) and Maximum likelihood with robust standard errors (MLR) to account for non-normality in alcohol use (Muthén & Muthén, 1998–2018). Model fit was assessed using conventional absolute and incremental structural equation modeling fit indices. Since cutoffs for "good" fit can vary between models, ranges were used to determine acceptability of model fit (Hu & Bentler, 1999; Marsh et al., 2004). Fit indices and ranges included model chi-square (a significant chi-square indicates poor fit), the comparative fit index (CFI) and Tucker-Lewis index (TLI; for both <.90 is poor, .90 to .94 is acceptable, and ≥.95 is excellent), root mean square error approximation (RMSEA; >.08 is poor, .05 to .07 is acceptable, and ≤.05 is excellent), and standardized root mean square residual (SRMR; SRMR, >.09 is poor, .06 to .09 is acceptable, and ≤.06 is excellent). Nested chi-square difference tests were used to assess equality constraints.

Power Analysis

Due to the small number of participants, we ran a Monte Carlo simulation to examine power with a focus on the most conceptually important parameters in our proposed model (e.g. regression coefficients and covariances). We chose four sample sizes for descriptive purposes, including the number of participants in the current study (N = 110) and others commonly used in psychological science research –: 110, 200, 500, and 1000. The simulation was run using the MONTECARLO command in Mplus 8.2 (Muthén & Muthén, 1998-2018). Parameters from our sample model were used to generate the population covariance matrix and generate sampling

distributions of the parameters of interest. We generated up to 500 repetitions and used the common benchmark of 0.80 to indicate adequate power.

Results

Descriptive Statistics

Descriptive statistics for the observed variables can be found in Table 1. On average, adolescents' alcohol use increased from drinking between 1 and 2 times at grade 6 (T1; M_{age}=12.46) to drinking between 3 and 9 times in the past year at grade 10 (T5; M_{age}=16.28). This finding is consistent with evidence that alcohol use typically begins around age 13 years and increases across adolescence among Indigenous youth (Hautala et al., 2019). Consistent with previous empirical evidence that depressive and anxiety symptoms remain relatively stable over the span of adolescence for most youth (Shore et al., 2018; Stapinski et al., 2015; Rice et al., 2019), the participants had a sum score of 6 for self-reported depression/anxiety at grade 6 (T1) and just under a sum score of 5 for self-reported depression/anxiety at grade 10 (T5).

Univariate growth models. A linear slope factor was supported for alcohol use (mean slope=0.42, p<.001). We added the covariance between the latent random intercept and slope factors, and there was a linear dependency between the factors. Thus, the covariance was not retained. The means and variances of slope factors were nonsignificant across a series of univariate growth curves (e.g., linear, quadratic, piecewise, etc.) for depression/anxiety indicating no significant growth in depression/anxiety symptoms across our five repeated measures. Accordingly, the subsequent models included a latent random intercept and slope for alcohol use and a latent random intercept, but no slope, for depression/anxiety (see Figure 1).

LCM-SR Model

The intercept for depression/anxiety was allowed to covary with the intercept and slope for alcohol use (i.e., the between-person aspects of the model). Regarding the within-person portion of the model, autoregressive paths were supported for alcohol use, but not depression/anxiety. Equality constraints were supported for all cross-lagged paths between the residuals for alcohol use and depression/anxiety as well as autoregressive paths for alcohol use. Finally, two residual correlations were freed for T3 depression/anxiety and T4 depression/anxiety, and T5 alcohol use and T3 depression/anxiety. The final LCM-SR model provided an acceptable fit to the data (χ^2 (df) = 58.12 (44), p = .08, CFI = .93, TLI =.92, RMSEA =.04, 90%CI[0.000, 0.064], SRMR =.13). Parameter estimates are provided in Figure 1.

Regarding between-person associations, the variances for the intercepts of alcohol use and depression/anxiety were statistically significant, indicating individual differences in the reporting of initial levels of alcohol use and depression/anxiety across individuals. The variance for the slope of alcohol use was also significant, indicating individual differences in self-reports of change of alcohol use across time. With respect to covariates, gender was a statistically significant correlate of initial levels of alcohol use and depression/anxiety. On average, girls reported higher initial levels of both alcohol use (T1; M = .81, SD = 1.39) and depression/anxiety (T1; M = 7.96, SD = 4.97) in comparison to boys who reported initial levels of alcohol use (T1; M = .18, SD = 0.78) and depression/anxiety (T1; M = 4.60, SD = 3.70). Gender was not associated with changes in alcohol use across time. The covariance between the intercepts was nonsignificant, suggesting that at the between-person level, initial levels of alcohol use were not related to initial levels of depression/anxiety, after accounting for gender. The slope of alcohol use was not significantly associated with the intercept for depression/anxiety, indicating that, on

average, the initial levels of depression/anxiety were not related to the growth trajectory of alcohol use.

Within-person associations provided information distinct from the between-person component of the model. The autoregressive paths for alcohol use were significant and negative, indicating that an individual who endorsed higher alcohol use than usual at one assessment also reported lower alcohol use than expected at the following assessment. Within-time covariances between alcohol use and depression/anxiety were nonsignificant across grade 6 (T1) to grade 7 (T2), and grade 9 (T4) to grade 10 (T5). However, the covariance at grade 8 (T3) was significant and positive, indicating that individuals who reported engaged in higher levels of alcohol use than usual also endorsed more depression/anxiety than expected.

With respect to the cross-lags, the prospective associations from depression/anxiety to alcohol use were nonsignificant, suggesting that deviations in depression/anxiety were not related to individual changes in alcohol use at the subsequent assessment. The prospective paths from alcohol use to depression/anxiety were significant and positive. When a participant reported engaging in higher levels of drinking than usual at one timepoint, they also reported more depression/anxiety than expected (accounting for average levels of depression/anxiety) at the following assessment.

Power Analysis

With 110 participants, a power analysis suggested insufficient power to detect all estimated regression coefficients (power ranged from 0.11 to 0.79). The analysis approached adequate power for two regression coefficients, the stability for T3 alcohol use predicting T4 alcohol use (power = 0.79), and T3 alcohol use predicting T4 depression/anxiety (power = 0.70). All remaining power estimates for regression coefficients fell below 0.59. Power was adequate to

detect 2 of 7 of the covariances between the within-person residuals (0.05 – 0.97; we were not powered to detect the smallest coefficients). That is, we were powered to detect the covariance between the within-person residuals for depression/anxiety and alcohol at Time 3, as well as the covariance between the within-person residuals for depression/anxiety at Time 3 and depression/anxiety at Time 4. We were not powered to detect covariance coefficients between the between-person latent slope and intercept factors (0.20 – 0.75). With 200 participants, power was adequate to detect 3 of 12 regression coefficients (0.15 – 0.97), 5 of 7 of the covariance coefficients between the within-person residuals (0.05 – 0.99), and 1 of 2 covariance coefficients between the between-person latent slope and intercept factors (0.34 – 0.94). At $N = 500$, power was adequate to detect 7 of 12 regression coefficients (0.31 – 1.00), 6 of 7 of the covariance coefficients between the within-person residuals (0.06 – 1.00), and 1 of 2 covariance coefficients between the between-person latent slope and intercept factors (0.71 – 1.00). With regard to power to detect effects at the largest number of participants of 1000, the results were still somewhat variable. Indeed, power was adequate to detect 10 of 12 regression coefficients (0.51 – 0.97), 6 of 7 of the covariance coefficients between the within-person residuals (0.06 – 1.00), and both the covariance coefficients between the between-person latent slope and intercept factors (0.95 – 1.00).

Discussion

We attempted to disentangle the temporal association of negative affect (depression/anxiety) and alcohol use among Indigenous youth (grades six to grade ten) from a community in northern Canada with a longitudinal design. We used an LCM-SR model to test bidirectional relationships and examine differences in hypothesized associations at between- and

within-person levels. Exploring this risk pathway is essential, as Indigenous youth mental health challenges are derived from intergenerational trauma and colonization.

With respect to covariates, the finding that, on average, girls reported higher initial levels of negative affect (depression/anxiety) is consistent with the literature on gender differences and adolescent depression/anxiety in both Indigenous and non-Indigenous populations (Ames et al., 2015; McLaughlin & King, 2015; Salk et al., 2017; Walls et al., 2021). Girls also reported higher initial levels of alcohol use. Epidemiological data suggest that alcohol use has been declining among adolescents and more rapidly for boys with the exception of drinking alone, which is on the rise and increasing more rapidly for girls (White, 2020). These trends may be leading to a reversal of historical gender differences of males reporting greater alcohol use. In addition, girls may experience internalizing problems, including anxiety and depression earlier than boys (Leve et al., 2005). Future research should be focused on gender differences both in negative affect (depression/anxiety) and alcohol use among Indigenous youth.

Our first hypothesis that alcohol use and negative affect (depression/anxiety) would be related at the between-person level was not supported. Initial levels of depression/anxiety and alcohol use were not significantly associated after accounting for gender. This finding is in contrast with evidence of a positive association between depression symptoms and alcohol use among Indigenous peoples, including youth (Schick et al. 2022; Walls et al., 2021). It also differs from Martinez and Armenta's (2020) finding that when Indigenous youth experienced elevated levels of depression across their adolescence, they were more likely to meet the criteria for Alcohol Use Disorder. We expanded on past work in this area by utilizing a longitudinal LCM-SR model to distinguish between- and within-person associations. Surprisingly, adolescents' initial levels of depression/anxiety were not significantly related to changes in their alcohol use

across time. This contrasts with evidence of an association between depression, anxiety, and later alcohol use among non-Indigenous youth (see Dyer et al., 2019; McCary et al., 2012, 2013; O'Neil et al., 2011).

Our second hypothesis—that an adolescent's increased level of negative affect (depression/anxiety) would prospectively predict increases in alcohol use at the within-person level—was also not supported. The findings from the current study are consistent with evidence from non-Indigenous young adults of a unidirectional association between an alcohol use disorder and depression symptoms, but no reverse effect from depression symptoms to an alcohol use disorder (Fergusson et al., 2009). Moreover, we expand on past work by demonstrating that symptoms of depression/anxiety does not prospectively predict alcohol use at the level of individual change among Indigenous youth. Indeed, when an adolescent reported a higher level of negative affect (depression/anxiety) than was usual for them at one assessment, this deviation was not associated with their change in drinking at the next assessment. This finding is consistent with evidence that negative reinforcement for drinking may not be as relevant during the developmental period of adolescence (e.g., Scalo et al., 2021; Colder et al., 2013). Rather, during the adolescent years, substance use is most likely to occur in a social context (Dishion & Medici Skaggs, 2000; Kobus, 2003; Oetting & Beauvais, 1990). Studies with Indigenous youth have shown that socializing with peers who engage in risky behaviours, including drinking alcohol, were more likely to start drinking at an earlier age (Boyd-Ball et al., 2014) engage in increased monthly alcohol use (Heavyrunner-Rioux & Hollist, 2010) and binge drinking (Chen et al., 2012). When youth experience internalizing symptoms, they may be protected from affiliating with peers who engage in substance use (Fite et al., 2006) and thereby are at a reduced risk for substance use (Colder et al., 2013, 2018; Mason et al., 2008). However,

the results from our power analysis suggest that the power to detect the regression coefficients of depression/anxiety predicting alcohol use, especially at the later time points (T3 predicting T4 and T4 predicting T5), on the within-person side of the model was considerably lower than the power to detect the regression coefficients of alcohol use predicting depression/anxiety across all simulated models. Therefore, another possible explanation for our null findings is low power, and future research in this area should aim to utilize considerably larger groups to examine within-person associations between negative affect (depression/anxiety) and alcohol use among Indigenous youth.

Our third hypothesis—that high levels of alcohol use will prospectively predict high levels of negative affect (depression/anxiety) at the within-person level—was supported. When an adolescent endorsed a higher level of drinking than was usual for them at one assessment, they had higher levels of depression/anxiety than expected at the next assessment. This finding is consistent with findings among non-Indigenous youth whereby binge drinking was associated with subsequent depression symptoms one year later (McCabe et al., 2023). However, this is a novel finding among Indigenous youth, suggesting alcohol use precedes negative affect.

The study of alcohol consumption among Indigenous communities must also involve the consideration of systemic factors (i.e., colonization) that contribute to mental health problems in this population (Gone, 2021). For example, colonization and assimilation policies have directly impacted Indigenous peoples' cultural practices and identities (Chase, 2012; Sszlemko et al., 2006), which in turn may account for alcohol consumption and related consequences (Brave Heart, 2003; Ross et al., 2015; Whitbeck et al., 2004; Wiechelt et al., 2012). Specifically, drinking alcohol can pull Indigenous youth away from engaging in traditional activities and forming their cultural identities, and thereby lead to negative affect. This implies that the

prospective links between alcohol use and negative affect may arise from consequences associated with problematic alcohol use. Conversely, building a sense of pride and belonging to one's ancestral culture can be protective (Burack et al., 2014, 2017; Brown et al., 2021). For example, adolescents who value cultural activities may be protected from engaging in risky behaviours, including alcohol use, because they offer an alternative reinforcement to drinking (Spillane et al., 2020; Goldstein et al., 2021).

Another novel finding was that when an adolescent endorsed a higher level of drinking than was usual for them at one assessment, their alcohol use was lower than usual for them at the next assessment. As Indigenous youth are more likely to experience negative consequences associated with their drinking (Indian Health Service, 2018; Landen et al., 2014; Stanley et al., 2014), the consequences may deter heavy alcohol use at the following assessment. Additionally, these alcohol-related consequences, may also lead other individuals in the community to help the adolescent reduce their alcohol consumption. However, this interpretation warrants further investigation.

Limitations and Future Directions

This study has some limitations. One, the project involves Indigenous youth from a single First Nation in northern Quebec. We consider this study to be a first step to gathering information from various communities independently, which can help identify the ways in which each respective community show similarities and differences in the developmental patterns of alcohol use and negative affect (depression/anxiety). Although the current findings are not immediately generalizable to other Indigenous youth in Canada or the United States, this approach is consistent with the methodological perspective that the inclusion only of youth from a single community is preferable in that findings from homogenous grouping are more precise

and reliable than those from heterogenous groups. Two, only youth who attended school were recruited. While nearly all of the youth in this community attend the school, the relevance to those who do not regularly attend or are not enrolled in school should be examined. Three, the current study was limited by how negative affect was measured. Although depression and anxiety are highly correlated, both theory and research would suggest that they also have independent features. For example, while the items are generally used to assess negative affect and psychological distress, the physiological hyperarousal may be unique to anxiety and the low positive affect may be specific to depression (Anderson & Hope, 2008; Chorpita, 2002; Clark & Watson, 1991), which in turn may have independent pathways to predicting drinking behaviour (e.g., Schleider et al., 2019). Further, the YSR has not been adapted to local Indigenous worldviews and expressions of depression/anxiety. Defining and measuring depression and anxiety in ways that are culturally meaningful to Indigenous youth is key to ensuring construct validity (Beals et al., 2005; Whitbeck et al., 2014). Yet, this work remains limited among Indigenous populations, as the DSM-5 criteria for Major Depressive Disorder and Generalized Anxiety Disorder are based on Western conceptualizations and do not consider Indigenous knowledge and concepts of health and wellness related to depression.

Four, the small number of participants only provided power to detect moderate sized effects; thus, we may have missed conceptually interesting small effects. Relatedly, we were unable to test moderation or include certain coviariates in our model due to limited power. Namely, past findings suggest the importance of considering externalizing symptoms and how it influences risk for substance use among Indigenous youth. For example, in a longitudinal study of non-Indigenous youth, Scalco et al. (2021) found support for the role of externalizing symptoms and co-occurring externalizing and internalizing symptoms in risk for alcohol use.

Conversely, internalizing symptoms alone did not increase risk for alcohol use. We tried to address this limitation; however, adding externalizing symptoms to our model as a covariate resulted in non-convergence, likely due to the small number of participants and model complexity. However, this limitation, in some ways, represents the inherent trade-off between internal and external validity. Indeed, Indigenous youth represent an understudied and marginalized population. We believe that findings from the current study are critically important due to a dearth of research on this population, and we call for researchers to better include Indigenous youth going forward.

Conclusions and Implications

We found that within individuals, higher-than-usual reported levels of drinking prospectively predicted higher levels of self-reported negative affect (depression/anxiety) than expected (accounting for their typical level of depression/anxiety) among Indigenous youth from a remote First Nation in Northern Quebec. In turn, alcohol use may precede negative affect. It is possible that this temporal association may be explained by the dual failure model, which suggests that adolescents who drink alcohol are more likely to experience negative consequences and in turn are at greater risk for negative affect. This risky pathway is deserving of more research and must be situated in the context of intergenerational trauma. For example, heavy consumption of alcohol was found to be more likely among Indigenous youth who had a parent or grandparent who attended an Indian Residential School (RHS, 2018), demonstrating the devastating impacts of post-colonialism. Our findings should inform key audiences, such as community leaders and health-care providers about this issue, as well as the developers of prevention and interventions strategies. For example, similar to the work in the general health care setting, screening for negative affect (depression/anixtey) when Indigenous youth present

with an alcohol use problem and vice versa should be considered best practice. However, cultural frameworks are important and majority-culture practices cannot necessarily be applied to Indigenous peoples. Beyond screening for alcohol use and negative affect, interventions and treatment programs for Indigenous youth must call on "culture as medicine" based on the history of colonization (Basset et al., 2012; Walters et al., 2020). In support of the resilience that is seen across many Indigenous communities, future research needs to continue to highlight the success and well-being of Indigenous youth and how these stories of success can help to support Indigenous youth navigate away from alcohol use, and in turn reduce depressive symptomatology.

Table 1
Bivariate Correlations and Descriptive Statistics

Variable	1	2	3	4	5	6	7	8	9	10
1. Alcohol Use T1	-									
2. Alcohol Use T2	0.38**	-								
3. Alcohol Use T3	**0.55**	**0.48**	-							
4. Alcohol Use T4	0.49**	**0.71**	**0.47**	-						
5. Alcohol Use T5	0.59**	0.36*	0.43**	0.40**	-					
6. Depression T1	0.30**	0.33**	0.09	**0.51**	0.01	-				
7. Depression T2	0.27*	**0.41**	0.28*	**0.54**	0.40*	**0.61**	-			
8. Depression T3	0.16	**0.52**	**0.42**	0.28*	-0.06	**0.54**	**0.57**	-		
9. Depression T4	0.22	0.17	0.06	0.18	0.24	0.39*	0.47**	**0.64**	-	
10. Depression T5	0.55**	0.52**	0.36*	**0.51**	0.08	**0.69**	**0.68**	**0.64**	**0.54**	-
Mean	0.51	0.76	1.33	1.37	2.24	6.36	5.75	5.56	5.41	4.74
SD	1.17	1.30	1.89	1.90	2.09	4.70	5.71	5.31	5.20	4.77
Skew	0.58	1.28	1.06	1.07	1.23	2.57	2.01	1.30	1.03	0.47
Kurtosis	-0.57	1.22	0.39	0.51	1.02	5.84	3.79	0.46	-0.11	-1.06

Note. Alcohol use scores ranged from 0-6, Depression scores ranged from 0-26, SD = Standard deviation, T = Time, * = $p < .05$, ** = $p < .01$, Bolded = $p < .001$.

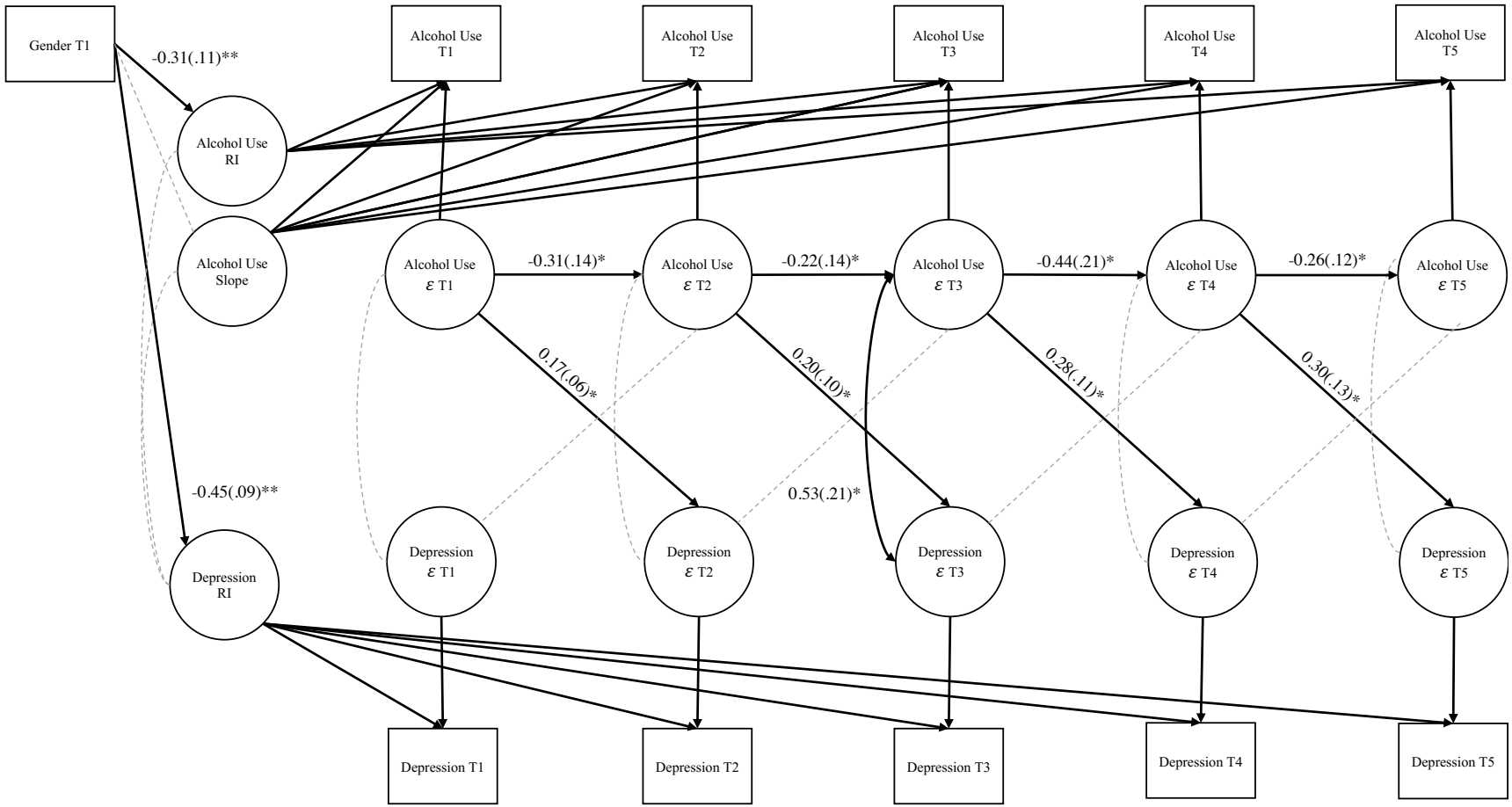
Gender T1
-0.31(.11)**
Alcohol Use T1
Alcohol Use T2
Alcohol Use T3
Alcohol Use T4
Alcohol Use T5
Alcohol Use RI
Alcohol Use Slope
Alcohol Use ε T1
-0.31(.14)*
Alcohol Use ε T2
-0.22(.14)*
Alcohol Use ε T3
-0.44(.21)*
Alcohol Use ε T4
-0.26(.12)*
Alcohol Use ε T5
0.17(.06)*
0.20(.10)*
0.28(.11)*
0.30(.13)*
-0.45(.09)**
0.53(.21)*
Depression RI
Depression ε T1
Depression ε T2
Depression ε T3
Depression ε T4
Depression ε T5
Depression T1
Depression T2
Depression T3
Depression T4
Depression T5

Figure 1. Latent Curve Model with Structured Residuals for Alcohol Use and Depression Symptoms.

Note. Solid black lines are significant and dotted grey lines are non-significant pathways. Betas are reported next to hypothesized significant associations and standard errors are reported in parentheses. Levels of significance were based on unstandardized regression estimates. For simplicity, parameter estimates for latent factor loadings are not depicted. Gender was coded such that 0 = girl and 1 = boy. RI = Random Intercept. T = Time

Chapter 3: Transition to Study 2

Chapter 2 describes the temporal association between negative affect (depression/anxiety) and alcohol use among Indigenous youth from a remote First Nations community in northern Quebec. Specifically, the main objective of Study 1 was to clarify temporal and possible reciprocal associations between negative affect and alcohol use over time with a group of Indigenous youth. We used a longitudinal design and a Latent Curve Model with Structural Residuals to test bidirectional relationships and look at between- vs. within-person effects. At the between-person level, girls reported higher initial levels of negative affect and alcohol use. However, initial levels of negative affect were not associated with drinking. At the within-person level, drinking alcohol prospectively predicted increases in negative affect, but negative affect did not prospectively predict drinking. In turn, alcohol may precede negative affect. This temporal association between drinking and negative affect may be explained by the dual failure model, which suggests that when adolescents drink alcohol they are more likely to experience negative consequences and in turn experience negative affect. The dual failure model has been primarily used in non-Indigenous populations, and therefore is limited in its ability to fully explain alcohol use and negative affect among Indigenous communities.

The risk pathway of drinking alcohol and prospective negative affect must be situated in the context of colonialism and intergenerational trauma. For example, Indigenous youth are more likely to drink alcohol in the first place if they had a parent or grandparent who went to an Indian Residential School (RHS, 2018). Further, when Indigenous youth engage in drinking alcohol, they are also at increased risk for suicide (Cwik, 2018). The link between alcohol use and suicidality has become a prominent concern for many Indigenous communities. To better understand the pathway of alcohol use and suicidality, Indigenous ways of knowing must be

incorporated. While Study 1 examined the temporal sequence of negative affect (a known risk factor for suicide) and alcohol use, Study 2 was complementary by learning about alcohol use and suicide from various Indigenous perspectives and lived experiences in the community. Accordingly, Study 2 used qualitative methods to explore how alcohol use and suicide may be related, the impact of colonialism, and what healing from these mental health problems looks like from an Indigenous perspective. Specifically, the McGill Illness Narrative Interview (Groleau et al., 2006) and the Cultural Formulation Interview (American Psychiatric Association, 2013) were adapted and used as a guide to learn about the experiences of alcohol use and suicidality, as well as help-seeking and coping behaviours from various community members. By learning from Indigenous peoples, Study 2 may provide direction for more culturally meaningful intervention and prevention strategies for alcohol use and suicide risk among Indigenous youth.

Chapter 4: Study 2

Finding peace in family and nature: Indigenous voices on healing from alcohol use and suicidality

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Finding peace in family and nature: Indigenous voices on healing from alcohol use and suicidality

Introduction

Mental health inequities among Indigenous people are well documented in Canada and the United States (Gone, 2023; Greenwood et al., 2015; Kirmayer & Valaskakis, 2009; Kral et al., 2011; Kumar & Tjepkema, 2019; Waldram et al., 2006). In the context of alcohol use, Indigenous peoples appear to experience greater harms related to drinking alcohol compared to non-Indigenous individuals (Indian Health Service, 2018; Singh et al., 2017; Substance Abuse and Mental Health Services Administration, 2019; Centers for Disease Control, 2018). While rates of alcohol use differ across communities, with some communities demonstrating high rates of abstinence (Cunningham et al., 2016; Rieckmann et al., 2012), a high co-occurrence has been found between drinking alcohol and suicidality across various age groups among Indigenous people (Barlow et al., 2012; Cole et al., 2020; May et al., 2005; Wexler et al., 2008). Alcohol use may be acting as a risk factor, facilitator, and in some cases even a method for suicide (Barlow et al., 2012; Cwik et al., 2015). Although the prevalence rates of suicide vary substantially among Indigenous peoples, with some communities showing low rates or no incidence of suicide (e.g., Chandler & Lalonde, 1998), they have been a concern among Indigenous communities as some show elevated suicide rates when compared to the national average in both Canada and the United States (Herne et al., 2014; Kumar & Tjepkema, 2019).

Colonialism has been identified as a primary determinant of the mental health disparities observed among Indigenous peoples (Commission on Social Determinants of Health, 2008; Elias et al., 2012; Gracey & King, 2009; King et al., 2009; Thira, 2014). The broad term ‘colonialism’ refers to multiple traumatic events, oppression, and assimilation policies that, with regard to the

North American context, began with the European (and eventually American and Canadian) invaders. Significant traumatic events, including forced displacement to a government imposed reserve system, criminalization of cultural practices, and the forced removal of children from their homes into mandatory boarding schools contribute to this colonial history (Brave Heart & Debruyn, 1998; Duran, 2006; Episkenew, 2009; Frideres & Gadacz, 2008; Lutz, 2008; Morse, 1985; Royal Commission on Civil Rights, 1996; US Commission on Civil Rights, 2004; Wesley-Esquimaux & Smolewski, 2004). Colonialism remains embedded in the fabric of Canada's political, economic, and legal context today. Past and present colonial attacks have led to health and social consequences for many Indigenous communities, including intergenerational trauma, loss of land and culture, systemic discrimination, socio-economic marginalization, and high prevalence rates of mental health problems, such as substance use and suicide (Caster et al., 2006; Chartier & Caetano, 2010; Ehlers et al., 2013; Hatala et al., 2016; Kolahdooz et al., 2015; Kenny & Singh, 2016; Mitchell, 2012; Snowshoe et al., 2015; Snowshoe et al., 2017).)

Western-derived treatment services for alcohol use and suicide are often not culturally meaningful for Indigenous peoples and their communities. Instead, Indigenous people frequently receive treatments that are disrespectful of or irrelevant to their cultural practices and health beliefs (Findling et al., 2019; Glasnapp et al., 2009; Walls et al., 2015). Western-derived services based in biomedicine and individualistic treatments often ignore Indigenous concepts, epistemologies, and perspectives, which only continue to contribute to the misrepresentation and misunderstanding of mental health problems, including alcohol use and suicide risk (Fritzsche et al., 2011; Waldram, 2009). When Indigenous knowledges are suppressed in favor of Western-derived approaches, colonial practices may continue to be endorsed (Bryant et al., 2021; Smith, 2021). In order to provide effective prevention, intervention, and treatment services for

Indigenous peoples, greater collaboration among Indigenous peoples, researchers, governmental bodies, and health practitioners are necessary for a restoration and reconnection to Indigenous cultures and identities (Chandler & Lalonde, 1998; Chandler, 2014; Coser et al., 2018; Gone, 2009; Snowshoe et al., 2017; Snowshoe et al., 2015). As King et al. (2019) argue, "Government, academia, and Western medicine should be cognizant that Indigenous culture historically manufactured good health. Therefore, government, academia, and Western medicine should try to better understand and promote Indigenous epistemology and community-defined evidenced practices and not undermine it." (p. 120).

Many Indigenous communities are turning to their culture and focusing on preservation and revitalization efforts as a way to re-establish well-being among their people (Ballantyne, 2014; Gone, 2021; Ilisaqsivik, 2014; Mikraszewicz & Richmond, 2019; Simpson, 2014; Takano, 2005; Thompson et al., 2018; Tidlumaluk, 2007). One of the most significant educational tools for many Indigenous Nations is the development of a deep relationship with the land, which in turn promotes mental health and well-being (Brown et al., 2012; Tobias & Richmond, 2014; Wilson, 2003 Wilson & Peters, 2005). While traditional practices can vary from one community to another, practicing the values of one's ancestral ways can facilitate the forming of one's cultural identity and sense of belongingness to one's community (Cohen, 1998; Shahid, Bleam, Bessarab, & Thompson, 2010; Struthers & Eschiti, 2004). Indigenous peoples have thrived since time immemorial by developing their ways of living in balance with the natural world and sharing this knowledge through ceremony and traditions. With this in mind, cultural revitalization via intergenerational knowledge transfer is expected to be a promising way forward to address historical and ongoing colonial attacks that subsequently harm Indigenous peoples (Doery et al., 2023; Masotti et al., 2020).

The Current Study

Using qualitative methods, the goal of this study was to listen to Indigenous peoples from a remote First Nations community on how alcohol use and suicide may be related, the role of colonialism on mental health, and how cultural revitalization can promote well-being. We drew on an ongoing 25-year collaboration between researchers and Indigenous people from a remote First Nations community in northern Quebec. Qualitative research can help explain the social and cultural context of alcohol use and suicidality among Indigenous people by direct interviews with community members. Collaborating with Indigenous people and listening to their understanding of alcohol use and suicidality risk and resilience in their respective community may lead to more effective and culturally safe services.

Method

Researchers

An important process in qualitative research is to situate the researchers within the project. By situating ourselves, we recognize those who have come before us and the ancestral roots of the land that we reside on and where the research took place. The first author was a White settler woman, third generation Canadian, doctoral candidate in clinical psychology at Concordia University, which is located on unceded Indigenous lands. The Kanien'kehá:ka Nation is recognized as the custodians of the lands and waters where the university is located. The first author engaged in critical self-reflection in order to be aware of any biases shaped by her background and turned to Indigenous individuals for guidance throughout the research process. The remaining authors and research team included Indigenous scholars and other scholars from diverse racial, ethnic and cultural backgrounds.

All of the authors are invested in raising awareness and understanding the mental health of Indigenous peoples, including risk for alcohol misuse and suicide which has been linked to the long history of colonization and assimilation. We participate in collaborative and community-based participatory action research, meaning that Indigenous peoples have an active role in taking part in the research process from the hypotheses to knowledge translation (The Canadian Institutes of Health Research, Natural Sciences and Engineering Research, & Social Sciences and Humanities Research Council of Canada, 2014; Kemmis & McTaggart, 2000). Through a long-time collaborative relationship, the community expressed interest in research projects on Indigenous youth well-being and academic success. Over time, they also expressed an interest in exploring issues related to substance use. Key knowledge holders in the community have overseen all of the research projects, including approval of research measures, methodologies, and interpretations of results. All of the authors have research and/or clinical experience in working with Indigenous peoples. This study was part of the first author's doctoral dissertation.

Setting and Participants

Research was conducted at the local community school, community health centre, and cultural centre in an Indigenous community in Northern Quebec, Canada. The participants self-identified as First Nations, Métis, and Inuit and included youth, band members, school administrators, parents, and respected Elders from the community. The participants were from diverse age groups and genders. The participants were recruited using snowball criterion sampling. Key knowledge holders in the community helped to identify individuals who would be interested in participating in the interviews. A town hall meeting was hosted by the first author to introduce /situate herself and to provide a summary of the research project to the community. A meal was shared by meeting attendees and those interested in participating were invited to

schedule an interview. All of the participants provided consent. We interviewed a total of 13 adults and 1 youth. Prior to recruitment, approval was obtained from the researchers' Institutional Review Board (IRB protocol # 30009641).

Data Collection Procedures

Recruitment for this study took place over 1 year (June 2018-February 2019). Data collection continued until the researchers determined that information saturation had been achieved. Interviews were conducted by the first-author (AR) in English and audio-recorded. The McGill Illness Narrative Interview (MINI; Groleau et al., 2006) and the Cultural Formulation Interview (CFI; American Psychiatric Association, 2013) were both adapted to obtain information about the impact of culture on alcohol and suicide risk and resilience. Both measures were designed to be used and adapted for any individual from any cultural group (Groleau et al., 2006; Aggarwal et al., 2020). A key community knowledge holder also approved the use of both measures for the interview. The MINI is a semi-structured (46 question) interview used to elicit experiences and narratives of alcohol, suicidality, and help-seeking behaviours. For the purposes of the current study, the MINI was edited to 36 questions. The CFI is a brief semi-structured (16 question) interview used to assess cultural factors relevant to mental health. For the purposes of the current study, it was used as a checklist to ensure that responses to the MINI covered how culture influences the definition of the problem, the cause, stressors, supports, identity, self-coping, past help-seeking behaviours, and barriers to help-seeking. If a topic on the CFI had not been asked/responded to by way of the MINI, then it was asked. Once all topics of the CFI were checked off, the interview was brought to a conclusion. Specifically, each interview ended by asking participants if they had anything else to add and if they had any questions prior to wrapping up the interview. Participants were paid $20 per hour at the end of the interview.

Data Analysis

All of the interview data were transcribed verbatim by a Texas-based professional transcription company, Rev, and were entered into NVivo 12 (QSR International Pty Ltd) software after de-identification and quality-checking transcripts for accuracy. Conventional thematic content analysis was used for categorizing codes and identifying shared themes following the 6 phases of thematic analysis by Braun and Clarke (Braun & Clark, 2006; Hsieh & Shannon, 2005). Conventional thematic content analysis is best suited to explore complex phenomena, understanding participants' perspectives, and possibly generating insights for theory development. Phase 1 began with developing a broad familiarity with the entire data, reviewing the data, and noting ideas as preliminary codes. This was achieved by reading and re-reading transcripts and noting initial impressions. In phase 2, we systematically generated initial codes based on the entire corpus of data, and organized data relevant to each code. A code book with differential definitions and specific examples was created. In phase 3, initial identification of potential themes and the organization of the codes into these themes was completed. Themes were reviewed with a broader research team for input around clustering and conceptualizing the codes into themes. Phase 4 involved a process of reviewing, refining, and restructuring codes and themes to ensure that they worked in relation to the coded extracts and the entire dataset. Once this process was completed, themes were reviewed and verified by a second researcher. Final themes were defined and named in phase 5 after careful analysis of the specifics of each theme. The two researchers involved in this process (AR and EB) met to review the materials and reached a consensus via discussion on the identified themes. Last, in phase 6, we finalized the selection of quotes and reviewed and confirmed the analysis in addition to relating the analysis back to the research question. Key knowledge holders in the community provided feedback on

the interpretation of the interviews in order to incorporate Indigenous knowledge and ensure accuracy.

Results

The mean length of the 14 interviews conducted with Indigenous community members was 92 mins (ranging from 41 minutes to 1533 minutes). The results were organized into four main themes to best understand alcohol use, suicide risk, and resilience within this community. The first theme was alcohol and suicide risk as a post-colonial problem, the second was on various ways to heal from struggles with alcohol and suicide, the third on barriers to recovery, and the fourth on the next steps in treatment for problems with alcohol and suicide.

Alcohol Use and Suicide Risk as a Post-Colonial Problem

While all of the participants were able to discuss problems with alcohol use and suicide, they did not have a specific inherent term in Indigenous culture to explore these issues. Problems with alcohol and suicide appeared to be a post-colonial concept for this community. Several of the participants explained that drinking alcohol was not part of the way their ancestors lived:

> I would love to see people living in the country and stay there. My ancestors did it, why can't we do it? There was no alcohol there. There was no drug abuse there. There was no gambling there. You gambled your life… struggled to survive, to eat, to trap, but that's it… The only stress that you probably had was, is there enough wood for the night? Is there enough water? … The good stress, not the bad stress. (Participant A)

When asked about their perception of suicide and alcohol use causes, both alcohol use and suicide risk were described as stemming from emotional pain and traumatic experiences secondary to historical trauma and colonialism. For example, one participant shared that drinking

alcohol arises from a loss of culture and identity, which is being passed on from generation to generation:

> I guess like my grandparents losing their culture and traditions… They kind of felt lost and they turned to alcohol… All their pain and loss just keeps going to the younger generations… The biggest thing is feeling lost. Like we don't know who we are anymore as Indigenous people. So we don't really know where to turn to. Like we don't belong in our culture but we don't belong in the white culture either. (Participant B)

Struggling to belong to their culture has been exacerbated by judgment related to cultural practices and traditions. Many community members described a conflict between religion and spirituality, which stemmed from a series of government actions (e.g., the Indian Residential School system, federal Indian day schools, the Indian Act, and the "Sixties Scoop"), in addition to intergenerational trauma:

> There's still people that are kind of scared … Elders were taught, "stop, don't practice your spirituality. You have to believe in the Bible, that's the right way." So, there's still a lot of people that think spirituality is wrong. (Participant B)

In turn, a division has been created in the community between those who practice (Christian) religion and those who practice (Indigenous) spirituality, disrupting the sense of connection among members. "Well some of the people are against that. There are two different religions [practicing Native Culture vs. practicing Christianity] here eh?" (Participant C). This disconnection among individuals in the community can lead to isolation, distress, and loss, given that one's community is one's family no matter the blood relation.

This emotional turmoil rooted in colonialism and the division among community members can put individuals at greater risk for drinking to cope: "There is so much pain when

somebody's drinking or taking drugs, it's because they're in pain and they want to feel different" (Participant B). Another participant expressed that some people in the community turn to alcohol as a means to forget their distress and that these same individuals can then be at risk for suicide: "They go to booze… to just forget about it… If they didn't drink, they probably wouldn't do that [attempt suicide]… It's just the booze… it always gets involved when somebody does suicide" (Participant D). Almost all of the participants emphasized how the alcohol t provides one with the impulsivity to attempt suicide: "They've always come together [alcohol use and suicide] because it [alcohol] always was the part where it is giving you that push… it's not you" (Participant E).

Together, both alcohol use and suicides in the community have brought forth a newfound grief. One participant explained that when someone has an alcohol problem in the family, the whole family is impacted: "You suffer too because of the family drinking" (Participant F). Many participants also identified an all-consuming sense of grief following a completed suicide and/or alcohol-related death, leading to an increased risk for drinking and suicide for themselves: "The pain I had was grief, but I just took drugs and alcohol just to forget it" (Participant G). Another participant said: "After I lost them, everything fell apart for my family… I started drinking, started doing drugs, I didn't care about anything" (Participant H). As shown by this and other participants, interventions needs to target not only those individuals who are currently drinking alcohol and are at risk for suicide, but, also their families.

Healing Pathways Involve Community and Connection to Children

Many of the participants identified the importance of coming together as a community to heal from struggles with alcohol and suicide. Coming together would entail sharing circles and specifically sharing lived experience with alcohol and suicide: "Talking, we need a lot of talking

here. Talking about the life experiences" (Participant H). Another participant described the importance of breaking social isolation when struggling with addiction and suicidal thoughts: "They need to hear more like people and their experiences. Maybe… they can hear that "okay, I'm not the only one… I won't be scared to find help" (Participant C). Another participant explained that by sharing their experiences, the people in the community can reconnect as a family: "Family, that's what we need. Everybody needs here" (Participant H). A greater sense of 'family' with one's Nation may also build resilience against alcohol and suicide risk.

Many participants spoke about using the community radio as an avenue to share their lived experience to help those who are struggling:

> I would probably say shooting it [information on alcohol use and suicidality in the community] out in the public would probably be the best way… I always try to situate myself with the local radios… We pass information throughout the day. Well, why not give them work? Why not give them pamphlets saying that if you're looking for help…just pass out information saying that the first stage is probably to just be yourself, to overcome fear. Nobody's going judge you. Something to that effect. You know, it's, make them be the messengers you know… (Participant A)

By sharing information and stories on the radio it would spread across the community very easily as most people listen to the radio daily: "Yeah, it's just, whoever feels like talking on the radio to tell what experiences they had so a lot of people can hear that" (Participant C). In turn, members of the community can also feel more connected to one and another.

Turning to cultural traditions and activities may also help the community come together as a family. One participant explained that practicing traditions and hosting cultural ceremonies can bring people in the community together and build a sense of family amongst each other:

"Just a lot of the ceremonies too or the gatherings makes you feel like you're family" (Participant B). Participants shared that feeling like you belong to a family can both prevent and help one overcome difficulties with alcohol and suicide by connecting individuals with positive role models in the community. For example, one participant explained that individuals who are struggling need reasons for living, and a role model could provide those reasons: "You need role models… people to make you realize that there's more to life than drinking or … hurting people, hurting yourself" (Participant H). Having positive role models may be particularly important for the youth of the community. Many of the adults interviewed suggested that they did not have support when they were young and that it is important to try and support the youth of the community as much as possible:

> Having somebody when I was younger and working on my problems at an early age… we didn't have enough support when we were younger…I think a lot of kids do want to deal with it. They just really don't know where to turn to or they're shy… (Participant B)

Many suggested that positive role models for the youth could help in teaching and involving youth in cultural activities:

> Some of them have good family member or role model that are really involved in traditional spirituality, or traditional activities, and stuff like … the drum or the singing... They like to learn about it, and I think it's something that they're interested in too... I think some of them, they just don't have access to it. (Participant I)

Given that some of the youth in the community may not have access to someone in their family who is practicing ancestral traditions, connecting youth to the community at large may be beneficial in helping youth turn to prosocial activities and reduce their risk for alcohol use and suicide.

Another type of support that was described as most helpful for someone who is struggling with alcohol and suicide was to feel loved and cared for by others in the community. “You can’t change him, we can’t do the work for him…the only way we can help is …give him unconditional love” (Participant E). The same participant even suggested that this may be a step in ending intergenerational trauma by showing the younger generations unconditional love, which in turn can boost their self-worth and make them less likely to commit lateral violence. “I want them to, to have at least some part of what we should have been given… Unconditional love, without having to feel like you had to earn it” (Participant E)

Many of the participants believed that feeling that no one cares for you and feeling unlovable exacerbated problems with alcohol and suicidal thoughts. Moreover, as one participant described, it’s not only important to care, but to also be vocal about caring and loving one another:

> What surprises me sometimes is people have this family support and yet they feel they're so alone, that nobody cares you know. But people care. I don't know what it is they need. Maybe they need somebody to say, "I care." (Participant J)

Some participants discussed the potential benefit of a community centre as a way to foster community connection. The community centre could help build a sense of belonging for individuals and provide opportunities to be vocal about their care for one another: “[having a] support centre, somewhere to go, adults, kids, anybody. There should be a centre here to go to and get help, or just talk to people. Some kind of a friendship centre” (Participant H).

A friendship centre could also lend itself to individuals who are returning home following treatment for problems with alcohol and/or suicide outside of the community. Most of the participants discussed when individuals return to the community from treatment centres, they are

vulnerable to relapse and therefore need additional support. One participant said there is no better time to come together as a community to celebrate someone who has returned from treatment:

> We're here for you. Like I said, it's a big family. We should commemorate these kids, or an adult… You've went out, you've gone for three months, you came back, you look like a new person. Today, we're gonna have a supper for you, a feast… (Participant A)

These gatherings would help individuals returning from treatment to reconnect to their 'family,' feel cared for, and in turn build resilience against relapse.

A central piece of discussion among the participants was that children are at the heart of the family and community. The participants repeatedly identified the children of the community as a reason for healing, recovery, and living. One participant shared how their recovery was centered around their children, "My kids. It was always about them… it's for my kids" (Participant C). Another participant shared: "Some people stop drinking because they have kids and then realize that they want a better future for their kids" (Participant B). Taken together, children promote motivation for both an individual to heal from alcohol use and suicide risk and for the community to move towards intergenerational wellness.

Stigma, Shame and Lack of Culturally Sensitive Care as Main Barriers to Recovery

All of the participants were able to provide insights into the barriers to healing and recovery from alcohol and suicide problems. Many of the participants identified lateral violence, including a fear of judgment, which held them or others back from seeking help and/or helping others in their own community. For example, one participant explained that while a person from the community may try to help others by sharing their recovery story, that same person may be judged harshly for their past and not taken seriously:

> They bring up the past of the person who's trying to help others now. Like what they went through, they want to help. You know, some people they don't trust each other… especially pointing finger. Labeling. You know, "He thinks he's all it, he used to do this [use substances]." (Participant D)

If members in the community do not feel safe to share their stories and to seek help from their own community members, they may choose to suffer in silence. "People don't want to step out of their bubble because they're scared of what somebody's going say to them" (Participant K). In turn, these individuals' mental health may worsen and they may also begin to isolate themselves even more from the community.

Barriers that individuals who try to seek help face are the lack of resources that are available to these communities and the lack of Indigenous-tailored treatment. One participant described non-Indigenous treatment centres that are located outside of the community as not helpful, at best:

> Going into a non-Indigenous treatment centre is something that I think doesn't help because they don't understand us. They don't understand what we're going through, what we've been through… They don't know what it is like to live in, on a reserve, or all the intergenerational trauma. (Participant B)

Additionally, not everyone has access to external resources. For example, one participant explained that the Wellness Team in the community will select a person from a waiting list to go to therapy and some people in the community may never have the chance to go to these treatment centres: "I want to go for the therapy. They never gave me an answer back. It's been a year now, a year and a half" (Participant L). Given that there is no therapy or treatment centre offered in the community, there is no additional follow-up offered once the person leaves the

treatment centre: “When they come back here, their friends are still using. Their family members are still using, and it's hard for them to come back and stay sober” (Participant I).

A lack of services and/or follow-up in the community often meant that the gains made outside of the community were difficult to maintain once they returned home, which also meant that the individual would again be placed on a waiting list for another round of treatment, if it is even offered. Another participant said that going to therapy is not enough and that more resources should be invested in the community: “When you send somebody to therapy, that doesn't mean your job is finished. There should be other support…” (Participant J). The limitations of therapy and a strong need to move towards community-based interventions that may better incorporate Indigenous ways of knowing were common themes.

Returning to the Land as the Way Forward

Many of the participants said that returning to the land for identity, healing, and recovery would be of outmost importance. The participants' voices reflect a holistic approach to healing and recovery, underscoring a deep and spiritual relationship with their ancestral lands. Through the participants’ voices, the land was not merely perceived as a physical space but also a repository of their cultural heritage, traditions, and spirituality. For example, organizing camping trips for people of all ages would build a sense of connectedness*:*

> To live, to use the land… Have a cabin… A lake where the fish is plentiful. We can hunt… Have a beautiful view of waking up and drinking your coffee. Just being out there and just to know that everything is going to be okay… You're trying to help yourself and you've got people helping you, you've got Elders… the women… or men from the community to come and cook. Eat off the land… learn from off the land. It's never too late. (Participant A)

Another participant explained that being out on the land also provides a safe space and allows individuals to communicate better: “There’s no communication at home. But when you’re in a tent, everybody sits down, everybody’s the same height, everybody talks, different atmosphere” (Participant H). Another participant also expanded on the sense of peace that can be found out on the land:

> I think the best place would be out in the wild, the land. There's peace there. There's connections, connection to the land, culture, then your identity. You find peace there, then it gives you more, a clear picture cause there's no distraction. There's no phone, there's no technology, there's no Internet, no social media. (Participant J)

Revitalizing Indigenous cultures and traditions, such as building a strong connection with the land, can strengthen relationships among community members, build a strong sense of identity, and help people heal from post-colonial problems such as alcohol use and suicidality.

Discussion

We explored Indigenous knowledge of alcohol use and suicidality in a remote First Nations community in northern Quebec. Through the voices of 14 Indigenous people, we explored causes, healing pathways, and barriers to recovery that need to be addressed. The majority of the interviewees identified colonization as the root problem that led to alcohol use and suicide risk. They also identified cultural revitalization as the way towards healing and recovery. These perspectives are in line with extensive and multidisciplinary research (including the field of psychology, psychiatry, sociology, social work, anthropology, and public health) pertaining to the promotion of well-being of Indigenous peoples (Duran 2006; Gone, 2021; Kirmayer et al., 2003; Thira, 2014; Weaver & Yellow Horse Brave Heart 1999; Whitbeck et al. 2004; Yellow Horse Brave Heart 1999).

Understanding alcohol use and suicidality as rooted in systemic and structural factors, rather than intrapersonal factors, was apparent in our study. No participants had a cultural term or definition related to these problems, potentially underscoring the absence of these problems in their pre-colonial Indigenous communities. Instead, most participants said drinking alcohol and problems with suicide risk in their community were not problems prior to colonization. This void in their linguistic and cultural landscape speaks to the devastating impact of colonization and its consequences on mental health among Indigenous populations. It underscores how colonial agendas aimed at undermining Indigenous cultures and introduced foreign elements that brought about profound mental health challenges. This is consistent with evidence of the negative impacts of colonization and assimilation (Brave Heart, 1998; Bombay, 2014; Gone 2021). The participants in this study highlighted the need to address the profound grief that follows colonization. They explained that this complex grief can lead someone to drink alcohol to try to cope with a disruption to their identities and cultural practices, the experiences of trauma, and the loss of loved ones. Given this finding, further research is warranted to explore the lived experience of complex grief as an outcome of colonization.

While many researchers have explored alcohol use (Reynolds et al., 2023; Skewes & Blume, 2019) and suicide risk (Elliott-Groves, 2017; McQuaid et al., 2017; Shaw et al., 2019) as a consequence of colonization, few have examined the temporal association between alcohol use and suicidality. Instead, most of the literature simply provides empirical support that there is a high co-occurrence between substance use and suicidal behaviour (Barlow et al., 2012; Cwik et al., 2015; May et al., 2005; Wexler et al., 2008). In order to begin to address this gap, we asked the participants specifically about the temporal association between alcohol use and suicidality. Most of the participants agreed that alcohol use precedes suicide risk. They explained that

alcohol allows a person to attempt to take their own life and if they were not under the influence of substances, they would find other coping strategies to deal with their pain. This finding provides direction for future research and possible prevention and intervention strategies by highlighting the need to address substance use to mitigate risk for suicide.

Beyond understanding the context and temporal association for alcohol and suicide risk, we sought to explore potential pathways towards healing and recovery. All of the participants emphasized the need to feel supported and loved by their family when struggling with substances and suicidality. Words of affirmation were one of the key ingredients to building the feeling of being loved and cared for. This is in line with recent findings on the importance of family support and love in building resilience against alcohol use (McKinley & Scarnato, 2021). However, our study is one of the first to explore support and love beyond the immediate family. Specifically, most of the participants explained that support and affection was not only important from blood-related family members but also from the community as a whole. Feeling cared for by the community provided individuals with a sense of belonging and promoted both healing and resilience against alcohol use and suicide risk. This finding is consistent with evidence that a sense of belonging to one's community is an important protective factor against alcohol use and suicide (Mohatt et al., 2014). Similarly, research focused on suicide prevention has highlighted the importance of community level change, such as adults in the community providing support to youth and taking part in activities with youth as protective, rather than change in individual level outcomes (Allen et al., 2009).

As the participants identified support from community members as important in healing and building resilience, creating support systems in the community may be most effective, rather than sending individuals for treatment outside of the community. Indeed, many participants

explained that it would be most helpful to be connected with people in the community that have lived experience recovering from problem alcohol use and suicidality. Peer-to-peer support in the community would further enhance connections among community members. Indigenous community members may indeed be best suited to support individuals who are struggling, rather than non-Indigenous professionals who are more likely to be found in treatment centres outside of the community and who often lack local and cultural knowledge (Wexler & Gone, 2012). Providing access to more services within Indigenous communities would help fill a major gap in the current health care system for Indigenous people. For example, the participants voiced concern over not having access to any services within the community for problems with alcohol use and suicidality. Skewes and colleagues (2024) provide a good example of a culturally-grounded intervention that can be facilitated within Indigenous communities in order to promote recovery from substance use. The intervention incorporated both evidence-based practices and cultural lessons. Most important, it was deemed feasible and acceptable by the Indigenous community. Investing in community services that incorporate Indigenous ways of knowing helps us move away from only incorporating western notions of wellness that focus only on the individual and towards interventions that include a person's family and community (Evans-Campbell, 2008; Schultz et al., 2016). Therefore, future research should continue to investigate how to tailor more interventions that can be accessible to Indigenous communities, without relying on sending people out of their respective community for treatment.

Connecting to the children of the community was also emphasized throughout most of the interviews. Many of the participants explained that children are at the heart of the community and are a reason for living. Indeed, many communities view children as gifts from the Creator that bring life to the community and the future of Indigenous peoples (Cajete, 2000; Day 2016;

Red Horse, 1997; Kagagley, 2000). The participants expressed much love to their children and hope for a positive future for their children, which often allowed them to stop using substances and feel that they have a purpose for living. Our study highlighted how many individuals in the community have been actively trying to revitalize loving behaviours towards their children and transcend the effects of colonialism and historical oppression. Revitalizing loving behaviours toward their children highlights the value of promoting intergenerational relationships and wellness. Future researchers may want to explore the role of love for children in promoting resilience against alcohol use and suicidality in the community, how to strengthen relationships between community members and children in general, and the role of intergenerational wellness within Indigenous communities.

In order to build healthy relationships among all community members, the lateral violence that is ongoing in some communities must be addressed. Lateral violence occurs when an individual from an oppressed group directs their anger toward members of their own culture rather than toward the oppressor (Australian Human Rights Commission, 2011). For Indigenous peoples, this lateral violence stems from a history of oppression by settlers and the ongoing colonial system (See Whyman et al., 2023; 2022 for a review). Most of the participants identified lateral violence as a barrier to seeking support from people in their community. Fear of judgment and shame often led individuals in the community to self-isolate when struggling with substances and/or suicidality. Moreover, this same fear prevented many with lived experience of recovery from alcohol use and suicidality to share their story and provide peer-to-peer support. At times, this led individuals to seek support outside of the community, if it was even available. Unfortunately, this also meant that if an individual was lucky enough to have access to any services, it did not mean that it would be culturally sensitive. Therefore, a key area that needs to

be addressed is how to dismantle the structure or system of colonialism in order to stop lateral violence from occurring among Indigenous peoples (Whyman et al., 2023). In turn, this may also help empower Indigenous communities and peoples to create their own sources of support in their respective communities. Greater support in the community would allow for better tailored and more easily accessible intervention and prevention programs that would address alcohol use and suicide risk and resilience.

As a result of colonialism, mental illness is often defined and based on Eurocentric norms and definitions, rather than incorporating Indigenous knowledges, which may continue to perpetuate mental health disparities (Duran & Duran, 1995; Durie et al., 2009; Gone 2013, 2009; Waldram, 2009). All of the participants stressed that it is imperative for prevention and intervention strategies to incorporate cultural practices. Returning to living off of the land and finding healing by connecting with nature is where participants believed recovery would be found. They envisioned treatments for alcohol use and suicide risk to be land-based whereby all community members would help individuals reconnect to the land through hunting, fishing, camping, and living off the resources of the land. Incorporating land-based initiatives as part of the treatment for alcohol use and suicidality would be directly in line with Indigenous ways of life which are embedded in the land (Tobias & Richmond, 2014; Wildcat et al., 2014; Zoe, 2012) and where a connection to the land promotes Indigenous health and well-being (Kant et al., 2013; Richmond & Ross, 2009). Moreover, in Canada, there is a surge of Indigenous people revitalizing land-based initiatives to strengthen communities and heal from past and ongoing challenges related to colonization (Ballantyne, 2014; Gone, 2021; Gone & Kirmayer 2020; Ilisaqsivik, 2014; Mikraszewicz & Richmond, 2019; Takano, 2005; Thompson et al., 2018; Tidlumaluk, 2007).

Limitations and Future Directions

This study has some limitations. One, the project is limited to Indigenous people from a single First Nation in northern Quebec. We consider this study to be a first step in gathering information from various communities independently about ways in which each respective community show similarities and differences in the risk, resilience, and recovery of alcohol use and suicidality. Two, the study was limited by the small number of participants. While a smaller number of participants is common in qualitative research, the involvement of more participants, especially youths, would have been beneficial. In particular, there were not many youths who participated in the study. Three, while the study did not directly disentangle the temporal association between alcohol use and suicide, the participants in the study provided lived experience and insight on this association by suggesting that alcohol misuse may lead to suicide risk. The insight gained through the lived experience of this community provides direction for future research. Four, the leading author and interviewer were non-Indigenous and an outsider to the community, and therefore had limited knowledge of the experiences of alcohol use and suicide in the community, which may have impacted the level of questioning used during the interviews. To compensate, at the end of each interview, the participants were encouraged to add anything else they felt was relevant to local Indigenous knowledge of alcohol use and suicidality. As the discipline promotes research led by Indigenous researchers and communities, Indigenous knowledges and perspectives on alcohol use and suicide resilience will be better represented in the scientific literature leading to more effective prevention and interventions strategies.

Conclusions and Implications

This study shares the knowledge and experiences of Indigenous people from a First Nations community in Northern Quebec. These Indigenous voices highlight that colonialism is

the structure through which alcohol use and suicidality have negatively impacted the mental health of Indigenous people. This is in line with the turn in research to move beyond individual risk factors and towards understanding the social and structural sources that have led to mental health problems including alcohol misuse and suicide risk (Brave Heart, 2003; Gone 2021; Leenaars, 2006; Walls et al., 2014; Wexler, 2009). Healing and re-establishing well-being for this community includes building a sense of family among all community members, cultural revitalization, and engaging in land-based activities, which is consistent with the call for "culture as medicine" (Basset et al., 2012; Walters et al., 2020).

Our findings have several implications for community leaders, health-care providers, and governmental officials. One, Indigenous communities should acknowledge and address the stigma, judgment, and lateral violence that is evident in some communities, which may prevent individuals suffering from problems with alcohol use and suicidality from seeking support in the community. Fostering a culture of acceptance and understanding may be most helpful in order for individuals in the community to disclose their struggles with alcohol use and suicidality to other community members. Two, a safe environment where individuals can share their lived experience in order to support one another may both strengthen the community and promote resilience against alcohol use and suicidality. Encouraging individuals to share their lived experience is consistent with Indigenous ways of sharing knowledge (i.e., sharing circles) and may lead to an understanding of culturally-appropriate support and interventions for alcohol use and suicidality among Indigenous people. Three, in addition to better understanding and learning from past assimilation policies and their deleterious impacts on the well-being of Indigenous people, governments at all levels need to continually question current policies and the extent to which they support cultural revitalization.

Researchers should continue to explore how Indigenous peoples can heal from the atrocities that they have faced by listening to their lived experiences and incorporating Indigenous knowledges into prevention and intervention programs that target alcohol use and suicide risk. The stories of lived experience will also be critical to highlight the resilience among Indigenous people.

Chapter 5: General Discussion

The broad aim of the present dissertation was to increase our understanding the links between alcohol use, depression, and suicide risk among Indigenous youth in North America. Promoting well-being among Indigenous youth is imperative, given that Indigenous peoples are the fastest growing and youngest populations in Canada and the United States (Government of Canada, 2024; National Congress of American Indians, 2020). Mental health disparities impacting Indigenous youth in North America include initiating alcohol use at an earlier age and experiencing more consequences associated with drinking (Indian Health Service, 2018; Singh et al., 2017; Substance Abuse and Mental Health Services Administration, 2019; Centers for Disease Control, 2018). Indigenous youth are also at risk for a high co-occurrence of drinking alcohol and experiencing depression (Kenney & Singh, 2016; Martinez & Armanta, 2020; Rieckmann et al., 2012; Warne et al., 2017; Warne & Lajimodiere, 2015). Further, elevated rates of suicide have been reported across some Indigenous communities in North America (Herne et al., 2014; Kumar & Tjepkema, 2019). Intergenerational trauma and colonial attacks (both past and present) have been implicated as the cause and structure of these mental health problems (Duran & Duran, 1995; Durie et al., 2009; Gameon & Skewes, 2021; Gone et al., 2019; Gone 2013, 2009; Kirmayer et al., 2000; Marsh et al., 2015a/b; Waldram, 2009, 2004).

While much of the research has focused on understanding the impacts of colonialism, more research is needed to understand the temporal associations between these mental health problems in order to better inform intervention and prevention strategies. Further, when looking at how Indigenous people can heal from alcohol use, depression, and suicidality, models developed in non-Indigenous populations have shown to be irrelevant at best. Given that Indigenous people have thrived since time immemorial, effective strategies need to be guided by

the perspectives of Indigenous peoples. The overarching aim of the two-study dissertation was to understand the associations between alcohol use, depression, and suicidality, as well as pathways towards healing from these mental health problems among Indigenous youth from a First Nations community in northern Quebec. The goal of Study 1 was to untangle the temporal association between negative affect (a symptom of depression) and alcohol use. The goal of Study 2 was focused on listening and learning from various Indigenous community members on their understanding of alcohol use and suicidality. Through both studies, we found that alcohol use preceded symptoms of depression and that healing from these mental health problems comes from connecting with their community and returning to their traditional practices including strengthening their relationship with the land.

Summary of Findings

Study 1

In general, two dominant models exist in order to explain the co-occurrences between alcohol use and depression among youth. Negative reinforcement theory (Cooper et al., 1995; Kuntsche et al., 2005) suggests that individuals drink alcohol in order to dampen unpleasant emotions, including depression. On the other hand, the dual failure model (Capaldi, 1991; 1992) suggests that drinking alcohol may occur in the larger context of externalizing symptoms, leading to increased negative consequences, and in turn can lead to symptoms of depression. To date, there is little to no research testing both of these models among Indigenous youth. Understanding the temporal association between alcohol use and depression among Indigenous youth may help communities be better informed on how these behaviours unfold, which can then better inform prevention and intervention efforts. In order to tease apart the temporal association between negative affect and alcohol use, we used a longitudinal design and Latent Curve Model

with Structural Residuals (LCM-SR; Curran et al., 2014). The use of these analytic approaches allowed for the examination of reciprocal associations between negative affect and alcohol use over time among a group of Indigenous youth from a First Nations community in northern Quebec. The use of LCM-SR also allowed for the disaggregation of between- and within-person effects, which extends the current state of the literature that has looked at alcohol use and depression among Indigenous youth (e.g., Martinez & Armenta, 2020).

At the between-person level, initial levels of negative affect and alcohol use were not significantly associated after accounting for gender, suggesting that adolescent's initial levels of negative affect were not significantly related to changes in their reported alcohol use across time. This finding differs from previous research whereby depression increased risk for later alcohol use and an alcohol use disorder among Indigenous and non-Indigenous youth (Martinez & Armenta, 2020; Dyer et al., 2019). At the within-person level, individuals with higher than usual reported levels of negative affect did not experience a change in their drinking at the next assessment. On the other hand, individuals with higher than usual reported levels of drinking prospectively predicted higher levels of self-reported negative affect than expected, accounting for their typical level of self-reported negative affect, among Indigenous youth. In turn, alcohol use may precede negative affect. This finding may be in line with the dual failure model and is deserving of follow-up research. The dual failure model suggests that adolescents drinking occurs in a larger context of externalizing symptoms. In turn, these youth are more likely to experience depression (including negative affect) secondary to experiencing more negative consequences. This study is one of the first to tease apart within- and between-person effects and suggest that the dual failure model may be implicated among Indigenous youth. That being said, this risk pathway must also be situated in the context of intergenerational trauma and

colonialism. For example, drinking alcohol was more likely among Indigenous youth who had a parent or grandparent who attended an Indian Residential School (RHS, 2018).

Study 2

Study 2 expanded on Study 1 by situating mental health disparities including problems with alcohol use and suicidality in the context of colonialism. Alcohol use has also been shown to co-occur with suicidality among Indigenous populations (Barlow et al., 2012; Cole et al., 2020; May et al., 2005; Wexler et al., 2008). Suicide rates among Indigenous communities have been concerning, with some communities showing elevated rates of suicide when compared to the national average in both Canada and the United States (Herne et al., 2014; Kumar & Tjepkema, 2019). Indigenous scholars and research have often identified colonialism as a primary cause for these mental health disparities (Commission on Social Determinants of Health, 2008; Elias et al., 2012; Gracey & King, 2009; King et al., 2009; Thira, 2014). In order to understand the impacts of colonialism and move towards Indigenous ways of knowing, Study 2 utilized qualitative methods. Various Indigenous community members from a First Nations community were interviewed in order to learn how alcohol and suicide may be related, the impacts of colonialism, and how cultural revitalization can promote well-being.

Through the voices of 14 Indigenous people, it became apparent that alcohol use and suicidality is a post-colonial problem. Indigenous community members emphasized that their alcohol use and suicidality did not exist amongst their ancestors. Further, they explained that problems with drinking alcohol and risk for suicide typically stems from a loss of culture and identity, which is passed on from generation to generation. This finding is in line with Indigenous scholars who have explored the negative impacts of colonization and assimilation (Brave Heart, 1998; Bombay, 2014; Gone, 2021). Given that alcohol use and suicidality are

viewed as problems rooted in past and present colonial attacks, the community members interviewed highlighted the importance of reconnecting to their ancestral cultures, peoples, and lands. Specifically, many Indigenous people that were interviewed highlighted the importance of strengthening relationships amongst each other and amongst their children in order to support intergenerational wellness. Further, by connecting with one and another, youth in the community would have positive role models who can strengthen their identities and connection to their ancestral culture. Returning to living off of the land and spending more time in nature was also described as a place where peace and healing can be found. Overall, the findings from this study align with the many Indigenous communities that are turning to their cultures and focusing on preservation and revitalization of traditional practices as a way to re-establish well-being among their people (Ballantyne, 2014; Gone, 2021; Ilisaqsivik, 2014; Mikraszewicz & Richmond, 2019; Simpson, 2014; Takano, 2005; Thompson et al., 2018; Tidlumaluk, 2007).

Implications

Several implications and recommendations can be made from this dissertation. In general, the results of this dissertation clarify the link between alcohol use, negative affect, and suicidality among Indigenous people from a remote First Nations community in northern Quebec. Specifically, both studies pointed to alcohol use as preceding negative affect and suicidality respectively. To date, evidence that alcohol precedes depression symptoms has been supported among non-Indigenous populations (McCabe et al., 2023). However, this dissertation may be the first study to show that alcohol use precedes negative affect among Indigenous youth, suggesting that the negative reinforcement model may not be applicable to Indigenous adolescent drinking. In turn, the dual failure model may be implicated in explaining alcohol use among Indigenous youth, such that drinking alcohol leads to negative consequences, which in turn

increases the risk for negative affect. Accordingly, screening for negative affect and suicidality when an Indigenous person presents with an alcohol use problem and vice versa should be considered best practice.

As suggested by various Indigenous community members in Study 2, it is imperative that struggles with alcohol use, depression, and suicidality are understood in the context of systemic factors (i.e., colonization) rather than solely focusing on individual factors. Previous research has shown that drinking alcohol was more likely among Indigenous youth who had a parent or grandparent who attended an Indian Residential School (RHS, 2018), demonstrating the devastating impacts of post-colonialism. Further, various researchers have shown that colonization and assimilation policies have directly impacted Indigenous peoples' cultural practices and identities (Chase, 2012; Sszlemko et al., 2006), which in turn may lead to alcohol consumption and related consequences (Brave Heart, 2003; Ross et al., 2015; Whitbeck et al., 2004; Wiechelt et al., 2012).

While the current state of the research literature is biased towards risk-based models and how colonialism has impacted Indigenous mental health, Study 2 aimed to integrate potential protective and recovery pathways from alcohol use and suicide. For example, many Indigenous community members who were interviewed highlighted the protective role of pairing youth with positive role models who can support their ancestral identities and cultural practices. In turn, these youth may be less likely to affiliate with deviant peers and engage in externalizing behaviours, including drinking alcohol. In Study 2, Indigenous community members also pointed to the importance of adults connecting with their children. Indeed, many nations view children as gifts from the Creator that bring life to the community and the future of Indigenous peoples (Cajete, 2000; Day 2016; Red Horse, 1997; Kagagley, 2000). The participants expressed much

love to their children and wanting a positive future for their children. While much of the existing literature focuses on colonialism and how it has disrupted relationships between parents and children (see Muir & Bohr, 2019, for a review), our study highlighted how many individuals in the community have been actively trying to revitalize loving behaviours towards their children and transcend the effects of colonialism and historical oppression. Our study is also one of the first to explore support and love beyond the immediate family. Specifically, most of the participants explained that support and affection was not only important from blood-related family members but also from the community as a whole. The protective role of parent-child relationships and supportive relationships amongst all community members can have implications for strength-based models going forward by looking at how loving relationships between Indigenous parents and their children, as well as supportive relationships amongst community members can promote intergenerational wellness. Further, prevention and intervention efforts targeting alcohol use, depression, and suicide within Indigenous communities, should focus on the family and the community as a whole rather than the individual person. In contrast, sending individuals for treatment outside of their communities may not be effective as this does not help the individual to feel connected to their people nor their community.

Healthy relationships amongst community members can also promote cultural revitalization and preservation. All community members that were interviewed pointed to land-based initiatives in order to support healing and recovery from alcohol use and suicidality. Specifically, they explained that in order for treatments for alcohol use and suicide risk to be effective, they ought to be land-based whereby all community members would help individuals reconnect to the land through hunting, fishing, camping, and living off the resources of the land.

This finding is in direct support of the current surge of Indigenous people revitalizing land-based initiatives to strengthen communities and heal from past and ongoing challenges related to colonization (Ballantyne, 2014; Gone, 2021; Gone & Kirmayer 2020; Ilisaqsivik, 2014; Mikraszewicz & Richmond, 2019; Takano, 2005; Thompson et al., 2018; Tidlumaluk, 2007).

Limitations and Future Directions

While this program of research has multiple strengths, limitations also need to be acknowledged. One of the main limitations of this program of research was the small number of participants for both studies. Both studies would have benefited from having more participants involved and especially adolescents. Neither study captured youth who are not enrolled in school or did not attend school during the time that the research took place. Having more participants would have allowed for more complex analyses in Study 1 (e.g., the inclusion of externalizing symptoms) and a better representation of Indigenous youths' perspectives on alcohol use and suicidality in Study 2. That being said, we believe that the findings from both studies are critically important due to a dearth of research on this population, and we call for researchers to better include Indigenous youth going forward. Specifically, it would be ideal to test the dual failure model among Indigenous youth in order to tease a part the role of externalizing symptoms as well as the negative consequences that these youths are experiencing. In turn, intervention and prevention strategies could be better informed on how to target alcohol use among Indigenous youth within their respective community.

Another limitation from this program of research is that the doctoral candidate is non-Indigenous and an outsider to the community. This limitation may have particularly impacted the level of questioning during the interviews. Also, all interviews were carried out in the English language, which may have impacted how much participants shared since they did not have the

opportunity to speak in their native language. To compensate, at the end of each interview, participants were encouraged to add anything else they felt was relevant to local Indigenous knowledge of alcohol use and suicidality. Also, to ensure that the results from each study were interpreted appropriately, key Indigenous knowledge holders in the community reviewed each manuscript. While we did our best to make sure that both Indigenous scholars and community members were involved throughout the various stages of this program of research, it would be ideal in the future for more research related to Indigenous well-being be carried out and led by Indigenous researchers and community knowledge holders. Indeed, there has been a shift in the research community to promote Indigenous-led research and self-determination, which in turn can lead to more culturally meaningful interventions and prevention strategies (Allen et al., 2020; Gone & Kirmayer, 2020; Graham et al., 2021; Hayward et al., 2021; Joseph, 2024; Lin et al., 2020; Racine et al., 2022). That being said, there is still a way to go in terms of identifying and evaluating culturally meaningful intervention and prevention strategies that are tailored to the co-occurrence of alcohol use, depression, and suicidal behaviours among Indigenous youth.

Last, this program of research took place in a single remote First Nations community in northern Quebec. Accordingly, we consider our program of research as a ground up approach by focusing on one community. It is hoped that this will inspire future research to gather information from various communities independently, which can help identify the ways in which each respective community show similarities and differences in the risk, resilience, and recovery of alcohol use, depression, and suicidality. Given that Indigenous communities across North America are diverse, it is important that research gathered from one community is not generalized to all Indigenous communities. Accordingly, the research from both studies can be

used as a template for how to identify predictors and mechanisms associated with alcohol use, depression, and suicide among Indigenous youth.

Conclusion

The present dissertation investigated alcohol use, depression, and suicide risk and resilience among a First Nations community in northern Quebec. This program of research was two-fold. First, the findings from Study 1 suggested that alcohol use precedes negative affect among Indigenous youth. Specifically, we found that within individuals, higher-than-usual reported levels of drinking prospectively predicted higher levels of self-reported negative affect (depression/anxiety) than expected (accounting for their typical level of depression/anxiety) among Indigenous youth from a remote First Nations community in northern Quebec. Second, through qualitative interviews, we found that alcohol use and suicidality is a postcolonial problem and that recovery from these mental health disparities comes from strengthening relationships in the community, intergenerational wellness, and cultural revitalization. Taken together, this dissertation provides some insights for possible intervention and prevention strategies that can be culturally meaningful. Also, in support of the resilience that is seen across many Indigenous communities, future research needs to continue to highlight the success and well-being of Indigenous peoples and how stories of success can help to support Indigenous youth navigate away from alcohol use and in turn reduce depressive symptomatology and suicidality.

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Appendix 1: McGill Illness Narrative Interview

***This has been adapted for alcohol use and suicidal ideations, behaviours, and attempts. The order of items has also been adapted*

Section 1. PROTOTYPE NARRATIVE AND INITIAL ILLNESS NARATIVE

1. Have you ever seen, read or heard on television, radio, in a magazine, a book or on the Internet of a person who had a problem with drinking? With thoughts about suicide, made a suicide attempt or died by suicide?

[*Let the narrative go on as long as possible, with only simple prompting by asking, 'What happened then? And then?*]

1b. [*If they answer yes to both drinking and suicide*] Do you think problems with drinking and thoughts about suicide or making an attempt are related?

If YES, how so?

[*This will be used to gauge how the interview should proceed, if these behaviours should be talked about separately or together*]

2. Do you know of anyone in your community who struggles with drinking alcohol?

With thoughts about suicide, made a suicide attempt or died by suicide?

[*Let the narrative go on as long as possible, with only simple prompting by asking, 'What happened then? And then?'*]

3. Did a person in your family ever experience these problems?

4. Have you ever experienced these problems?

[*Let the narrative go on as long as possible, with only simple prompting by asking, 'What happened then? And then?'] [Substitute respondent's terms for 'HP' in this and subsequent questions*.]

5. I would like to know more about your experience. Could you tell me when you realized you had this (HP)?

6. Can you tell me what happened when you had your (HP)?

7. Did something else happen?

[*Repeat as needed to draw out contiguous experiences and events*.]

8. In what ways do you consider your (HP) to be similar to or different from the other people you have known to struggle with alcohol and suicide?

Section 2. EXPLANATORY MODEL NARRATIVE

9a. Do you have another term or expression that describes your (HP)?

9b. Would you describe this (HP) differently to family, friends, other community members?

10. According to you, what caused your (HP)? [*List primary cause(s)*.]

11. Are there any other causes that you think played a role? [*List secondary causes*.]

12. Why did your (HP) start when it did?

13. What happened inside your body that could explain your (HP)?

14. Is there something happening in your family, at work or in your social life that could explain your problem?

[*If answer to #14 is Yes, then ask Q.15*]

15. Can you tell me how that explains your (HP)?

16. What does your problem mean to you?

17. What usually happens to people who have your (HP)?

[*If interviewing an adult ask if this differs for children and adolescents*]

18. What is the best treatment for people who have this (HP)?

[*If interviewing an adult ask if this differs for children and adolescents*]

19. How do other people react to someone who has this (HP)?

[*If interviewing an adult ask if this differs for children and adolescents*]

Section 3. SERVICES AND RESPONSE TO TREATMENT

20. During your visit to the doctor (healer) for your (HP), what did your doctor (healer) tell you that your problem was?

21. Did your doctor (healer) give you any treatment, medicine or recommendations to follow? [List all]

22. How are you dealing with each of these recommendations?

23. Are you able to follow that treatment (or recommendation or medicine)?

24. What made that treatment work well?

25. What made that treatment difficult to follow or work poorly?

26. What treatments did you expect to receive for your (HP) that you did not receive?

27. What other therapy, treatment, help or care have you sought out?

28. What other therapy, treatment, help or care would you like to receive?

Section 4. IMPACT ON LIFE

29. How has your (HP) changed the way you live?

30. How has your (HP) changed the way you feel or think about yourself?

31. How has your (HP) changed the way you look at life in general?

32. How has your (HP) changed the way that others look at you?

33. What has helped you through this period in your life?

[*If interviewing an adult ask if they think this would help youth facing the same problem*]

34. How have your family or friends helped you through this difficult period of your life?

35. How has your spiritual life, culture, faith or religious practice helped you go through this difficult period of your life?

[*If interviewing an adult ask if they think this would help youth facing the same problem*]

36. Is there anything else you would like to add?

Appendix 2: Cultural Formulation Interview

***has been adapted to use as a checklist as the interviewer is administering the above interview*
***Once the topic has been covered the interviewer would place a check mark on the line.*

CULTURAL FORMULATION INTERVIEW CHECKLIST		
CULTURAL DEFINITION	**Alcohol**	**Suicide**
1. Did they **DESCRIBE** how they **VIEW** the problem?		
2. How they would **DESCRIBE** this problem **TO OTHERS** within their network?		
CULTURAL PERCEPTIONS OF CAUSES		
3. **MEANING/CAUSE THEY** give to the problem? ***Get DETAILS on as MANY FACTORS as possible*		
4. **MEANING/CAUSE OTHERS** give to the problem? ***Get DETAILS on as MANY FACTORS as possible*		
CULTURAL PERCEPTIONS OF STRESSORS/SUPPORTS		
5. Sources of **SUPPORT** available? **Get *DETAILS and explore OTHER types of SUPPORTS*		
6. **STRESSOR**S or what makes it **WORSE**? ***Get DETAILS and explore OTHER types of SUPPORTS*		
ROLE OF CULTURAL IDENTITY		
7. Aspects of **CULTURE** that can **HELP**? ***Get DETAILS and as MANY FACTORS as possible*		
CULURAL PERCEPTIONS OF COPING/HELP-SEEKING		
8. What have **THEY DONE** to **HELP** their **PROBLEM**? ***If YES make sure to get as much DETAILS as possible*		
9. Have they sought **TREATMENT**? ***If YES get DETAILS on as many different TREATMENTS*		
10. What has been **HELPFUL**? ***Explore as MANY FACTORS as possible*		
11. What has been **UNHELPFUL**? ***Explore as MANY FACTORS as possible*		
CULTURAL PREFERENCES OF CURRENT HELP SEEKING		
12. What do they **THINK** would be MOST **HELPFUL**? ***Explore as MANY FACTORS as possible*		
13. What **EXPECTATIONS** would they have for **SERVICES**? ***Explore as MANY FACTORS as possible*		
14. Possible **BARRIERS** to **SERVICES/HELP**? ***Explore as MANY FACTORS as possible*		
****CHECKED IF THEY HAVE ANYTHING TO ADD**		