The Effect of the COVID-19 Pandemic on Loneliness, Life Meaning, and Resilience among Indigenous and Non-Indigenous Post-Secondary Students: Improving Academic Success, Inclusion, and Stress Recovery

by

Brooke Erin Welch
B.A., Mount Royal University, 2016

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We acknowledge and respect the lək^{w}əŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

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Abstract

Background Research: The COVID-19 pandemic has likely impacted the *resilience* of Indigenous and non-Indigenous post-secondary students in Canada. Resilience may be negatively impacted by psychological experiences such as *emotional loneliness*, *social loneliness*, and a lack of *life meaning*. These three psychological experiences are exacerbated by lock down measures, quarantining, and cancelled events such as weddings and funerals. Young adults in post-secondary education must already manage challenging developmental milestones, often with unstable social and familial networks. Furthermore, Indigenous students must manage potentially discriminatory post-secondary environments, as well as school curriculums that challenge Indigenous values. Understanding this, school environments require decolonizing improvements that meet the psychological needs of their students in a changing social, economic, and political climate. Improvements to loneliness and life meaning may subsequently improve resilience, in addition to academic success, inclusion, and stress recovery. **Objectives:** This thesis aims to provide solution-focussed data using Indigenous research methodologies. This thesis specifically explores the statistical relations between emotional loneliness, social loneliness, life meaning, and resilience. Barriers to social support options (i.e., counselling, group therapy, clubs, family, friends, etc.) and university-endorsed activities (i.e., jobs, volunteering, leadership roles, etc.) are also explored for their respective impact on experiences of loneliness and life meaning. Students' response rates and Indigenous written responses are then analysed (1) to better understand students' lived experiences, and (2) to uncover decolonizing approaches to improving both on campus social support options and university-endorsed activities. **Hypotheses:** (H1) Students will report *higher* scores on measures of emotional loneliness than social loneliness. (H2) *Lower* scores on measures of emotional loneliness, as well as *higher* scores on measures of life meaning, will predict *higher* scores on measures of resilience. (H3) *Lower* scores on measures of perceived barriers when accessing social support options will predict *lower* scores on measures of

loneliness. (H4) *Lower* scores on measures of perceived barriers when accessing university-endorsed activities will predict *higher* scores on measures of life meaning. **Method:** This thesis incorporates a decolonizing methodology outlined by Hayward et al. (2021). This study utilizes 676 participant responses (3.30% of which identified as Indigenous) from students attending the University of Victoria in a full- or part-time program (Ages: 16-56 years, $M = 20.13$, $SD = 3.84$). Data collection occurred between September to December 2021, allowing for responses over the course of one semester. During this period, students were in the process of returning to campus, with daily national COVID-19 cases around roughly 3,000-4000 individuals (Worldometer, n.d.). Online recruitment methods were completed through the Department of Psychology SONA Research Participation System, and through a listserv utilized by the IACE at the University of Victoria. ***Demographic Questions*** included employment, financial stability, living situation, social circumstances, school status, workload, and the impact of the COVID-19 pandemic on wellbeing. ***Standardized Questionnaires*** included the de Jong Gierveld Loneliness Scale, the Life Engagement Test, and the Brief Resiliency Questionnaire. ***Additional Questionnaires*** were created to assess student experiences when accessing both social support options (i.e., the source for support, the method and frequency of contact, and barriers when accessing) and university-endorsed activities (i.e., valued activities, valued aspects of activities, and barriers when accessing). **Analysis**: At the broadest level, *t*-tests and hierarchical regression analyses are used to demonstrate a theoretical relation between various predictors and predicted variables. To provide more detail, student response rates for various questionnaires are used to contextualize student experiences when seeking social support options and meaningful activities. For an in-depth account of student experiences, four separate thematic analyses are conducted on Indigenous written responses. **Results:** All four hypotheses were supported. Scores of emotional loneliness were higher than scores of social loneliness (H1). Scores of resilience were significantly predicted by scores of emotional loneliness

and life meaning (H2). These findings justified an exploratory analysis, which demonstrated that only scores of life meaning, and not resilience, emotional loneliness, or social loneliness, predicted scores of school satisfaction. More frequent experiences of barriers to social support options or university-endorsed activities respectively predicted higher scores of loneliness (H3) and lower scores of life meaning (H4). These results are complemented and expanded upon by notable response rates and themes identified from Indigenous student written responses. **Discussion:** These results suggest the importance of resolving emotional loneliness and a lack of life meaning among post-secondary students, which may be feasible with the use of social support services and university endorsed activities. This may subsequently improve experiences of resilience and school satisfaction. ***Social Support Options:*** The Indigenous and general sample both preferred informal, offline, and known sources of support; they also preferred face-to-face, texting, video calling, and phone calling as methods of communication. Common barriers to social support options included issues of cost, the perceived severity of their needs, availability, and a perceived lack of closeness with supports. Across all domains, Indigenous participants were more likely to experience barriers when seeking support. Indigenous written responses specifically identified a need for (1) more considerate services, (2) more culturally and racially specialized services, (3) increased time and availability for each student, and (4) lowered costs. ***University-Endorsed Activities:*** The Indigenous and general sample were both more likely to value paid jobs, volunteering, research assistant positions, and off-campus employment, when compared to teaching assistant positions, on-campus employment, or other unpaid positions. They were also most likely to value meeting people with similar interests and gaining knowledge. Students were most likely to face barriers related to a lack of relevant or remote university-endorsed activities. Indigenous written responses suggest an increased need for meaningful, accessible, culturally relevant, and financially rewarding activities. Twenty-one recommendations are offered to decolonize and improve post-secondary settings.

Positionality Statement

My academic and research experiences have informed the development of this topic. Prior to this project, my research interests considered prejudice and systemic discrimination, particularly in the context of agism and ablism. Further, my research experience has emphasized topics of loneliness, community segregation, and suicidal ideation, which have guided my learning for this thesis. As a White woman who is heavily engaged with higher education, I recognize that some interpretations may be influenced by my position. For this reason, I have implemented several safeguards, such as extensively reading Indigenous research and writings, regular consulting with Dr. Chris Lalonde and the IACE, as well as using inductive thematic approaches (see Thematic Analyses for more details) to allow student perspectives to lead. This thesis aims to work alongside the experiences of Indigenous students, in a reciprocal and respectful manner, with a recognition of my embeddedness (and my role) within the context of social, systemic, historic, educational issues.

Just as perfection is the enemy of progress, complacency is the enemy of social justice. For this reason, this project was a cultural auditing process that involved my continuous learning of cultural perspectives, self-reflection, and the breakdown of assumptions about the research process. I recognize that there is no end to the possibilities for institutional and individual improvements that better recognize systemic barriers and the needs of vulnerable groups.

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Introduction

In response to the SARS-CoV-2 virus (COVID-19), necessary public health measures, such as quarantining and physical distancing, have been enacted for 91% of the global population (Connor, 2020). In Canada, pandemic measures have resulted in event cancellations, job minimization, and school alterations (Doreleyers & Knighton, 2020; Government of Canada, 2020cd; Schatz & Whiting, 2020). Given the protracted isolation and increased stress caused by the outbreak of COVID-19, we can expect an ongoing impact on academic success, completion rates, and long-term wellbeing of post-secondary students (Sahu, 2020; Salari et al., 2020; Saltzman et al., 2020; Tran et al., 2020). Under these circumstances, it is important to cultivate *resilience* among students (Green et al., 2004; Green, 2002). *Social* and *emotional loneliness,* as well as diminished feelings of *life meaning,* represent experiential factors known to hinder resilience (Luthar, 2015; Schaefer et al., 2013). This thesis explores emotional loneliness, social loneliness, life meaning, and resilience from the perspectives of post-secondary students at the University of Victoria during the COVID-19 pandemic. Furthermore, this thesis considers the impact of culture on psychological research and emphasizes decolonizing practices to specifically explore the perspectives of Indigenous students. Currently, more research is needed to assess students' perceptions of potential, implementable solutions that could improve both loneliness and life meaning on campus. The solutions explored for this thesis include both improved social support options (e.g., mental health services, mentorship programs, accessing friendships, etc.) and university-endorsed activities (e.g., practicums, jobs, volunteering, research positions, leadership roles, etc.).

Loneliness, Life Meaning, and Resilience

Defining Resilience

Resilience is a complex phenomenon that manifests from multiple, interacting factors (e.g., culture and history; temporal and developmental contexts; social experiences, environmental

resources; biological and psychological differences; and more). Resilience describes the recovery or positive adaptation of individuals or groups in response to stressful life events (Green et al., 2004; Luthar, 2015). Therefore, in coordination with both Indigenous and Psychological perspectives, the individual or collective ability to adapt to stressful circumstances originates in the environment (Kirmayer et al., 2011). Demonstrating this, in Indigenous cultures, the concept of resilience is often holistically and intrinsically interconnected with other concepts, such as health, wellbeing, reconciliation, strength, and understanding (Kirmayer et al., 2011). That is, resilience is created and maintained within a larger set of relations between persons, cultural practices, and traditional lands (Lalonde, 2006; Kirmayer et al., 2011). In this way, resilience can be impacted by one's embeddedness within culture (Wexler, 2014).

In general, post-secondary education offers unique environmental challenges that can negatively influence the resilience of students (Chung et al., 2017; Dawson & Pooley, 2013; Pidgeon et al., 2014). Versaevel et al. (2014) highlight how transitions from high school to university are marked by "change, adjustment, and ambiguity relating to disruptions in routines, security, predictability, and a loss of sense of control" (pg. 4). The authors explain that these changes come in the form of new living arrangements, social networks, financial concerns, job instability, heavy schedules, and academic pressures. For Indigenous students, Western post-secondary education involves the challenge of reconciling two cultures. Given the historical context of residential schooling, as well as continued structural and discriminatory barriers faced by Indigenous students, Western schooling settings may be seen as an unwelcoming and potentially hostile environment (Battiste et al., 2002; Restoule et al., 2013). Thus, the circumstances surrounding post-secondary education in Canada can act to undermine student resilience.

The COVID-19 pandemic presents new and additional challenges to resilience as students must manage altered learning environments (Doreleyers & Knighton, 2020), reduced job

opportunities, financial concerns (Schatz & Whiting, 2020), health fears (Daly et al., 2020), as well as increased mental health challenges, such as anxiety and depression (Béland et al., 2020; Gan et al., 2020; Gratz et al., 2020). These challenges may pose serious, long-term issues for student success and stress recovery, with struggles potentially outliving the end of the pandemic. On a global scale, Azevedo et al. (2020) highlight that over one billion students have been limited in their schooling during the outbreak of COVID-19. By analysing data from 157 countries, they determine that the COVID-19 pandemic could be associated with a 0.3-to-0.9-year loss of average schooling across all educational levels, which has serious ramifications for the long-term earnings and career success of students. In addition to risks of dropping out, Azevedo et al. note that school closures and other pandemic measures may impact ethnic minority groups more severely; this could, in turn, worsen issues of systemic discrimination and create unequal losses of opportunity. As noted by Guerra (2022), the COVID-19 pandemic has likely increased the risk of non-completion among post-secondary students worldwide, with cited examples noted in countries such as Britain, Mexico, and Japan. Non-completion describes any student who does not finish their degree or diploma. The COVID-19 pandemic has increased non-completion rates in Mexico and Japan, and it has increased desires to dropout among enrolled students in Britain. Currently, limited research on this topic has focussed on Canadian populations.

Resilience may play a role in mitigating non-completion among students; however, perceptions of resilience may also bolster student's enjoyment of the academic experience. Students who perceive themselves as resilient may have access to social and environmental resources that buffer experiences of stress. These resources may also promote a greater enjoyment of academic experiences by buffering academic stress and supplying resources that foster academic competence. Currently, there is minimal to no Canadian research addressing associations between school satisfaction and resilience among post-secondary students during the COVID-19 pandemic.

Loneliness and Resilience

The negative effect of loneliness on resilience is supported in an extensive meta-analysis on resiliency research over the past 40 years (Luthar, 2015). Luthar concludes from this analysis that "resiliency rests, fundamentally, on relationships" (p. 780). This statement refers to the significant impact that community and social belonging have on an individual's ability to cope with life stress. This meta-analysis demonstrates that social belonging is more effective than temperament or willpower in improving resilience, although these factors still play some role. Therefore, it is important to understand experiences of loneliness to uncover ways of improving both social relations and resilience.

Loneliness is a psychological state resulting from a perceived incongruence between one's actual and desired social involvement (Ma et al., 2020). Loneliness can be further broken down into social or emotional dimensions (Weiss, 1973). *Social loneliness* is based on the *quantity* of social contact, while *emotional loneliness* is based on the *quality* (Diehl et al., 2018). Those with social loneliness may prefer to see others at a greater frequency than what is currently available to them. An individual with emotional loneliness is actively monitoring how supported and accepted they feel, in comparison to how they *wish* they felt. An emotionally lonely individual could regularly see people, and yet still feel lonely.

Indigenous perspectives improve our understanding of loneliness by embedding it within historical, communal, generational, and organizational contexts. One method of establishing a felt sense of belonging is through *intergenerational community integration*, which occurs through the sharing and preserving of knowledge from generation to generation (Figal & Beagan, 2019). Further, a person's place is seen within the broader social environment, which is benefitted by "self-governance, good leadership, youth participation, [and] quality infrastructure and services", among other factors (Figal & Beagan, 2019, pg. 224). Thus, having either the company of people or a shared

geographical location is not always enough to ameliorate loneliness. Instead, resolving loneliness can involve addressing the systems and structures we exist in, with a need for longstanding efforts of reconciliation. For example, Indigenous experiences with isolation and loneliness are enmeshed with experiences of colonialism and racism. This association emerges from intergenerationally damaging effects on communities, social roles, and family structures (Tonkin et al., 2018). Such isolation is berthed from a history of genocidal tactics, including family separation (Smith et al., 2005), involuntary sterilization (Pegoraro, 2014), and the use of residential schools (Elias et al., 2012). These traumatic experiences act to remove individuals from their families, to reduce the potential for future families, and to disconnect individuals from their cultural community.

In current Western academic environments, individuals of minority ethnic and racial backgrounds continue to face discrimination and a felt sense of otherness (Ideland & Malberg, 2014; Shankar et al., 2013). *Otherness* describes both subjective and objective feelings of being outcasted or perceived as different (Ideland & Malberg, 2014). Accordingly, discrimination can parallel experiences of emotional loneliness because individuals may feel a similar lack of belonging, acceptance, or support from those around them. These experiences can lead to increased dropout rates and worsened mental health among racialized communities (Shankar et al., 2013).

Overall, research suggests that student populations are dealing with high levels of loneliness, and emotional loneliness is typically a greater concern than social loneliness, both before and during the COVID-19 pandemic (Diehl et al., 2018; Labrague et al., 2020). These higher rates of loneliness are understandable because students face additional risk factors for loneliness, such as a higher likelihood of living unmarried, without children, away from family, and with a lower income (Angus Reid Institute, 2019).

During the COVID-19 pandemic, loneliness may be negatively influenced by business and school closures, altered social norms, as well as remote learning, which have further isolated

students. Loneliness and quarantining both show consistent associations with mental health issues, such as anxiety, depression, and suicidal ideation (Beutel et al., 2017; Cacioppo & Hawkley, 2003; Gan et al., 2020; Kilgore et al., 2020, Lei et al., 2020; Luo et al., 2020; Tang et al., 2020). In a study by Hamza et al. (2020), both stress and mental health scores were assessed in post-secondary students in the months of May 2019 and 2020. From this analysis, they found that COVID-19-related isolation and loneliness was significantly associated with *new* cases of mental health concerns among students; that is, those with a previous history of mental health concerns did not show much change in mental health scores after being exposed to COVID-19-related loneliness and isolation. These findings highlight that those students with previous mental health conditions are likely familiar with ongoing isolation and loneliness. In addition to supporting those struggling with ongoing isolation and mental health concerns, there is a serious need to address a new population of students facing isolation- and loneliness-related mental health issues. These experiences can subsequently impact school success and stress recovery. For example, a study by Haugen et al. (2019) demonstrates that the rate of school dropout is significantly predicted by measures of loneliness and coping ability.

In a study by van Tilburg et al. (2020), the authors reported that emotional loneliness, and not social loneliness, were strongly affected by quarantining and physical distancing measures. For individuals who valued frequent social contact, alternative methods of communication with friends and family were quickly adopted (e.g., social media, texting, calling). The researchers identified that emotional loneliness could be incited by a crisis due to the resultant increase in emotional needs. This suggests that emotional loneliness occurs when burdens are perceived to be *larger* than what supports can handle, just as much as when social support are perceived to be *lacking*. As a result of the pandemic, students may have increased needs for support, which may be unavailable, inaccessible, or costly, resulting in increased feelings of emotional loneliness.

This connection extends to culture and racial experiences. For example, in a study by Storer et al. (2020), individuals aged 16-24 years were separated into six focus groups for semi-structured discussions that were focussed on the topic of community. Individuals were identified using the help of three youth-focused agencies. Most of these participants were of an ethnic minority, and all individuals lived in socially isolating circumstances (i.e., disconnected from educational and occupational environments). Certain themes emerged from these discussions, including how isolation can be an essential protective measure to thrive amid interpersonal conflict. Although exposed to discrimination, these individuals did not see isolation and loneliness as forced upon them; rather, it was as a willful choice made to avoid harm. Therefore, resilience may be preserved through choice and solitude when no other option is available. By contrast, for the Mi'kmaq people, resilience is inherently positioned within a social context. By incorporating the concept of reconciliation, resilience is not just an *individual* ability to adapt to difficulty, but a *social* ability to adapt to conflict (Kirmayer et al., 2011). This diverse understanding of resilience demonstrates the complexity of such concepts, and why the relation between loneliness and resilience must be understood within the context of culture.

Given the association between loneliness and resilience, it is essential to explore a variety of methods for individuals to ameliorate loneliness. These methods can be integrated into social support services available on campus. Currently, more research is also needed to assess whether social support options on campus are equally accessibly, acceptable, and beneficial to Indigenous students. Decolonizing social support options is a necessary step in reconciliation. Indigenous individuals continue to face hostile, inaccessible, and ineffective services in Canada, with rightful objections toward Western services due to collective experiences with sterilization and medical mistreatment (Brown & Fisk, 2011; Browne et al., 2016; Gibson et al., 2011; Goodman et al., 2017; Pegoraro, 2014). Culturally specialized and quality social support services are likely needed to

adequately meet the needs of Indigenous and non-Indigenous students (Stewart, 2008). For example, offered services should incorporate Indigenous mental, spiritual, and physical health perspectives; traditions and ceremonies; and discussions with Elders (Figal & Beagan, 2019).

Improved social support services may, therefore, be essential for several reasons. Improved social support services on campus may: (1) ensure students can access valuable and needed social support during crises; (2) reduce loneliness and improve resilience in students; and (3) improve academic involvement and course completion.

Life Meaning and Resilience

Based on available research, *life meaning* is frequently defined as (1) a feeling of purpose; and (2) an engagement with purposeful activities. This purpose involves an individual's contribution and/or placement in their broader world (Kleiman & Beaver, 2013). Paralleling these ideas, *sacred purpose* is a concept in some Indigenous teachings that emphasizes the importance of life meaning; these teachings highlight a collective and individual responsibility to uncover and engage with purposeful intent (Medina, 2014). Purpose and involvement with the broader world can occur through work, school, volunteering, cultural engagements, mentorship, civic and community involvement, creative endeavors, religious involvement, identity, family, or significant life events, among others. As an interconnected factor that influences all areas of life, a loss of life meaning can lead to anxiety, depression, and/or suicide (Glaw et al., 2017); physically, it can increase premature mortality and worsen disease recovery (Steptoe & Fancourt, 2019).

In Western cultures, post-secondary environments provide individuals with additional time to explore their interests and future career options. This additional time allows students a protracted stage of identity and purpose exploration (Arnett, 2000; Moran, 2001). This suggests that, although many students are richly engaging with their life meaning through an engagement with their education, others may be in the process of finding their life meaning.

For Indigenous individuals, life meaning is often strongly connected to culture and community, whereby personal identity is defined by group membership (i.e., familial, societal, and cultural ties) and relations to the land, among other factors (Figal & Beagan, 2019). Entering post-secondary studies creates challenges by reducing access to members of one's community and land (Battiste et al., 2002; Restoule et al., 2013). Consequently, for some Indigenous students, a university education may represent an overt threat to life meaning.

The differences between cultural knowledge and Western academic requirements may also increase the difficulty of creating a sense of coherence. In reference to scientific learning in schools, Aikenhead and Elliot (2010) suggest:

> Indigenous students are expected to set aside or devalue their Indigenous ways of knowing nature; that is, their journeys towards wisdom-in action: Indigenous ways of knowing nature combine the ontology of monism and spirituality with the epistemology of place-based, holistic, and relational, and empirical practices in order to celebrate an ideology of harmony with nature for the purpose of community survival. (p. 325)

Kim (2016) writes that this disconnection between Indigenous and Western scientific philosophies can leave Indigenous students disillusioned to Western methods, and it can alienate them from any involvement in its progress. For example, Kim highlights how Indigenous students are more likely to incorporate verbal and reflective forms of communication that may challenge the dominance of Western standardized methods of surveys and assessments. Indigenous students engaged with the field of science may be required to navigate a hostile environment that disregards their perspectives, or one that demands they forego one part of themselves over another, which in turn could create additional challenges in finding a sense of coherence.

Moran (2001) suggests that the identification of life meaning among post-secondary students implicates four factors: (1) personal beliefs and values; (2) engagement with the social world and leadership roles; (3) physical health and health-related habits; and (4) psychological wellbeing and satisfaction with life. For many people, the COVID-19 pandemic may be challenging values and beliefs, via questions of social responsibility; reducing social and leadership engagement, via business and school minimizations; and worsening both physical and mental health among individuals, via increased health risks and fears. For this reason, it may be expected that the COVID-19 pandemic is also influencing feelings of life meaning.

The four factors proposed by Moran (2001) appear to align with Indigenous conceptions of health and wellbeing, which include (1) cultural and spiritual beliefs and values; (2) inseparability of community and persons; and (3) the balancing of physical, emotional, spiritual, and mental wellbeing (Beagan and Figal, 2019). As such, Moran may offer a perspective on life meaning that encompasses the possibility for cultural differences, although more research on this is needed.

By comparison, White (2020) suggests that a crisis can also be an opportunity to create life meaning. She states that it is essential for individuals to be engaged in meaningful activities, and that collaboration, learning, teaching, and prosocial behaviour can be the foundation of new purpose as people aim to contribute their efforts towards rebuilding from a crisis. In addition, purposeful activities can be a proactive way of gaining control over uncertainty and alleviating boredom. Supporting this, Indigenous perspectives emphasize the importance of occupations, such that "staying busy [is] linked to emotional health, potentially leading to positivity, a sense of purpose, reduced boredom and loneliness, and distraction from troubles, stress, and negativity" (Figal & Beagan, 2019, pg. 223). Research supports these possibilities during difficult times. Schaefer et al. (2013) demonstrate this in a study of 9,022 participants, showing that feelings of life meaning were associated with increased emotional recovery from distressing life events.

This is poignant for students: life meaning can improve the effectiveness of students in completing their schooling endeavours, and in doing so, it can also increase wellbeing and resilience. By (2021) suggests that life meaning can reduce procrastination, while also improving persistence, stress recovery time, and efficiency. Consequently, life meaning can improve one's engagement with their studies and extracurricular activities, thus improving the ability to complete school and acquire employment.

For all these reasons, it is essential to explore methods of promoting life meaning among students. In the context of this study, I am most interested in student access and engagement with purposeful activities, which offer an area for implementable solutions on university campuses. Culturally specialized and quality university-endorsed activities (e.g., practicums, volunteering, leadership opportunities, and job placements) may offer valuable experiences for both finding and strengthening life meaning in Indigenous and non-Indigenous students.

University-endorsed activities may be essential for several reasons. These experiences may: (1) increase career training, which will increase the chances that students are hired during and after the COVID-19 pandemic; (2) encourage meaningful engagement with communities, activism, and the land; and (3) improve academic involvement and course completion.

Objectives

The overarching goal for this thesis is to produce solution-focussed data regarding the psychological effects of the COVID-19 pandemic among Indigenous and non-Indigenous post-secondary students. A second, equally valued goal is to ensure Indigenous perspectives are amplified by using methods that support Indigenous research paradigms.

This thesis specifically explores the statistical relations between emotional loneliness, social loneliness, life meaning, and resilience. To tease apart the role of resilience on academic experiences, an exploratory analysis will be conducted to assess the relation between school satisfaction and

resilience. Further, barriers to social support options (i.e., counselling, group therapy, family, friends, etc.) and university-endorsed activities (i.e., jobs, volunteering, leadership roles, etc.) are explored for their respective impact on experiences of loneliness and life meaning. Students' response rates and Indigenous written responses are then explored to better understand students' lived experiences, and to uncover decolonizing approaches to improve on campus social support options and university-endorsed activities.

Research Questions

This thesis answers the following research questions in the given order:

Loneliness, Life Meaning, and Resilience

RQ1 Is emotional loneliness or social loneliness more prevalent among students?

RQ2 Is life meaning, emotional loneliness, and/or social loneliness associated with resilience?

RQ3 Do emotional loneliness, social loneliness, life meaning, and resilience predict school satisfaction?

RQ4 Do reported barriers to social support options predict loneliness?

RQ5 Do reported barriers to university-endorsed activities predict life meaning?

Social Support Options and University Endorsed Activities

RQ6 When seeking support, who are students' preferred sources, what are their preferred methods, and what barriers have they most frequently faced when accessing services?

RQ7 What university-endorsed activities are most valued, what aspects of activities are most valued, and what barriers did students most frequently face when seeking access to activities?

Thematic Analyses

RQ8 How did Indigenous students conceptualize their experiences with loneliness and stress during the COVID-19 pandemic?

RQ9 How did Indigenous students conceptualize their experiences with life meaning and stress during the COVID-19 pandemic?

RQ10 How do Indigenous students conceptualize their experiences with social support options during the COVID-19 pandemic?

RQ11 How do Indigenous students conceptualize their experiences with university-endorsed activities during the COVID-19 pandemic?

Hypotheses

Quantitative methods will be used to test the follow four hypotheses:

H1 Students will report *higher* scores on measures of emotional loneliness than social loneliness.

H2 *Lower* scores on measures of emotional loneliness, as well as *higher* scores on measures of life meaning, will predict *higher* scores on measures of resilience.

H3 *Lower* scores on measures of perceived barriers when accessing social support services will predict *lower* scores on measures of loneliness.

H4 *Lower* scores on measures of perceived barriers when accessing university-endorsed activities will predict *higher* scores on measures of life meaning.

Method

Hayward et al. (2021) encourage researchers to implement four decolonizing methods to their research: (1) use a strengths-based approach, (2) consider your positionality, (3) use community-based participatory research, and (4) ensure Indigenous data sovereignty. The following research methodology seeks to uphold these four principles in the following ways:

(1) **Strength-based approach.** The University of Victoria was chosen for participant recruitment because of its institutional-level emphasis on reconciliation, respect, and inclusivity of Indigenous students. Indigenous-led organizations at the University of Victoria (i.e., The Office of Indigenous Academic and Community Engagement, or IACE) provided their expertise to both refine methodologies and ensure Indigenous perspectives are amplified. The IACE offers resources and supports to students, faculty, and staff, including financial aid, student welcoming, events, ceremonies, and community and academic information (University of Victoria, n.d.). Without altering or ignoring the statistical results, all data analyses will consider the strengths and positive narratives provided by participating students.

(2) **Positionality.** This thesis emphasizes a collaborative and co-creative approach where the researchers recognize their subjectivity and nonneutral position in the research process. As part of this, I have included a positionality statement that considers my journey, my perspectives, and my identity within the context of this conversation.

(3) **Community-based participatory research.** This study implements methods of community-based participatory research by engaging in discussions with Indigenous-led services at the University of Victoria, such as IACE, to better understand the academic and social needs of students. The expertise of Indigenous people on campus was used to refine the research methods and approve the use of standardized and created measures. The

timeframe for this thesis, as well as circumstances of the COVID-19 pandemic, limited other means of Indigenous engagement, such as face-to-face conversations or focus groups.

(4) **Indigenous data sovereignty.** This study implements the CARE Principles created by the Global Indigenous Data Alliance, which considers four elements: (a) Collective benefit, (b) Authority to control, (c) Responsibility, and (d) Ethics (Boeckhout et al., 2018). This study upholds these principles by both disaggregating, where feasible, Indigenous results from the general sample, and reporting percentages and frequencies for Indigenous participants, even if sample sizes are lower. Ensuring anonymity of participants, the data will subsequently be made available for access through online repositories (e.g., UVic Dataverse) for researchers and Indigenous organizations (e.g., IACE). As part of the reciprocal nature of this thesis, the data collected and analysed will be used in discussions with policy makers at the University of Victoria, to encourage positive changes and a greater recognition of the needs of Indigenous students.

Participants

Tables 1 to 4 present the demographic, school, employment, financial, and COVID-19-related characteristics of the entire sample. Ensuring sufficient power for all regression analyses (Shieh, 2009), this study utilizes 676 participant responses from students who are attending the University of Victoria in a full- or part-time program. The age of participants ranged from 16 to 56 years of age (M = 20.13, SD = 3.84). A total of 548 women took part in this study, with ages ranging from 16 to 40 (M =20.12, SD = 4.03). By comparison, 103 men took part, with ages ranging from 17 to 32 (M = 20.22, SD = 2.85). Twenty individuals reported being gender queer (i.e., transgender, non-binary, two-spirited, or other). No significant difference in the ages of men and women were noted upon completing an independent samples t-test, $t(188.43) = 0.306$, $p = .760$, $d = .054$. People of color comprised 29.4% of the total sample (n = 197), and Indigenous participants comprised

3.30% (*n* = 22). As of 2016 (the most recent Canadian census), 35.0% of Indigenous individuals aged 25 years and older obtained a university or college degree (Statistics Canada, 2020); given a Canadian-wide Indigenous prevalence of 4.8% in 2016 (Statistics Canada, 2018), this suggests a university- and college-wide Indigenous prevalence rate of 1.70% across Canada.

Data collection occurred between September 2021 to December 2021, allowing responses over the course of one semester. During this period, students were in the process of returning to campus, and daily COVID-19 cases in Canada were roughly 3,000-4,000 individuals (Worldometer, n.d.). During this same timeframe, Weekly COVID-19 cases in British Columbia were roughly 1,894-4,437 individuals (BC Center for Disease Control, n.d.). Data collection was terminated prior to the increase in daily COVID-19 cases due to the emergence of the omicron variant, which began around December 15th, 2021 (Worldometer, n.d.). This was done to ensure greater consistency within the data.

Due to physical distancing measures resulting from the COVID-19 pandemic, online methods were used to recruit individuals for this study. These online recruitment methods were completed through the Department of Psychology SONA Research Participation System, which is an application that allows students to participate in research studies for course credit. To access more Indigenous students on campus, an email listserv utilized by the IACE at the University of Victoria was used to disseminate study and participation information. Fourteen participants responded via the IACE listserv.

Table 1

Summary Statistics of Sample Demographics (N = 676)

	N	Proportion
Age (Missing = 1)	**675**	**1.00**
Under 18	38	.06
18-21	504	.75
22-25	99	.15
26-29	21	.03
30+	13	.02
Race (Overlapping Variable) (Missing = 1)	**674**	**1.12**
Black or Caribbean (E.g., Somalian, Ethiopian)	11	.02
East Asian (e.g., Chinese, Korean)	81	.12
Indigenous (e.g., First Nations, Métis, Inuit)	22	.03
South Asian (e.g., Indian, Pakistani)	51	.08
Southeast Asian (e.g., Vietnamese, Thai)	36	.05
South or Central American (e.g., Latino/Latinx)	14	.02
White (e.g., German, English, Polish)	517	.77
Prefer not to say	11	.02
Other	10	.02
Gender (Missing = 4)	**672**	**1.00**
Male	103	.15
Female	549	.82
Other	6	.01
Non-binary	10	.02
Two-spirited	1	.00
Transgender	3	.00
Current Population Density (Missing = 13)	**663**	**1.00**
A rural area (fewer than 1,00 to 5,000 people)	26	.04
Small city (5,000-100,000)	232	.35
A city (over 100,000 people)	387	.58
A metropolitan area (over 1,000,000 people)	18	.03

Note: Overlapping variables comprise any measures that allowed multiple response options to be selected at once by a participant. Proportions are calculated by dividing the subsample frequencies by the total number of individuals who responded to the measure of interest.

Table 2

Summary Statistics of Living, Employment, and Financial Circumstances (N = 676)

	N	Proportion
Living Arrangements (Missing = 4)	**672**	**1.00**
Off-campus accommodation	487	.73
On-campus accommodation	185	.28
Location of Studies (Missing = 3)	**673**	**1.00**
In Victoria	640	.95
In Canada, but not Victoria	28	.04
Outside of Canada	5	.01
Live with Spouse (Missing = 3)	**673**	**1.00**
Yes	66	.10
No	607	.90
Financial Security (Missing = 27)	**649**	**1.00**
Able to add a good deal of savings each month	106	.16
Able to add some savings each month	327	.50
Living paycheck to paycheck	183	.28
Often unable to pay bills	22	.03
Never able to pay bills	11	.02
Employment Status (Overlapping Variable) (Missing = 4)	**672**	**1.06**
Employed full-time	17	.03
Employed part-time	246	.37
Self-employed	16	.02
Volunteer (Unpaid)	81	.12
Retired	1	.00
Unemployed (received benefits)	19	.03
Unemployed (not receiving benefits)	331	.49

	Mean	Median	Mode
Household Numbers			
Total (N = 671, Missing = 5)	2.52	3	4
Family (N = 664, Missing = 12)	1.05	0	0
Children/Dependents (N = 652, Missing = 24)	0.19	0	0
Non-family members/Roommates (N = 661, Missing = 15)	1.11	1	0
Pets (N = 658, Missing = 18)	0.57	0	0

Note: Overlapping variables comprise any measures that allowed multiple response options to be selected at once by a participant. Proportions are calculated by dividing the subsample frequencies by the total number of individuals who responded to the measure of interest.

Table 3

Summary Statistics of Students' Academic Experiences (N = 676)

	N	Proportion
School Employment (Missing = 186)	**490**	**1.00**
Yes	37	.08
No	453	.92
International Student Status (Missing = 2)	**674**	**1.00**
Yes	49	.07
No	625	.93
School Status (Missing =4)	**672**	**1.00**
Full-time student	646	.96
Part-time student	26	.04
Year of Study (Missing = 4)	**672**	**1.00**
1-2	384	.57
3-4	245	.37
5+	43	.06
Field of Study (Missing = 5)	**671**	**1.00**
People, Society, and Social Sciences	411	.61
Physical Sciences	64	.10
Languages and Global Cultures	6	.01
Business, Economics, and Law	43	.07
Health and Life Sciences	102	.15
Engineering, Math, and Technology	15	.02
Indigenous Focus	1	.00
Fine Arts and Digital Media	8	.01
Education and Family	21	.03
Graduation Confidence (Missing = 5)	**672**	**1.00**
Extremely confident	278	.41
Very confident	253	.38
Somewhat confident	116	.17
Not so confident	22	.03
Not at all confident	3	.01
Hours Devoted per Week	Mean	Median	Mode
Work/Volunteer	9.87	8	0
Studies	27.22	35	30

Note: Proportions are calculated by dividing the subsample frequencies by the total number of individuals who responded to the measure of interest.

Table 4

Summary Statistics of the Impact of the COVID-19 Pandemic (N = 676)

	N	Proportion
Finances (Missing = 4)	**672**	**1.00**
My income has increased	62	.09
My income has stayed the same	211	.32
My income has decreased	170	.25
Does not apply to me (i.e., unemployed, volunteering only, etc.)	229	.34
Workload (Missing = 7)	**669**	**1.00**
Workload has increased	372	.56
Workload had stayed the same	246	.37
Workload has decreased	51	.08
Manageability of Workload (Missing = 4)	**672**	**1.00**
Manageable	472	.70
Not Manageable	200	.30
Mental Health (Missing = 12)	**665**	**1.00**
Improved	60	.09
Stayed the Same	152	.23
Worsened	453	.68
Return to Normalcy Anxiety (Missing = 6)	**670**	**1.00**
Yes, anxiety	242	.36
Somewhat	247	.37
No anxiety	181	.27
Conditions (Overlapping Variable) (Missing = 16)	**660**	**3.08**
Working entirely from home	33	.05
Working somewhat remotely	151	.23
Essential worker	46	.07
Expectation to be on-site	463	.70
Regularly working with others	496	.75
Work with high-risk people	76	.12
Struggling to find employment	25	.04
Unable to participate in school adequately	84	.13
Deliberately choosing to attend school less	86	.13
Inadequate available workspace	23	.04
Inadequate technology to complete work	9	.01

Note: Overlapping variables comprise any measures that allowed multiple response options to be selected at once by a participant. Proportions are calculated by dividing the subsample frequencies by the total number of individuals who responded to the measure of interest.

Procedure

All study procedures were approved by the Human Research Ethics Board (HREB) at the University of Victoria. Data was collected through encrypted web platforms housed on Canadian servers. Participants accessed the consent form, demographic questions, questionnaires, and the debriefing form via Survey Monkey, a secure, online survey platform (see Appendix A-C). Involvement took approximately 20-30 minutes. For participants recruited through SONA, their involvement was compensated with 0.5 course credits. Participants recruited outside of SONA were entered into a raffle to win 1 of 10 $25 gift cards for the University of Victoria bookstore. Responses were recorded in confidential CSV files using the University of Victoria's secure Netdrive storage system. Anonymized, de-identified data files are kept on password protected computers when accessed for data analysis.

Measures

Demographics of interest included age, race, gender, and population density (see Table 1). These demographics were collected to assess the generalizability of the sample to the larger university population. To better understand the environmental context of this sample, I collected information on employment, financial stability, living environment, social circumstances, school status, workload, and the impact of the COVID-19 pandemic (see Table 2-4). Participants then accessed a series of online questionnaires related to the research questions of interest (see RQ1-11). For those students that desired the option to offer written responses, several open-ended prompts were provided.

Life Engagement Test (LET). The LET was used to measure purposeful engagement in life activities using six questionnaire items (e.g., "To me, the things I do are all worthwhile"). Participants responded using a Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Accounting for reverse scored items, this study uses total sum scores, ranging from 6 (least life

meaning) to 30 (most life meaning), for each participant. Assessment of Cronbach's alpha across eight samples demonstrates good to very good internal consistency (α = 0.72-0.87; Scheier et al., 2006). An assessment of Cronbach's alpha for the present sample demonstrated good internal consistency (α = 0.87).

de Jong Gierveld Loneliness Scale (LS). This 6-item scale was used to measure both social loneliness (e.g., "There are many people I can trust completely") and emotional loneliness (e.g., "I often feel rejected"). Participants respond either *Yes*, *No*, or *More or Less*. Only one item is given a value of 1, while all other items are given a value of 0; values may vary depending on the need for reverse scoring. When accounting for reverse scoring, this study uses total sum scores ranging from 0 (least lonely) to 6 (most lonely) for each participant. The scale can be separated to individually assess emotional loneliness or social loneliness, with summed scores ranging from 0 (least lonely) to 3 (most lonely) for each scale, when accounting for reverse scoring. An assessment of Cronbach's alpha for this measure demonstrates very good internal consistency across samples from seven countries (i.e., France, Germany, the Netherlands, Russia, Bulgaria, Georgia, and Japan; α = 081-0.85; de Jong Gierveld & van Tilburg, 2010). An assessment of Cronbach's alpha for the present sample demonstrated acceptable internal consistency (α = 0.73).

Brief Resiliency Scale (BRS). The BRS measures the perceived ability to adapt and recover from stressful life events using six questionnaire items (e.g., "I tend to bounce back quickly after hard times"). Participants answered items using a Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Following reverse scoring, this study used total sum scores, ranging from 6 (low feelings of resilience) to 30 (high feelings of resilience), for each participant. Assessment of Cronbach's alpha across three samples demonstrates very good to excellent internal consistency (α =

0.80-0.91; Smith et al., 2008). An assessment of Cronbach's alpha for the present sample demonstrated good internal consistency ($\alpha = 0.88$).

College Student Subjective Wellbeing Questionnaire. For exploratory purposes, this 16-item scale was used to assess school satisfaction in the past month (e.g., "I am pleased with how my post-secondary education is going so far."). Participants could answer items using a Likert scale ranging from 1 (*Strongly Disagree)* to 7 (*Strongly Agree*). This study uses total sum scores, ranging from 6 (low satisfaction) to 42 (high satisfaction), for each participant (Renshaw, 2020).

Social Support Service Improvements. I used an altered version of the General Help-Seeking Questionnaire to assess support seeking behaviours. Additional items were added to better account for online or anonymous sources of support. Using a Likert scale ranging from 1 (*Very Unlikely*) to 7 (*Very Likely*), participants were asked the likelihood of them relying on a seventeen different support sources for managing emotional needs (e.g., parent, sibling, friend, counsellor, doctor, cultural leader, spiritual leader, helpline, etc.). Two additional measures were created for this study. In a second measure, participants were asked how often they used eight communication methods to manage emotional needs (e.g., social media, texting, anonymous forums, mental health services, phone calling, video calling, etc.). Participants responded using a Likert scale ranging from 1 (*Never*) to 7 (*Very Often*). In a third measure, students were asked about their experience with eleven potential barriers when accessing social support (e.g., "I feel a lack of deep connections with others, which makes it difficult to find or open up to others for social support") and rated the likelihood of facing these barriers on a Likert scale ranging from 1 (*Never*) to 7 (*Very Often*).

University-Endorsed Activity Improvements. Three measures were created for the purpose of this study. First, to assess life meaning engagement, participants rated the value of eleven different university-endorsed activities (e.g., volunteering, research assistant positions, teaching assistant positions, leadership roles, etc.) for enhancing life meaning. Students rated their answers

using a Likert scale ranging from 1 (*Not Valuable at All*) to 7 (*Highly Valuable*). In a second measure, they were asked to rank order the value of seven aspects of university-endorsed activities (e.g., "I value meeting and working with people with similar interests"). In a third measure, they were provided twelve potential barriers they might face when accessing university-endorsed activities (e.g., "There is a lack of culturally relevant options"). Participants rated the likelihood of facing these barriers on a Likert scale ranging from 1 (*Never*) to 7 (*Very Often*).

Open-ended questions. There were four open-ended prompts that were used for analysis in this thesis: (1) How has loneliness impacted your ability to handle the stress of the pandemic? (RQ8); (2) How has life meaning impacted your ability to handle the stress of the pandemic? (RQ9); (3) Please expand on your social support needs and experiences (RQ10); and (4) Please expand on your involvement with university-endorsed activities (RQ11). Concepts such as *life meaning* or *loneliness* were not defined for participants to avoid limiting the scope of their perspectives and interpretations.

Results

RStudio (Version 1.2.5033) was used for the completion of all data cleaning and statistical analyses (i.e., *t*-tests, regression analyses, and analysing proportions and frequencies). RStudio was also used for exporting datasets, figures, and tables to PNG and CSV files. Microsoft Excel was used for the creation of some figures.

Data Cleaning

Participants were excluded if their survey responses exceeded 90% with missing data, which resulted in the removal of 52 participants from the finalized dataset. Data was also checked for quick response times (i.e., quicker than 2 minutes) and extreme outliers. From this, no participants were removed. The LS, BRS, and LET were assessed for item-level missingness, which identified that 3.9% of the sample did not fully complete the scales. These individuals were removed prior to implementing any *t*-tests or regression analyses but were maintained within all other analyses.

Overview of Analysis

Hayward et al. (2021) discuss how diversity of Indigenous culture propagates a diversity in Indigenous research methodologies. They highlight that there is no binary between Indigenous and Western research approaches, but rather, multiple approaches within Indigenous and Western research paradigms exist, with many complementing one another. Indigenous research paradigms use qualitative methods more heavily to bolster several values, including (1) individual agency and expertise; (2) reciprocal respect and responsibility; and (3) diverse forms of learning, including spiritual and intuitive methods. Quantitative approaches are less commonly used in Indigenous research methods because of historic and ongoing challenges with the ethical treatment of Indigenous participants in Western quantitative research. As described by Hayward et al., "quantitative methods are often perceived as having a Eurocentric, non-Indigenous face, and therefore, of little benefit and relevance to Indigenous communities" (p. 3).

Despite quantitative scientific methods being used less, these authors highlight how qualitative methods are no more "Indigenous" than quantitative methods, with Indigenous researchers corroborating both the need for decolonized quantitative research, and the value of numeric data in efforts to persuade policy makers, create change, and pursue social justice (Hayward et al., 2021).

In accordance with this premise, this thesis uses three analysis methods to portray the data from different perspectives, thus better respecting the methods of Indigenous research paradigms:

(1) At the broadest level, *t*-tests and hierarchical regression analyses are used to demonstrate a theoretical relation between various predictors and predicted variables. These analyses are used to better understand Indigenous theories of resilience, which highlight how experiences of resilience manifest because of environmental, social, and psychological factors, such as feelings of loneliness and life meaning. Further, these statistical analysis strategies are used to improve our understanding of loneliness and life meaning by placing them within broader contexts, such as their association to existing systemic barriers when seeking social support or meaningful activities (see RQ1-RQ5).

(2) To contextualize these results, student response rates are used to identify commonly endorsed qualities regarding social support options and meaningful university-endorsed activities (see RQ6-RQ7).

(3) For an in-depth account of student experiences, four thematic analyses are conducted on Indigenous written responses. This analysis is done to better understand the experiences of Indigenous students with loneliness, life meaning, social support services, and university-endorsed activities (RQ8-11).

T-Tests and Regression Analyses

Analysis Approach

To compare scores of emotional and social loneliness (see RQ1 and H1), statistical assumptions were first checked. To analyse the assumption of normality, a Shapiro-Wilk Normality Test was conducted, which demonstrated that the distribution of the differences was significantly different from a normal distribution ($W = 0.939$, $p = .000$). This justified the use of a statistical approach that accounted for non-parametric data.

For all regression models in this study (see RQ2-RQ5 and H2-H4), assumptions of linearity, normality, and homoscedasticity were tested using respective scatterplots, p-p plots, and plots of standardised residuals *vs.* standardised predicted values. All assumptions were reasonably met. Further, Cook's distance values demonstrated that no individual cases unreasonably influenced the model.

All regression analyses incorporated the same five covariates within the first step of each hierarchical regression, which included continuous/ordinal variables (i.e., age, hours worked and studied per week, and financial stability) and categorical variables (i.e., race, gender). These variables were chosen with respect to potential systemic barriers existing for certain age groups, races, and genders, as well as with respect to the impact of workload and finances on academic wellbeing. These models assessed only men and women due to small subsample sizes among those who reported other genders (i.e., two-spirited, nonbinary, transgender, or other; $n < 20$). To ensure sufficient power, subsamples of race were collapsed into two groups (i.e., white and persons of color). Categorical variables were effect coded to compare against the grand mean (i.e., the mean value expected if there were no difference between groups). Effect coding allowed for more nuanced comparisons between all subgroups by avoiding the use of a reference group.

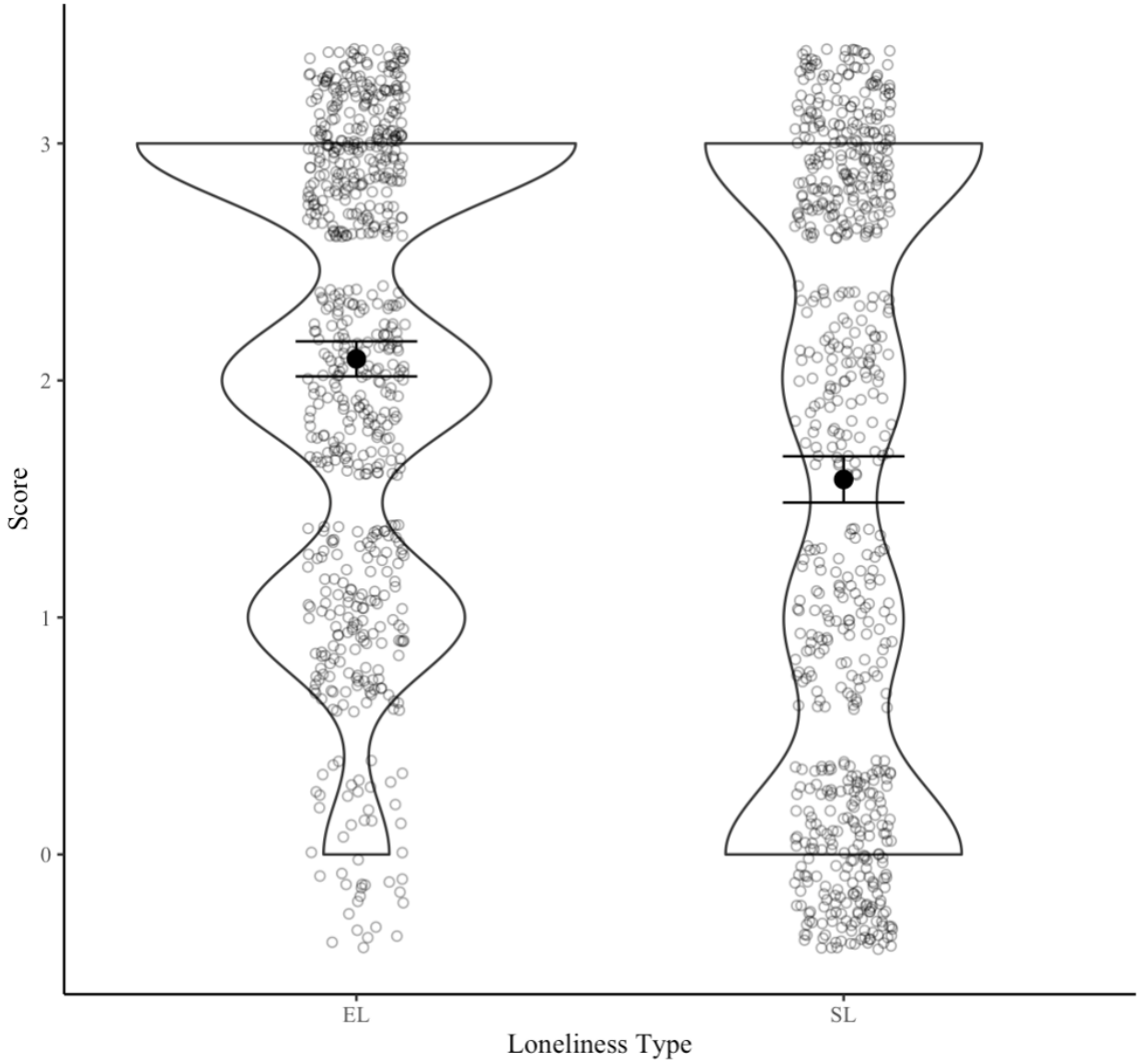
See Appendix D for frequencies, means, and standard deviations of measures of loneliness, life meaning, resilience, school satisfaction, social support barriers, and barriers to university-endorsed activities.

RQ1: Prevalence of Emotional and Social Loneliness

To answer RQ1 and test H1, scores of social and emotional loneliness were compared using statistical methods (see Figure 1). A paired-samples Wilcoxen Signed-Ranks Test demonstrated that scores of emotional loneliness (M = 2.09, Mdn = 2.00, SD = 0.96) were statistically significantly higher than scores of social loneliness (M = 1.58, Mdn = 2.00, SD = 1.27; V = 67556, p = .000).

Figure 1

de Jong Gierveld Loneliness Scale Scores by Type of Loneliness: Emotional (EL) and Social Loneliness (SL)



Note: This graph depicts raw data points, grand mean scores with 95% confidence interval bands, and smooth line density curves to show the full distribution for both emotional and social loneliness. Wider density line curves depict a greater density of raw data points, demonstrating a non-normal distribution for both scales. *Score* is defined as the total sum value for each participant on the de Jong Gierveld Emotional and Social Loneliness Scales.

RQ2: Predicting Resilience

To answer RQ2 and test H2, a hierarchical regression model was implemented as a statistical approach to assess the relation between life meaning, emotional loneliness, social loneliness, and resilience (see Table 5 for standardized coefficients and model fit).

An initial model was created to assess whether several covariates (i.e., age, race, gender, hours worked and studied per week, and financial stability) predicted measures of resilience. This model demonstrated several significant findings ($F(7, 493) = 7.142$, $R^2 = .092$). Measures of resilience were significantly and positively predicted by measures of age ($p = .000$) and financial stability ($p = .002$). Further, mean scores of resilience for men ($M = 3.35$) were significantly higher than the grand mean value on measures of resilience ($M = 3.01$, $p = .000$), whereas the mean scores for women ($M = 2.95$, $p = .470$), persons of color ($M = 2.91$, $p = .173$), and white individuals ($M = 3.04$, $p = .557$) did not significantly differ from the grand mean. Further, measures of resilience were not significantly predicted by the number of hours worked and studied per week ($p = .070$).

A second model included measures of emotional loneliness, social loneliness, and life meaning as independent variables. This model offered a better fit, and the inclusion of these predictors accounted for the largest share of the variance in measures of resilience ($F(10, 474) = 18.02$, R^2 Change = 18.3%). Measures of emotional loneliness significantly and negatively predicted measures of resilience ($p = .000$), while measures of life meaning significantly and positively predicted measures of resilience ($p = .000$). Age ($p = .014$) was a significant and positive predictor of measures of resilience, whereas measures of financial stability ($p = .285$), social loneliness ($p = .119$), and hours worked and studied per week ($p = .462$) were not significant predictors of measures of resilience. Mean scores of resilience for men ($p = .001$) were significantly higher than the grand mean value on measures of resilience, whereas mean scores for white individuals ($p = .208$), women ($p = .426$), and persons of colour ($p = .697$) did not significantly differ from the grand mean.

Table 5

Hierarchical Regression Analysis: Standardized Scores (β) and Proportions of Variance (R^2) of Predictors of Resilience

Predictor Variables	Regression 1	Regression 2
Age	0.16***	0.10*
Financial Stability	0.14**	0.04
Total Work/Study Hours per Week	0.08	0.03
Gender		
Female	-0.03	-0.03
Male	0.20***	0.13**
Race		
Person of Colour	-0.08	0.02
White	0.03	0.07
Emotional Loneliness		-0.16***
Social Loneliness		-0.07
Life Meaning		0.32***
R^2	.092	.275
R^2 Change		.183

* $p < 0.05$, ** $p < 0.01$, ** $p < 0.001$

RQ3: Predicting School Satisfaction

To better understand how measures of resilience, life meaning, emotional loneliness, and social loneliness relate to measures of school satisfaction, an exploratory hierarchical regression model was created (see Table 6 for standardized coefficients and model fit).

An initial model predicted school satisfaction using several potential covariates (i.e., age, race, gender, hours worked and studied per week, and financial stability), and demonstrated statistically significant findings ($F(7, 475) = 5.778$, $R^2 = .078$). Measures of school satisfaction were significantly and positively predicted by both measures of financial stability ($p = .000$) and hours worked and studied per week ($p = .000$). Age was not a significant predictor of measures of school satisfaction ($p = .617$). The mean scores of school satisfaction pertaining to gender (men: $M = 5.19$, $p = .942$; women: $M = 5.31$, $p = .128$) and race (persons of color: $M = 5.15$, $p = .360$; white

individuals: $M = 5.34$, $p = .256$) did not significantly differ from the grand mean value on measures of school satisfaction ($M = 5.28$).

A second model included measures of emotional loneliness, social loneliness, resilience, and life meaning, demonstrating statistically significant findings ($F(11, 445) = 14.77$, $R^2 = .266$). In this model, measures of school satisfaction were significantly and positively predicted by measures of life meaning ($p = .000$), total hours worked and studied per week ($p = .019$), and financial stability ($p = .022$). Variables that were not significant predictors of measures of school satisfaction included measures of social loneliness ($p = .367$), emotional loneliness ($p = .588$), age ($p = .597$), and resilience ($p = .631$). Further, the mean scores of school satisfaction pertaining to gender (males: $p = .267$; females: $p = .143$) and race (persons of color: $p = .910$; white individuals: $p = .213$) did not significantly differ from the grand mean value on measures of school satisfaction.

Table 6

Hierarchical Regression Analysis: Standardized Coefficients (β) and Proportions of Variance (R^2) of Predictors of School Satisfaction

Predictor Variables	Regression 1	Regression 2
Age	0.02	-0.02
Financial Stability	0.19***	0.10*
Total Work/Study Hours per Week	0.17***	0.10*
Gender		
Female	0.07	0.06
Male	0.00	-0.05
Race		
Person of Colour	-0.05	0.01
White	0.06	0.07
Emotional Loneliness		-0.03
Social Loneliness		-0.04
Life Meaning		0.44***
Resilience		-0.02
R^2	.078	.268
R^2 Change		.190

* $p < 0.05$, ** $p < 0.01$, ** $p < 0.001$

RQ4: Predicting Loneliness from Social Support Barriers

To answer RQ4 and test H3, a hierarchical regression analysis was implemented. This model assessed whether the frequency of encountering barriers when seeking social support options predicted measures of loneliness (see Table 6 for standardized coefficients and model fit). Social support barriers may entail issues with both the quantity and quality of social support; as such, an overall measure of loneliness was used, which summed the scores of both emotional and social loneliness in the de Jong Gierveld Loneliness Scale.

An initial model was created that predicted measures of loneliness from several potential covariates (i.e., age, race, gender, hours worked and studied per week, and financial stability), demonstrating several statistically significant results ($F(7, 483) = 3.366$, $R^2 = .047$). This analysis demonstrated that measures of loneliness were significantly predicted by race ($p = .015$), such that mean scores of loneliness for people of color ($M = 3.95$) were significantly higher than the grand mean value on measures of loneliness ($M = 3.68$). Measures of loneliness were also significantly predicted by gender ($p = .006$), such that mean scores of loneliness for men ($M = 3.29$) were significantly lower than the grand mean value on measures of loneliness ($M = 3.68$). Mean scores of loneliness for women ($M = 3.72$, $p = .540$) and white individuals ($M = 3.59$, $p = .397$) did not differ from the grand mean. Finally, measures of financial stability significantly and positively predicted measures of loneliness ($p = .003$), whereas measures of age ($p = .700$) and hours worked and studied per week ($p = .920$) were not significant predictors.

In a second regression analysis, measures of social support barriers were included, which accounted for an additional 10.0% of the variance in the model ($F(8, 454) = 9.753$, $R^2 = .147$). Measures of barriers significantly and positively predicted measures of loneliness ($p = .000$). Measures of financial stability also significantly and negatively predicted measures of loneliness ($p = 0.042$), whereas measures of age ($p = .700$) and hours worked and studied per week ($p = .920$) were

not significant predictors. Mean scores of loneliness pertaining to gender (men: $p = .339$; women: $p = .523$) and race (persons of colour: $p = .114$; white individuals: $p = .327$) did not significantly differ from the grand mean value on measures of loneliness.

Table 7

Hierarchical Regression Analysis: Standardized Scores (β) and Proportions of Variance (R^2) of Predictors of Loneliness

Predictor Variables	Regression 1	Regression 2
Age	-0.02	-0.04
Financial Stability	-0.14**	-0.10*
Total Work/Study Hours per Week	-0.00	-0.03
Gender		
Female	-0.03	-0.03
Male	-0.13**	-0.04
Race		
Person of Colour	0.16*	0.10
White	0.05	0.06
Social Support and Service Barriers		0.34***
R^2	.047	.147
R^2 Change		.100

* $p < 0.05$, ** $p < 0.01$, ** $p < 0.001$

RQ5: Predicting Life Meaning from Barriers to University-Endorsed Activities

To answer RQ5 and test H4, a hierarchical regression analysis was used to assess whether the frequency of encountering barriers when accessing university-endorsed activities predicted measures of life meaning (see Table 7 for standardized coefficients and model fit).

An initial model assessed whether several covariates (i.e., age, race, gender, hours worked and studied per week, and financial stability) predicted measures of life meaning. This analysis demonstrated several statistically significant results ($F(7, 493) = 6.891$, $R^2 = .047$). Measures of life meaning were significantly predicted by race ($p = .009$) and gender ($p = .003$). While mean scores of life meaning for people of color ($M = 20.41$) were significantly *lower* than the grand mean value on measures of life meaning ($M = 21.17$), mean scores of life meaning for men ($M = 22.12$) were

significantly *higher* than the grand mean. Mean scores of life meaning for white individuals (M = 21.42, p = .913) and women (M = 21.08, p = .542) did not significantly differ from the grand mean. Measures of life meaning were also significantly and positively predicted by both measures of financial stability (p = .000), age (p = .001) and hours worked and studied per week (p = .015).

Adding a measure assessing barriers to university-endorsed activities accounted for an additional 3.80% of the variance ($F(8, 454) = 9.753$, $R^2 = .127$). Measures of barriers significantly and negatively predicted measures of life meaning (p = .000). Several other variables significantly and positively predicted measures of life meaning in this second model, including age (p = .001), financial stability (p = .002), and total hours worked and studied per week (p = .007). Mean scores of life meaning for men (p = .017) and persons of color (p = .038) significantly differed from the grand mean value on measures of life meaning, whereas mean scores of life meaning for women (p = .574) and white individuals (p = .964) did not significantly differ from the grand mean.

Table 8

Hierarchical Regression Analysis: Standardized Coefficients (β) and Proportions of Variance (R^2) of Predictors of Life Meaning

Predictor Variables	Regression 1	Regression 2
Age	0.15***	0.15**
Financial Stability	0.18***	0.15**
Total Work/Study Hours per Week	0.11*	0.12**
Gender		
Female	0.03	0.03
Male	0.13**	0.12*
Race		
Person of Colour	-0.15**	-0.12*
White	-0.01	0.00
Barriers to University-Endorsed Activities		-0.20***
R^2	.089	.127
R^2 Change		.038

* $p < 0.05$, ** $p < 0.01$, ** $p < 0.001$

Response Rates

Analysis Approach

Given the breadth of the available data, specific notable percentages are discussed with regards to social support options and university-endorsed activities. Graphical representations of the data are given where feasible. The general sample (N = 676) is larger than the Indigenous sample (N = 22). The general sample includes all individuals, including Indigenous students; this is done to determine the overall response rates on survey items without specifying cultural, racial, or gender differences. This was also done to avoid direct comparisons between Indigenous and non-Indigenous individuals, which would still conflate gender, cultural, and racial factors. In line with decolonizing research practices, Indigenous response rates are reported to disaggregate them from the general sample. These response rates are reported with the recognition that they do not comprise a representative sample of the Indigenous population at the University of Victoria.

RQ6: Valued Support Sources, Valued Methods, and Barriers to Services

Valued Support Sources. Among all students, a higher proportion of participants were *likely* or *very likely* to seek out support for an emotional or personal problem from three sources: their friend (81.1% for the general sample *vs.* 77.3% for the Indigenous sample), their significant other (69.4% *vs.* 54.5%), and/or their parent (59% *vs.* 43.1%). This suggests a preference for informal support when seeking help, when compared to formal supports. As the most sought-after formal option, 41.4% of the general sample, and 59.1% of the Indigenous sample, reported that they were *likely* or *very likely* to contact an offline mental health professional, if support was needed.

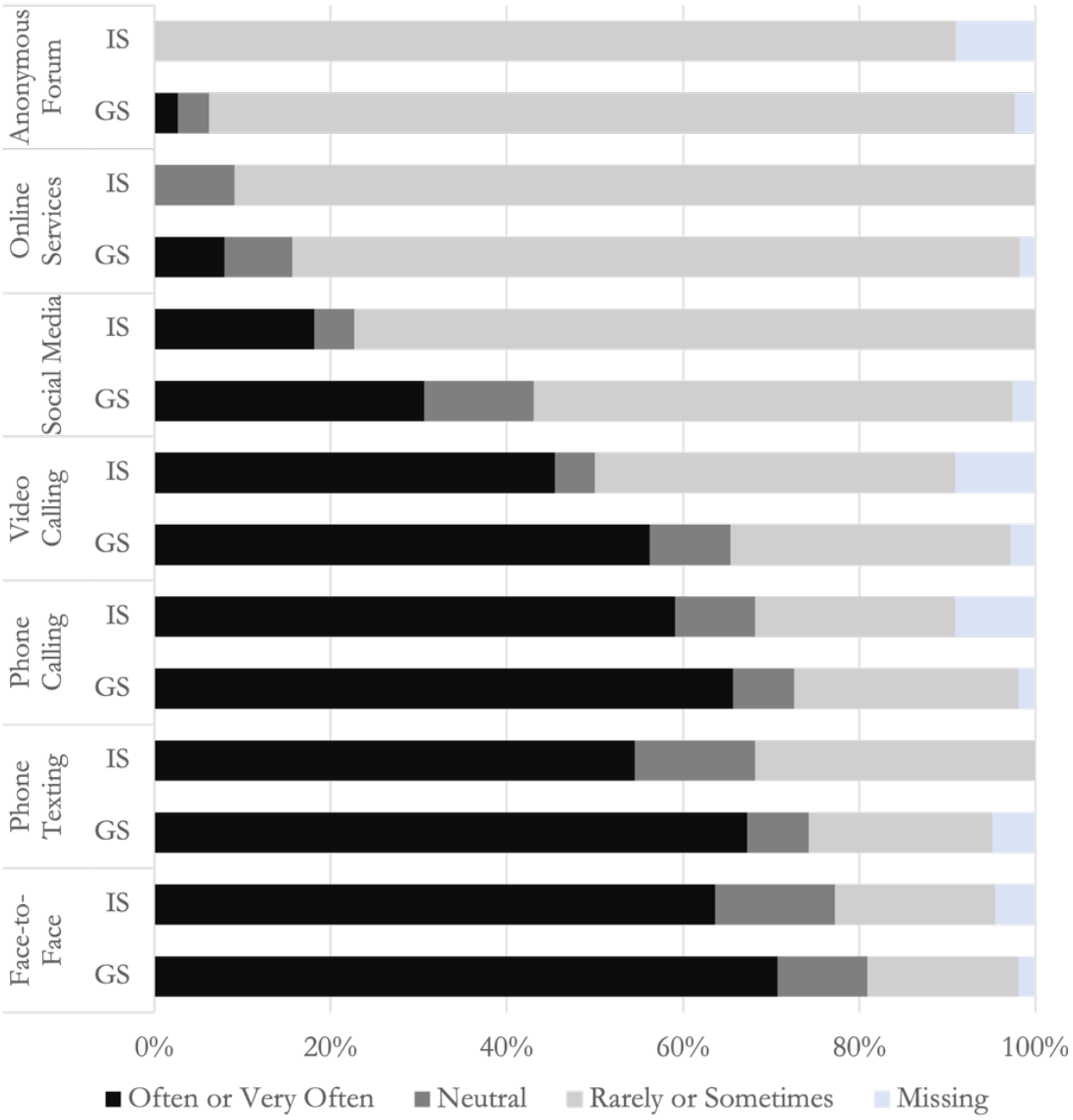
Other informal and formal support options were sought out less. Most students reported that they were *unlikely* or *very unlikely* to reach out to spiritual leaders (86.4% for the general sample *vs.* 95.5% for the Indigenous sample), community centers (84.6% vs. 63.6%), anonymous online chat forums (e.g., Reddit, Quora; 79.3% *vs.* 95.4%), group therapy (e.g., support groups, group therapy,

talking circles; 79.0% *vs.* 72.7%), phone help lines (76.6% *vs.* 81.8%), cultural leaders (72.5% *vs.* 68.2%), social media relationships (72.3% vs. 86.4%), online professional mental health chat services (70.2% *vs.* 77.3%), and online mental health professionals (56.4% *vs.* 45.5%). This suggests that participants are less interested in online and anonymous options for seeking help for an emotional or personal problem. Finally, 24.9% of the general sample, and 36.4% of the Indigenous sample, reported that they were *likely* or *very likely* to avoid seeking help altogether.

Method of Contact. The frequency of methods used when accessing social support options are demonstrated in Figure 2. As the most frequently used methods of seeking support, students reported *often* or *very often* using face-to-face conversation (70.8% for the general sample *vs.* 63.6% for the Indigenous sample), texting (67.3% *vs.* 54.5%), phone calling (65.7% *vs.* 59.1%), and video calling (56.2% *vs.* 45.5%). Participants *rarely* or *sometimes* accessed anonymous forums (91.4% *vs.* 90.9%) and online mental health services (82.5% *vs.* 90.9%). Overall, Indigenous reported percentages paralleled findings from the general sample, with some slight variations.

Figure 2

Response Rates Regarding the Frequency of Use (Often or Very Often to Rarely or Sometimes) of Methods of Seeking Social Support Options, for Both the General (GS) and Indigenous Sample (IS)



Barriers to Services. Figure 3 visualizes the reported frequencies of encountering barriers when accessing social support options. As the most frequently experienced barrier among students, 44.9% of the general sample, and 54.6% of the Indigenous sample, reported *often* or *very often* running into issues regarding the cost of professional services. Further, 31.5% of the general sample, and 45.4% of the Indigenous sample, reported that it was *often* or *very often* that they felt their needs were greater than what both supports and services could provide for.

The general sample were more likely to report that they *often* or *very often* ran into barriers connecting with someone well enough to feel comfortable sharing their concerns (28.0% for the general sample *vs.* 13.6% of the Indigenous sample). The general and Indigenous sample reported similar percentages regarding whether they believed services and supports could not help them (13.0% *vs.* 13.6%). However, Indigenous students overall reported more frequent experiences with encountering barriers. For example, Indigenous students reported that they *often* or *very often* faced application difficulties (50.0% *vs.* 25.6%), transportation issues (36.4% *vs.* 17.0%), a lack of information (36.3% *vs.* 14.6%), and a lack of cultural awareness (36.3% *vs.* 9.2%). These percentages range from 19.4%-27.1% higher than the general sample, suggesting that the experiences of Indigenous participants are different than the general sample.

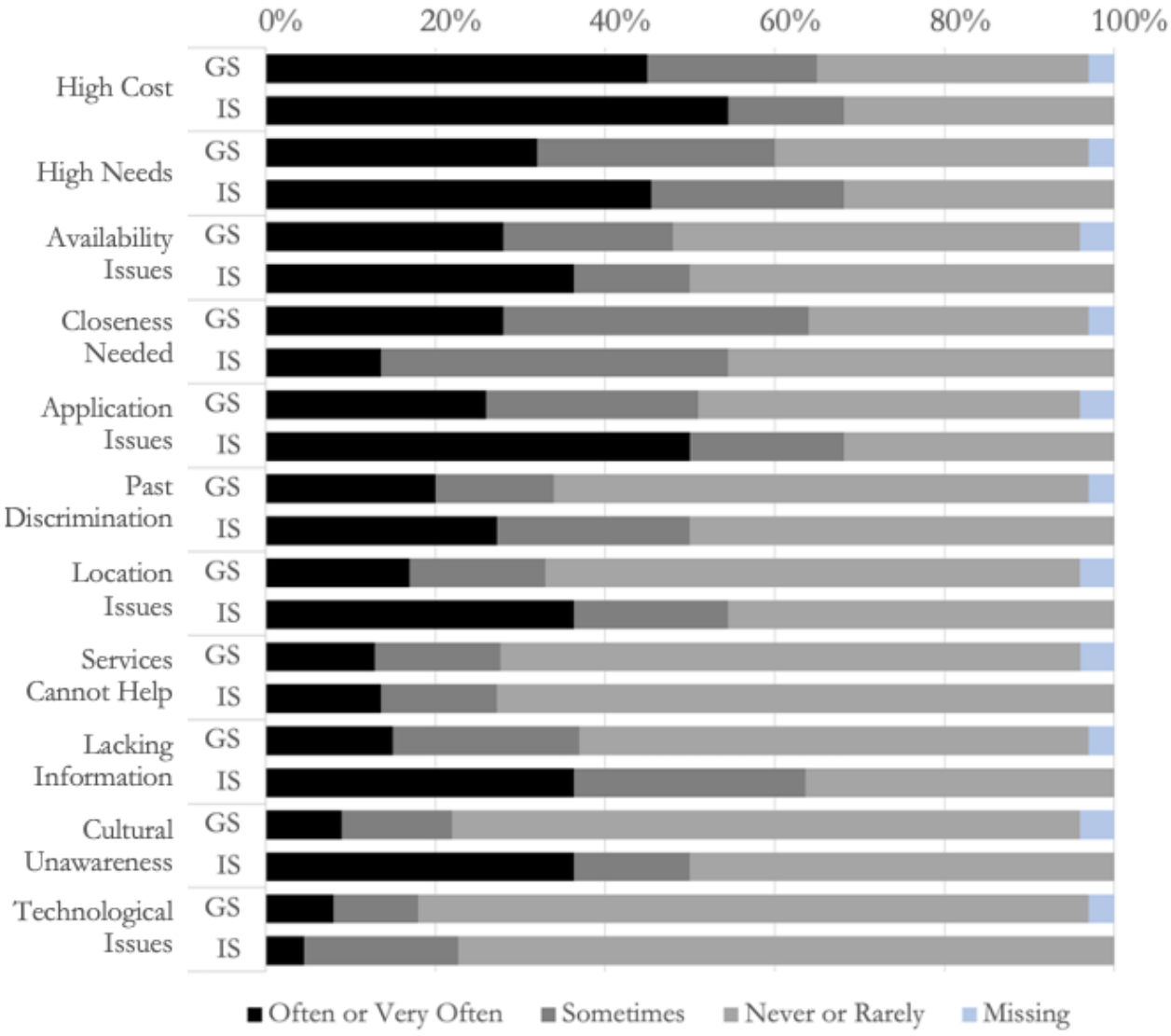
Regarding *current* access, 61.1% of the general sample, and 63.6% of the Indigenous sample, reported never accessing social support or mental health services. Other options, such as accessing support services several times a day (0.15% for the general sample *vs.* 0.00%), daily (0.59% *vs.* 0.00%), several times a week (1.33% *vs.* 4.54%), weekly (5.03% *vs.* 0.00%), monthly (14.9% *vs.* 9.09%), and yearly (13.5% *vs.* 18.2%) were less prevalent.

If all barriers to services were alleviated, only 15.7% of the general sample, and 18.2% of the Indigenous sample, would still never access support services. If all barriers were removed, the largest proportions of participants *desired* the ability to access social support services either monthly (26.3%

for the general sample *vs.* 22.7% for the Indigenous sample) or weekly (22.9% *vs.* 18.2%). Indigenous participants were more likely to prefer the option of accessing social support services several times a week (18.2%), when compared to the general sample (11.5%). Other options, such as accessing support services several times a day (0.88% *vs.* 4.55%), daily (0.59% *vs.* 4.55%), and yearly (14.8% *vs.* 9.09%) were less prevalent.

Figure 3

Response Rates Regarding the Frequency (Often or Very Often to Never or Rarely) of Encountering Barriers when Accessing Social Support Options, for Both the General (GS) and Indigenous Sample (IS)

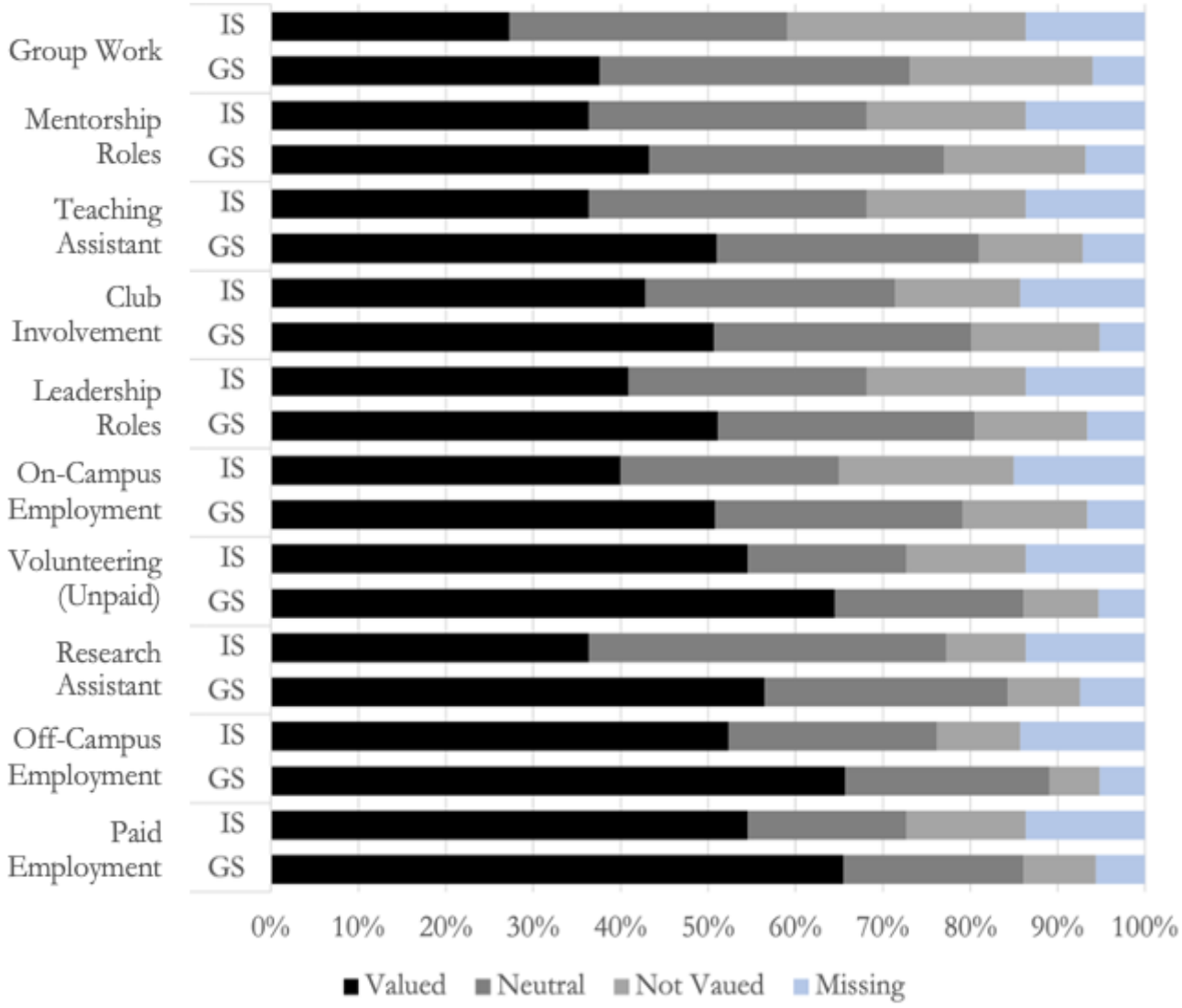


RQ7: Valued Activities, Values about Activities, and Barriers to Activities

Valued Activities. Figure 4 visualizes the reported value of various university-endorsed activities. When asked to rate how valuable certain activities were, 65.5% of the general sample, and 54.5% of the Indigenous sample, identified that paid jobs were *valued* or *very valued.* In a similar vein, more students reported that off-campus employment was *valued* or *very valued* (65.7% for the general sample *vs.* 50.0% for the Indigenous sample) than on campus employment (51.1% *vs.* 35.4%). Although paid positions were preferred, a higher proportion of students also reported that volunteering was *valued* or *very valued* (64.5% *vs.* 54.5%) than those who reported otherwise. Research assistant positions were also *valued* or *very valued* (56.5% *vs.* 36.4%) by slightly more students than teaching assistant positions (51.0% *vs.* 36.4%).

Figure 4

Response Rates Regarding the Reported Value (Valued to Not Valued) of Various University-Endorsed Activities, for Both the General (GS) and Indigenous Sample (IS)



Values about Activities. Participants were asked to rank order the aspects of university-endorsed activities that were most valuable to them, and this ranking data is visualized in Figure 5. For the general sample, the ranked order of valued aspects of university-endorsed activities, from highest to lowest mean score value, was:

(1) Meeting people with shared interests (M = 3.00, Mo = 1, SD = 1.86);

(2) Gaining knowledge (M = 3.13, Mo = 2, SD = 1.72);

(3) Improving their CV and ability to be hired (M = 3.45, Mo = 2, SD = 1.87);

(4) Having the ability to help others (M = 4.14, Mo = 4, SD = 1.72);

(5) Improving income (M = 4.24, Mo = 5, SD = 1.96);

(6) Finding people with similar backgrounds (M = 4.84, Mo = 7, SD = 1.92); and

(7) Integrating with the community (M = 5.13, Mo = 7, SD = 1.85).

The mean average rankings for the Indigenous sample showed similarities to the general sample, with differences regarding the sixth and seventh rankings. Some aspects could be ranked higher based on proportions, such as improving integration with the community. For the Indigenous sample, the ranked order of valued aspects of university-endorsed activities, from highest to lowest mean score value, was:

(1) Meeting people with shared interests (M = 3.3, Mo = 1, SD = 2.05);

(2) Gaining knowledge (M = 3.35, Mo = 2/3/5, SD = 1.63);

(3) Improving their CV and ability to be hired (M = 3.60, Mo = 1/3/7, SD = 2.14);

(4) Having the ability to help others (M = 3.80, Mo = 2, SD = 1.94);

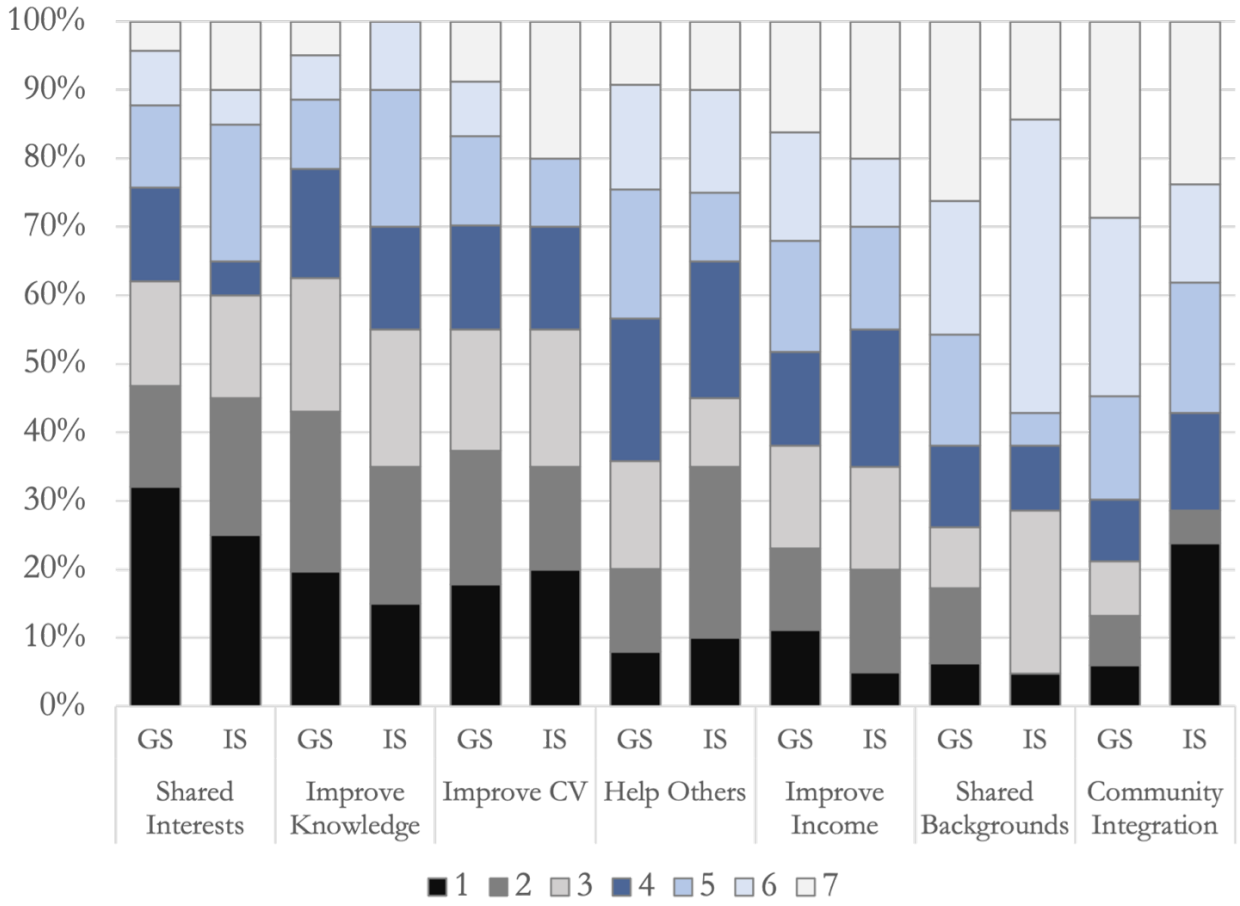
(5) Improving income (M = 4.35, Mo = 4/7, SD = 1.9);

(6) Integrating with the community (M = 4.38, Mo = 1/7, SD = 2.31); and

(7) Finding people with similar backgrounds (M = 4.95, Mo = 6, SD = 1.72).

Figure 5

Response Rates for the Rank Order Value of Certain Aspects of University-Endorsed Activities (1 = High Value vs. 7 = Low Value), for Both the General (GS) and Indigenous Sample (IS)



Barriers to Activities. The list of perceived barriers to university-endorsed activities are visualized in Figure 6. As the most frequently experienced barrier reported by the general sample, students reported that they *often* or *very often* struggled with finding relevant university-endorsed activities that matched their wants and needs (40.5% for the general sample *vs.* 36.4% for the Indigenous sample). Further, a higher proportion of students reported that they *often* or *very often* struggled with a lack of available options (31.8% *vs.* 18.2%), including a lack of remote or home-based activities (30.3% *vs.* 40.9%). The barriers most prevalently reported as *never* or *rarely*

experienced by the general sample included experiencing issues with a lack of inclusivity (65.9% *vs.* 54.5%), a lack of guidance or support in activities (49.7% *vs.* 31.8%), and a lack of culturally relevant options (66.7% *vs.* 45.5%).

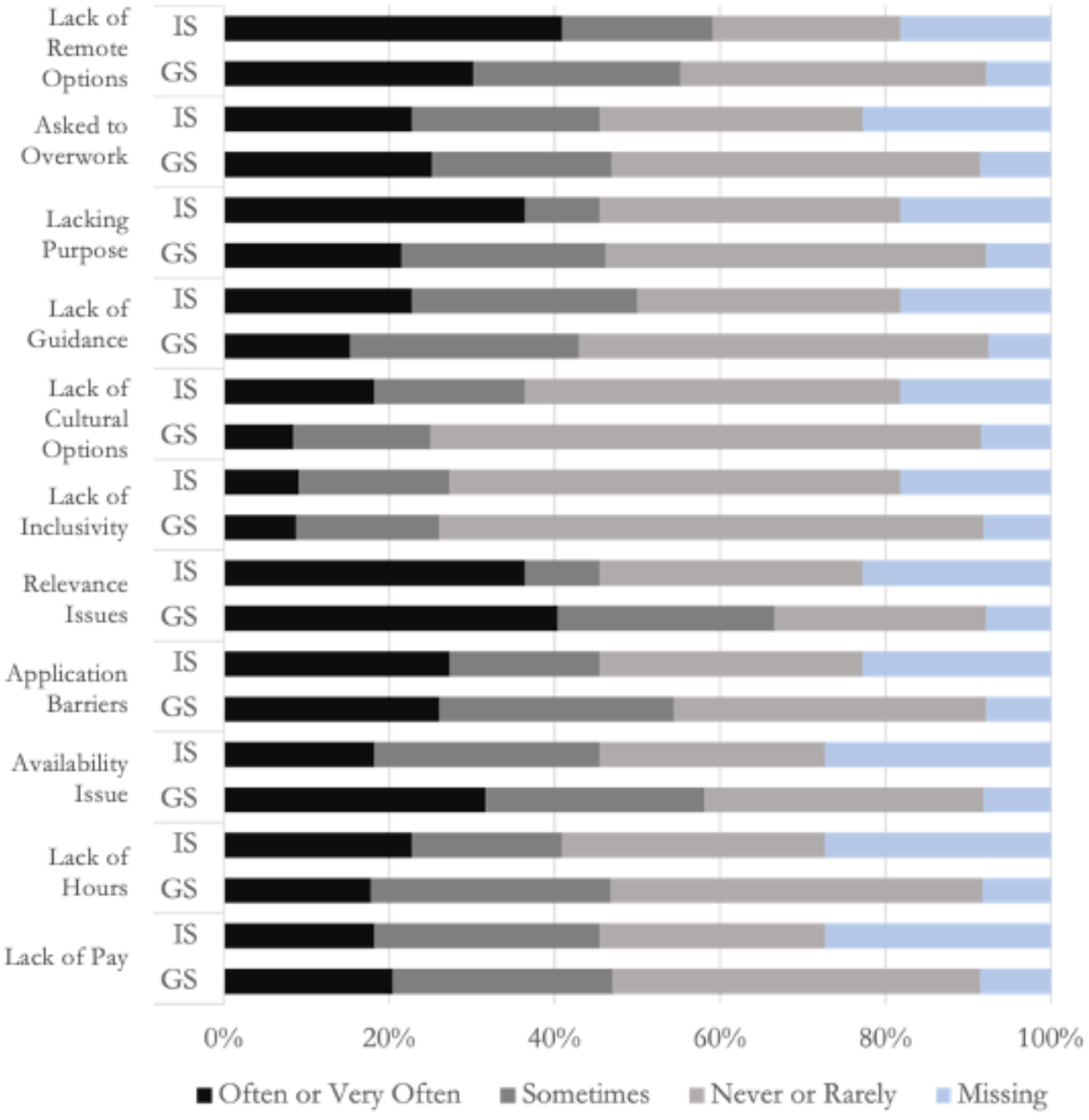
Although response rates were similar between the Indigenous and general samples, Indigenous students were more likely than the general sample to reported *often* or *very often* experiencing a lack of remote or home-based activities (40.9% for the Indigenous sample *vs.* 30.2% for the general sample), a lack of meaning or feelings of aimlessness (36.4% *vs.* 21.5%), and a lack of guidance or support in activities (22.7% *vs.* 15.2%).

Regarding their *current* access, 45.5% of the Indigenous sample, and 49.9% of the general sample, reported that they never accessed university-endorsed activities. Among those students who *were* accessing university-endorsed activities, the highest proportion were accessing them monthly (18.2% for the Indigenous sample *vs.* 20.4% for the general sample). Other options, such as accessing university-endorsed activities several times a day (4.54% *vs.* 0.74%), daily (0% *vs.* 0.44%), weekly (13.6% *vs.* 10.4%), and yearly (4.54% *vs.* 10.7%) were less prevalent.

In comparison to their current access, only 19.2% of the Indigenous sample, and 12.7% of the general sample, reported a *desire* to never access university-endorsed activities, under the circumstances that all barriers were alleviated. Instead, the largest proportion of students reported that they would prefer to access university-endorsed activities monthly (22.7% *vs.* 32.8%) or weekly (23.8% *vs.* 31.2%). Other options, such as accessing university-endorsed activities several times a day (4.54% *vs.* 1.62%), daily (9.09% *vs.* 3.55%), and yearly (4.54% *vs.* 10.7%) were less prevalent.

Figure 6

Response Rates Regarding the Frequency (Often or Very Often to Never or Rarely) of Encountering Barriers when Accessing University-Endorsed Activities, for Both the General (GS) and Indigenous Sample (IS)



Thematic Analyses

Analysis Approach

Method. For all qualitative responses in this thesis, four thematic analyses were conducted as an exploratory endeavor to guide future research and theory development. Thematic analysis is a method of interpreting a pattern of meaning from participants' written, verbal, or behavioural responses (Braun & Clark, 2006). An inductive method was used for this study because it allowed student responses to illuminate themes, and because limited prior research exists to justify a deductive method, or a method of using themes based on prior theory (Braun & Clarke, 2013). Both implicit (i.e., latent) and explicit (i.e., semantic) content was analyzed, and this was decided given both the breadth of content and the possible length of responses. This allowed me to both analyse the content exactly as written, and to consider deeper interpretations of meaning from student responses (Braun et al., 2019). By implementing a coding approach, this thesis specifically uses themes as *topic summaries*, or "overviews of the most frequent things participants said in relation to a particular topic or data collection question" (Braun & Clarke, 2021; Braun & Clarke, 2020, pg. 39). Participant responses were roughly one to four sentences in length, which ruled out the use of other approaches that required more detailed personal accounts, such as Interpretive Phenomenological Analysis (Pietkiewicz & Smith, 2014).

Stages. All four thematic analyses were completed in five stages by one analyst, with reference to methods created by Braun and Clark (2006, 2013) for implementing a thematic analysis. In the first stage, all responses were read to improve familiarity with the data. During this time, notes were created regarding how participants defined, understood, and made assumptions about their lived experience. The second stage involved rereading student responses to identify codes, or shorthand phrases, that captured the participant's meaning if it pertained to the question of interest. The initial codes were primarily identified from explicit meanings from written responses (e.g.,

reports of feeling exhausted when lacking life meaning), and the development of explicit codes helped in the later identification of implicit codes (e.g., life meaning as necessitated by external *vs.* internal forces). In the third stage, these codes were clustered to form theme names. In the fifth stage, the themes and associated codes were reviewed by the primary analyst and one additional reviewer to ensure participant responses were sufficiently represented by the created themes. Themes were altered, split, and refined during this stage to better fit the students' responses. While creating themes, every effort was made to not use prior theory and research—to avoid misinterpretation when reading participant responses and to encourage an inductive approach. In writing the results for each question of interest, I identify the number of participant responses and the theme description. Examples from participant responses are used to clarify themes further, and to incorporate the individual voices who took part in this study.

Required Sample Sizes. Responses to the four questions of interest in this thesis ranged from 5-16 participants. According to Sandelowski (1995), "there is no computation or power analysis that can be done in qualitative research to determine *a priori* the minimum number…of sampling units required" (p. 183). Supporting this, Fugard and Potts (2014) explain that power analysis, which involves "a chosen probability of finding a statistically significant result (power) for a given population effect magnitude" (p. 670), is a subjective process that relies on context. Some context-based elements include the size of the project, the availability of participants, researcher resources, and whether a study is a pilot project. Given this, several researchers have put forth their own guidelines for sample sizes in qualitative analysis, although Fugard and Potts (2014) highlight that these guidelines often have no clear basis. Some guidelines would suggest that the sample sizes present in this thesis would warrant no issue with conducting a thematic analysis. According to Braun and Clarke (2013), small projects can have as few as 6-10 participants.

Due to limited Indigenous respondents, we were not able to reach saturation for two of the four questions asked of participants (i.e., questions with less than 10 responses; Saunders et al., 2018). As such, a secondary method was used to assess assumptions around this analysis. In their quantitative method of identifying sample sizes, Fugard and Potts (2014) rely on the assumption that the *a priori* population theme prevalence is known; they also incorporate a subjective decision on the part of the researcher regarding the desired theme instances found in the analysis. Using this method at 80% power, anywhere from 5 to 14 participants would be needed to detect a theme *two* times, given a population theme prevalence of 20% (for 14 participants) to 55% (for 5 participants). Further, anywhere from 5 to 16 participants would be needed to detect a theme *three* times, given a population theme prevalence of 25% (for 16 participants) to 75% (for 5 participants). Using this method, for all thematic analyses, this thesis operates under the assumption that, at a power of 80%, population theme prevalence occurs between 20-75%. In this analysis, theme instances must occur, at minimum, twice.

Frequencies and Percentages. This thematic analysis does not include frequencies or percentages for the prevalence of each theme or subtheme (i.e., the number of instances a theme was identified in the written responses of students). There are several reasons why this decision was made. In line with recommendations by Hayward et al. (2021), this analysis emphasizes the individual agency and expertise of those students who responded. Accordingly, I avoided the inclusion of numeric data to ensure the focus of this analysis was on the students' intentions, meanings, and words. This decision was made to avoid reducing student experiences to numbers and instances. Further, removing numeric data may help avoid unconscious or deliberate efforts by the reader to rank order the priority or value of each theme. Finally, the prevalence of themes may vary depending on various sample characteristics, such as the sample size, the length of individual responses, or the time when data was collected.

RQ8: Indigenous Experiences with Loneliness and Stress

In completing the online survey, students were asks to provide a written response to the following question: "How has loneliness impacted your ability to handle the stress of the pandemic?" Sixteen Indigenous students responded to this question. A thematic analysis of their responses identified six themes (i.e., Degree of Impact, Loss, Coping, Identity, Quality, Technology).

The theme *Degree of Impact* described the relative severity of loneliness on stress. Most students reported that loneliness made a significant impact on their ability to handle stress; however, some students reported minimal stress despite experiencing loneliness. While one student noted that "feeling lonely was one of the hardest things [they] struggled with during covid", another wrote, "I do feel lonely on a day-to-day basis, but I am not necessarily unhappy about it."

Demonstrating the severity of impact, the theme of *Loss* comprised of two subthemes: *Type* and *Capability*. The subtheme, Type, was defined as a loss of certain types of social relationships, or a decline in certain types of social benefits. Some students described a loss of friendship, or a loss of closeness with others. For example, one student wrote, "Loneliness impacts my ability to handle the stress because I do not feel I have anyone to confide in at a deep level or who would understand me." The subtheme, Capability, was defined by a perceived loss of social skills, comfort, or ease of methods when accessing relationships, thus increasing the difficulty of managing loneliness. A student reported that the experiences of loneliness and stress "makes it harder to be around people when they are around." Another student wrote, "It has been harder to meet people. [I] feel more isolated and disconnected."

The theme labeled *Coping* defined the necessity for relationships to aid in distraction, downtime, understanding, closure, emotional support, among other reasons. In addition to needing living relationships, students also discussed the stress of being unable to see loved ones who had passed away. While some students described how the presence of relationships helped them cope,

others described how the absence of relationships negatively impacted their ability to cope. One student wrote: "Feeling isolated from friends and community has made it difficult to have 'downtime' from work and studying, which I think has increased my stress."

The desired quantity of social interaction was negotiated in terms of personal identity and social need. The theme of *Identity* defined variability in student perceptions of themselves as social beings. This theme was split into two subthemes, including *Socially Active* and *Chosen Solitude*. Some students reported desiring more frequent social contact because they identified themselves as socially active. For example, one student wrote that "being isolated from lots of my friends and family for so long really had a negative impact on me because I am a very social person and am super close with all my friends and family." Others described a chosen solitude, highlighting feelings of introversion, feeling good being alone, or not experiencing stress or loneliness while being alone. One student said, "I never had a wide social group of friends. I am an introvert. Loneliness is not a symptom of this for me."

In the recognition of opposing interpretations, *Quantity* could have represented a theme that defined students' perceived need for an increased frequency of social contact. The theme of Identity was used to encompass such ideas because student discussions of quantity were anchored by their perceptions of identity; further, labels such as "socially active" or "introvert" inherently contain elements relating to social quantity.

Juxtaposing ideas of quantity was the theme labeled *Quality,* which defined the need for excellent friendships. Quality was discussed in terms of the support, closeness, and depth of understanding that another person provided, as well as the importance of another person to an individual. Some students discussed the desire to ensure that relationships met their social and emotional needs. One student wrote, "I have great relationships with the few friends I have, and they are worth more to me than a large friend circle. Quality over quantity."

Despite feelings of loss, students reported methods of improving their access to others. For example, the theme of *Technology* encompassed any mention of online methods for combating feelings of loneliness. One student reported that social media helped them talk with people more often than they ever had in the past. Another reported that the pandemic made them "isolate in real life but become more connected to an online gaming community across North America."

RQ9: Indigenous Experiences with Life Meaning and Stress

Students were asked "how has life meaning impacted your ability to handle the stress of the pandemic?" Fourteen Indigenous students responded to this question, and resulting from a thematic analysis, six themes were identified (i.e., Unresolved, Degree of Impact, Benefit, Community, Locus, and Opportunity).

The first theme was entitled *Unresolved*, and it defined any written experiences of being unable to articulate one's life meaning. For example, one student wrote, "The uncertainty [of the pandemic] makes me feel like I don't know what to do with my life."

Degree of Impact was defined by perceptions of the degree of life meaning's impact on experiences of stress from the pandemic. Most students reported that feelings of life meanings played an important role in mitigating experiences of stress, whereas some students reported that they either were not stressed, or they did not see any connection between life meaning and stress. For example, one student said, "I haven't noticed any meaningful impacts that could not be explained by other factors (e.g., university applications…)."

Among those who reported that their stress was impacted by life meaning, the theme of *Benefit* was identified. This theme was defined by any written mention of life meaning's beneficial role in managing stress. Life meaning was helpful for both instilling a sense of achievement and distracting students from the pandemic, while a lack of life meaning was describes as causing aimlessness, exhaustion, overwhelm, and uncertainty. One student wrote, "Being able to work

towards my goals and have opportunities that further my education helps me feel that I am able to achieve despite the barriers put up by the pandemic." Another student wrote, "Honestly, my reasons for going to school are often what keeps me on a safe and healthy path. I have a strong desire to see my education through."

The theme, *Locus*, described whether feelings of life meaning were produced internally or externally to the person. The subtheme, *Internal*, described the belief that life meaning could be felt despite a lack of direction, and experienced without application to the outside world. An example of this is feeling life meaning because of inherent personal value or identity (e.g., a student, mother, son, etc.). As an example, one student wrote, "I still have a purpose, I just don't know what for…." Another student described, "I never really found life meaning outside of myself and so [the pandemic] wasn't too big an adjustment for me." The subtheme, *External*, described the belief that life meaning was contingent on an engagement with outside, environmental factors. Life meaning was produced by work, school, or community interactions, and it was hindered by environmental and social barriers. One student wrote, "I travelled during the pandemic and felt I lost my life meaning because I was not working or going to school."

The mentions of community when discussing perceptions of life meaning warranted its own theme. *Community* was defined by a perceived interrelation between social factors and feelings of life meaning. Isolating measures from the pandemic, including public health orders, travel restrictions, and quarantining, were noted as factors impacting feelings of purpose. For example, in relation to their experiences of life meaning, one student explained that "not being able to go home, many people dying because of covid, and ongoing colonization impacts me drastically every day. I am tired."

Finally, the theme of *Opportunity* defined student assumptions regarding their ability to overcome and find life meaning during the pandemic. While several students reported a lack of

opportunities, others described shifting their pursuits and redefining what life meaning meant for them. For example, one student wrote, "Some of these opportunities have been put on hold because of the pandemic, which is a source of stress, but I am managing to find other opportunities in the meantime."

RQ10: Indigenous Experiences with Social Support Services

Participants were asked if they would like to expand on their social support needs and experiences. Nine Indigenous students provided written feedback to this prompt. A thematic analysis identified five themes (i.e., Warmth, Uninvolved, Time, Identity, and Financial).

The theme of *Warmth* defined student frustrations when navigating cold and clinical treatment by medical and mental health professionals. This theme contained concepts of dehumanization, where the needs and emotional challenges of students were viewed by professionals both unempathetically and at a distance. Students highlighted the need for supports that were passionate, specialized, caring, and unprejudiced. One student wrote that "trying to access mental health support through the biomedical system has not been a good experience for me. I have only ever been offered [medication] as a solution when I need to speak with a mental health professional." Another student recounted their experiences, writing:

> Upon obtaining my medical records, recently, including mental health records, I have decided that I will not access assistance of any kind unless I am mortally desperate. What a wake-up call that was—one of the most severe and depressing experiences that I have had, and I have had many. Upon reading the clinical notes, I was left feeling as though I was nothing more than a monkey in a cage, financially serving the professions charged with my care, all the while affirming the reason for their existence. I felt that I was nothing more than a curiosity…

This quote encompassed another theme, *Uninvolved,* which described a refusal to engage in social support services. This theme was separated into two subthemes: *Interest Barrier* and *Autonomy*. The quote above exemplified the subtheme Autonomy, which defined a deliberate refusal to engage in services as a means of reducing harm. The subtheme, Interest Barrier, defined those individuals who demonstrated a low interest in seeking help. For example, one student wrote, "I have never sought help from social support, and therefore not received much. Professional support was offered by my parents; however, I procrastinated out of it."

The theme, *Time,* was defined by a feeling that services did not have enough time for students. This theme identified the need for an increase in the availability of services, with more appointment slots and professionals, to decrease wait times. One student noted that "there are not enough workers available—always waiting for an appointment…." Another student wrote, "Clinics are so busy. Crazy waitlists. They try to get you in and out as fast as possible."

The theme of *Identity* was defined by a need for more culturally meaningful and specialized options for support services that recognized the identity of the person. One student reported that they "do not have a lot of cultural connections…so it makes it hard to connect often. Not many BIPOC counsellors/therapists are also on the island or online to access."

The final theme, *Financial*, defined any mention of monetary barriers when accessing social support services. Students reported not accessing services due to their cost. Other students highlighted how services were feasible because of external support. For example, one student wrote, "I am in the process of starting counselling for the first time, as it's funded through my First Nations health benefits."

RQ11: Indigenous Experiences with University-Endorsed Activities

Five Indigenous students responded when asked to expand on their experiences when involved in university-endorsed activities. A thematic analysis revealed three themes (i.e., Isolation, Uninvolved, and Meaningfulness).

The theme of *Isolation* was defined by any reference that the university was an unwelcoming or inaccessible environment. This theme was separated into two subthemes, which included *Segregation* and *Inaccessibility*. The subtheme of Segregation highlighted a more negative view of Western educational environments as a system propagating exclusion by inherently neglecting the needs of Indigenous students. Encapsulating this idea, one student wrote, "I am not involved in any university-endorsed activities because I think the university exists as an entity separate from the greater community and it caters to a certain class of people that I have always felt excluded from." Another student wrote that it "feels difficult as an Indigenous-identifying person to navigate and feel accepted for who I am by the settler-colonial structures put in place by UVic. This is especially true when looking for work opportunities/university-run activities." The subtheme of Inaccessibility corresponded to any mentions regarding a lack of culturally meaningful or welcoming activities. One recommendation included more "research on the field work for Indigenous folks, mostly in undergraduate."

The theme, *Uninvolved*, defined any barrier inhibiting engagement with university-endorsed activities. This theme was divided into two subthemes, including *Obligation Barrier* and *Knowledge Barrier*. Obligation barriers defined any time-based or monetary obligations that inhibited student engagement with university-endorsed activities. For example, one student wrote, "Being a working-class member with a low-income background while attending the university means I have no spare time or will to join university-based activities." Knowledge barriers involved not knowing how to get involved with university-endorsed activities. Highlighting this, a student wrote, "I don't have a lot of

experience seeking out activities. I would like to be more involved, but I don't know how…." This suggests a need for university-endorsed activities that are both easier to access and more financially rewarding.

The final theme, *Meaningfulness*, defined whether a student found university-endorsed activities resolved their needs or goals. In describing their desire to engage with activities, a student noted, "I feel like I need a connection to it." Another student reported that they did not "find them appealing or necessary for my studies."

Discussion

This discussion utilizes multiple findings across all research questions and hypotheses to address several specific topics:

(a) The increased severity and impact of emotional loneliness on resilience, when compared to the social loneliness.

(b) Life meaning as an under-represented variable impacting resilience and school satisfaction.

(c) Life meaning and loneliness as potentially interconnected psychological experiences.

(d) Additional insights regarding resilience: comparisons to school satisfaction, as well as impacts of systemic barriers and developmental trends.

(e) Decolonizing and innovative methods of overcoming barriers to social support services and university-endorsed activities.

Emotional Loneliness

Supporting prior research, emotional loneliness was at an increased prevalence for this sample of students, when compared to social loneliness (RQ1 and H1). Emotional loneliness also significantly predicted resilience, whereas social loneliness did not (see RQ2 and H2)

Response rates and qualitative themes supported theoretical conceptions of emotional loneliness, as well as the impact of this psychological experience on wellbeing. For example, students preferred informal, known, and offline methods of seeking support, which suggests an increased need for emotional closeness. Students also preferred face-to-face, texting, phone calling, and video calling options for contacting social supports, when compared to online, anonymous, or social media-based options. The preference for texting may be due to its immediate, private, and highly accessible nature, thus improving access to supports. Students may have also preferred video calling, phone calling, and in-person options because they provide nonverbal and/or vocal cues, which may subsequently increase the quality of emotional connection.

These findings show some variability when compared to pre-pandemic measures of help-seeking behaviour. Prior analyses suggest a greater endorsement of online mental health options among younger ages (e.g., online mental health services); these studies suggest that individuals prefer the ease of access, immediacy, privacy, and anonymity of online options (Pretorius et al., 2019). The findings of this current study could suggest a cultural shift in both emotional support needs and methods of communication during crisis situations, one marked by a withdrawal from online options, and an increased preference for intimate and in-person social supports. Given limitations on in-person gatherings during prior lockdowns of the pandemic, students may hold in-person and known sources of support in higher regard. Consequently, desired social support sources and methods of contact could vary over time given political, economic, and social climates.

Considering response rates, a higher proportion of students reported that their needs were greater than supports could handle (see RQ6), when compared to those who reported this was less of a concern. This finding could support a crisis-based theoretical interpretation of emotional loneliness, where challenging life events could increase the need for emotional support and quality social relationships. A higher proportion of students reported that they lacked a certain level of closeness with others, which was needed to feel comfortable disclosing their concerns (see RQ6). This suggests another element of emotional loneliness—a need for quality, intimate, and trustworthy relationships to improve wellbeing.

Under the theme of *Benefit,* Indigenous written responses noted the value of social relationships for providing downtime or emotional support (see RQ8). These findings offer some understanding as to how quality relationships may bolster resilience, by providing access to coping behaviours such as distraction, catharsis, empathy, or closure. Under the theme of *Warmth*, students also highlighted a need for improved social support services that addressed cold and clinical practices. Students described a need for professionals that were more engaged, caring, and

compassionate toward those seeking support (see RQ10). This suggests that quality social relationships are not only necessary for improving emotional loneliness, but they can also facilitate treatment processes in medical and mental health settings. For the theme of *Time*, students reported a need for services that could dedicate enough support to each student, with decreased wait times, more availability, less busy office environments, and more time per sessions (see RQ10). This suggests that the effectiveness of services requires time to develop high quality relationships, which in turn improves health outcomes.

These findings suggest that improved mental and physical health outcomes require structural changes to social, clinical, and medical settings. The improvement of available services must resolve issues of quality and quantity (i.e., improved client-professional relationships; time and strategies for developing comfort with unknown professionals; a greater respect for the dignity and humanity of persons; and increased availability and time for each client).

Life Meaning

Given the extensive media- and research-related focus on loneliness and isolation during the pandemic, life meaning may be an under-represented variable in COVID-19-related discussions. In addition to predicting resilience, life meaning was also a notable predictor of school satisfaction, whereas resilience, emotional loneliness, and social loneliness were not (see RQ2, RQ3, H1, and H2). Although resilience may improve recovery from stressful life events (e.g., academic pressures and stressful living contexts during education), it may not improve satisfaction or enjoyment for the post-secondary experience. Rather, improving life meaning could be a method of accomplishing both satisfaction and stress recovery; in the opposite direction, improving school satisfaction may improve life meaning and therefore resilience.

There could be several reasons why life meaning predicts school satisfaction: (1) students may enjoy their school experience more when it aligns with their life meaning; (2) positive post-

secondary environments may foster an ascertainment of one's life meaning; (3) feelings of life meaning may encourage beneficial pattern interpretation from random and/or challenging events (e.g., "Everything happens for a reason."); and/or (4) feelings of life meaning may encourage positive thinking about one's choices, such as one's decision to attain a post-secondary education (e.g., "This may be difficult, but it will pay off.").

Written responses from Indigenous students further highlighted the importance of experiencing feelings of life meaning. For example, Indigenous students were most likely to endorse that life meaning impacted their experiences of stress (see RQ9). For some students, life meaning gave them a sense of achievement and passion; by comparison, those who lacked a sense of life meaning described resultant feelings of exhaustion, overwhelm, and uncertainty. Students also noted a feeling of autonomy and fulfillment that came from flexibly shifting pursuits. This highlights a potential interconnection between ideas of life meaning and perceived opportunity, and further supports the need for more diverse, culturally sensitive university-endorsed options, which could improve students' ability to shift pursuits.

Interpreted from this, students with life meaning may have an increased awareness of their personal narrative, as well as their unique place in this world, which may create a feeling of coherence. This concept aligns with Indigenous philosophies, in which individuals are embedded within broader cultural, familial, social, environmental, and socio-political contexts. Individuals with greater feelings of life meaning may also see *themselves* as agentic and their *actions* as valuable in achieving meaningful outcomes. Feelings of life meaning may also improve resilience by assigning positive meaning to random life events, thus increasing a feeling of hope and accomplishment when overcoming obstacles.

Loneliness and Life Meaning

Student response rates and qualitative responses suggested an interconnection between the experience of life meaning and loneliness. Considering response rates, two of the most frequently valued aspects of university-endorsed activities included meeting others with shared interests and having the ability to help others (see RQ7). This suggests that feelings of life meaning may aid in enmeshing individuals within a social and communal context, just as social contexts may form the basis of one's sense of life meaning (e.g., the potential feeling of life meaning attained from being a mother or a member of a cultural group). Engagement with quality university-endorsed activities, therefore, could resolve feelings of life meaning *and* loneliness.

Supporting this, Indigenous written responses noted an interconnection between life meaning and loneliness. Under the theme of *Community*, students described how isolating factors of the pandemic had decreased their feelings of life meaning by separating them from their social supports (see RQ9). Further, under the theme of *Isolation*, Indigenous students reported that their lack of involvement with university-endorsed activities was due to feeling segregated or unwelcomed (see RQ11). These themes demonstrate how broader, systemic social factors can impact the ability to access purposeful activities.

Insights on Resilience

The findings from this study identified three additional insights regarding resilience: (1) resilience and school satisfaction may require different methods to be achieved, (2) resilience may be impacted by the presence of structural and systemic factors, and (3) resilience may be impacted by developmental trends.

Based on the findings from this study, resilience and school satisfaction are not necessarily associated with the same factors. Increased feelings of resilience may be associated with increased age and financial stability, or by improving feelings of emotional loneliness and life meaning (see

RQ2 and H2). By comparison, positive school satisfaction may be associated with increased financial stability, hours worked and studied per week, or feelings of life meaning (see RQ3). These findings highlight the importance of understanding the role of life meaning in school settings, given its influence on school satisfaction and resilience.

Further, the results from this study highlight a perspective of resilience as impacted by the existence of systemic barriers. The results of this study demonstrated that persons of color were more likely to be impacted by barriers to social support options and/or university-endorsed activities (see RQ6 and RQ7), with lower mean scores of loneliness and life meaning when compared to the general sample (see RQ4, RQ5, H3, and H4). Further, Indigenous students reported feelings of exclusion, segregation, and poor treatment when accessing services and activities in their written responses (see RQ10 and RQ11). These results highlight the need for more decolonizing approaches in academic settings.

Supporting prior research, Indigenous responses also identified that resilience could be grounded in resistance. Written responses from students highlighted a deliberate disengagement with medical and mental health services (RQ10), as well as a refusal to engage with Western academic activities as a means of reducing harm (RQ11).

Resilience may also be impacted by development. The results from this study support the impact of age, such that older individuals were more likely to report higher resilience, greater feelings of life meaning, and lower feelings of loneliness (see RQ2 and H2). Older students may have the benefit of more time when establishing financial and coping resources. In general, the findings from this study depict several challenging contexts that students are exposed to during the COVID-19 pandemic. Most students from this sample reported that their workload had increased, and their mental health had worsened; furthermore, most students reported that they were anxious about returning to normalcy after the pandemic (see Table 4). This offers a depiction of the challenges

students face during their education, and why resilience may be difficult when social supports and feelings of life meaning are absent.

The Impact of Service and Activity Barriers on Loneliness and Life Meaning

The results of this study demonstrate that perceived barriers to services and activities may negatively influence experiences of life meaning and loneliness (see RQ4, RQ5, H3, and H4). As such, it is important to apply innovative solutions to social support services and university-endorsed activities, to increase ease of access, and therefore aid the reduction of loneliness and life meaning.

Based on response rates, both the Indigenous and general sample preferred informal, offline, and known sources of support; they also preferred face-to-face, texting, video calling, and phone calling as methods of communication (see RQ6). Common barriers to social support options included issues of cost and availability, as well as perceptions of a lack of closeness and higher needs than what supports could handle. Across all domains, Indigenous participants were more likely to experience barriers when seeking support, with far more frequent experiences with cultural unawareness, location issues, application difficulties, and information barriers. Indigenous written responses specifically identified a need for (1) more passionate and considerate services, (2) more culturally and racially specialized services, (3) increased time and availability in services for each student, and (4) lowered costs (see RQ10).

Further, based on student response rates, both the Indigenous and general sample were more likely to value paid jobs, research assistant positions, and off-campus employment (see RQ7). Based on mean scores, they were also more likely to value (1) meeting people with similar interests, (2) gaining knowledge, (3) improving their ability to be hired, (4) helping others, and (5) improving their income. A higher proportion of Indigenous students also valued community integration, which was better reflected by proportions than mean scores. Finally, students were most likely to face barriers related to a lack of relevant or remote university-endorsed activities. Indigenous students

were also more likely to struggle with issues of aimlessness and a lack of guidance with activities. Further, Indigenous written responses suggest an increased need for meaningful, accessible, culturally relevant, and financially rewarding activities (see RQ11).

Implementing these findings, the following section offers several solutions that may improve the schooling environment for post-secondary Indigenous and non-Indigenous students. Some of these solutions may already be implemented at the University of Victoria but deserve noting for other post-secondary contexts. These practices are created to (1) improve the cost-to-benefit ratio of available activities and services; (2) increase the feasibility, functionality, and availability of existing services; and (3) offer new and innovative methods of meeting the needs of students. All recommendations are in the process of being reviewed for quality with the IACE at the University of Victoria.

Loneliness and Social Support Services

(1) Offer an optional, online mental health screening tool to students, to help identify those at severe risk of loneliness, anxiety, depression, or suicidal thoughts. Using the confidential responses of students, automatically connect high-risk individuals to a counsellor (see UCLA, n.d. for more information). Those at risk of severe loneliness can opt into a social support program, where they will be matched up with other lonely students based on personality and shared interests.

(2) Offer private, pop-up counselling clinics in areas where students most frequent, such as cafés or study halls, to increase familiarity and comfort around counselling services, and to increase student likelihoods of accessing support. This option could be offered peer-to-peer: students could attend a pop-up event on campus that involves matching students to discuss their concerns, learn of shared problems, discuss their solutions, and offer support. This option was implemented by the University of Sheffield (University of Sheffield, 2018), and

could be modified to incorporate talking circles run by Indigenous members on campus. During periods of lockdowns or physical distancing, offer this option online through private breakout rooms on services such as Zoom.

(3) To improve familiarity, on campus mental health professionals can introduce themselves during student orientation seminars, or during appropriate classes, workshops, or assemblies throughout the year.

(4) Implement efficient and easy-to-use online booking software for counselling appointments.

(5) To reduce stigma, include guest speakers at assemblies or events with personal experience with help-seeking, mental health, and stress recovery.

(6) Appoint a mental health representative with training in decolonizing mental health approaches who can field questions about where and how to access services on campus. This representative could offer informal and formal solutions in addition to counselling (i.e., self-help strategies, courses, books, research articles, social clubs, support networks, cultural communities, etc.). This option could better meet students' needs and reduce the burden on counselling services.

(7) Ensure course loads are not so heavy as to detract from a student's ability to maintain work-life balance, and consider the language used by professors and students that might encourage unhealthy behaviours around productivity. For example, as part of mental health listings on course syllabi, reiterate the importance of students remaining in touch with quality informal social supports, which could be neglected by students if schooling efforts are prioritized too greatly.

(8) Utilize Indigenous philosophies in recognizing the importance and maintenance of broader relations, such as to culture, community, or the land. Research has also identified the importance of animal companions as relational connections among Indigenous individuals

aged 18-29 years (Doucet, 2020). To support this, offer more community-based activities that incorporate access to nature or animals. This could be achieved through hosted animal events on campus or in surrounding parks, where students can take time from their schedules to spend time with support animals.

(9) Support and proliferate information on existing Indigenous initiatives among students on campus, such as Dogwood or Spirit of Drumming at the University of Victoria.

(10) Offer workshops and seminars on Canada's history with residential and medical segregation, to increase awareness of this information among faculty, staff, and students. This can include discussions on Indigenous mental and physical health philosophies and a list of available culturally specialized services both on and off campus. The University of Victoria has implemented this as part of their Indigenous Cultural Acumen Training (University of Victoria, n.d.).

(11) Hire more racially diverse and culturally specialized counsellors. Provide an easily accessible online list of research articles on Indigenous counselling methodologies for staff, counsellors, and faculty; further, offer regular training among on-campus counsellors on methods of decolonizing counselling practices. For example, one method could be implementing *Cultural Auditing*, which utilizes a thirteen-step process for the purpose of achieving greater cultural understanding between counselor and client. Some features of this process include the validation of the client's values and beliefs; the recognition of the client's concerns with the therapeutic process; the willingness to adjust session times, frequencies, and lengths to suit the lifestyle of the person; and a recognition of familial, cultural, communal, and political influences of oppression. The counsellor must engage with ongoing efforts to address their personal biases about their own culture and the counselling process (learn more from Boyer, 2022).

Life Meaning and Meaningful Activities

(1) In addition to discussions of isolation and loneliness, increase future discussions among students, faculty, and staff on life meaning during crises or pandemic situations. Under the circumstance of lockdowns, offer culturally sensitive resources and research articles pertaining to the impact of job loss, academic closures, and a loss of life meaning on psychological wellbeing.

(2) Continue offering safer employment options during a pandemic (i.e., online, remote, or physically distanced). In a critical synthesis of literature on Indigenous health perspectives, Fijal and Beagan (2019) recommend recognizing the importance of occupations as an element of life meaning. As such, having the ability to stay busy, volunteer, work, and study may help alleviate feelings of a loss of life meaning and ensure students remain financially stable.

(3) Offer methods of maintaining a feeling of life meaning despite the loss of employment, schooling, or activities. Based on prior research, such meaning-making methods could include accessing nature more frequently, listening to nature sounds, and considering life as a portion of a greater whole (Ahmadi et al., 2021). Other recommendations include:

    (a) Problem-focussed coping strategies, such as establishing new routines, developing new hobbies, or spending time outdoors;

    (b) Emotion-focused coping strategies, such as creating positive comparisons, reinterpreting events, finding acceptance, expressing gratitude; and

    (c) Communal coping strategies, such as volunteering, recognizing communal responsibility, working together toward solutions, engaging with cultural and community centers, and recognizing that one is not alone in their struggles (Sandbakken & Moss, 2021).

(4) Feelings of life meaning may be intricately woven with experiences of colonization and trauma, which may be amplified by the COVID-19 pandemic; so, providing students with trauma-informed and decolonizing practices would be beneficial. This could include working with Indigenous organizations who specialize in Indigenous mental health and incorporating their resources, such as the First Nation's Health Authority. Consider trauma- and Indigenous-informed strategies that honour relationality, spirituality, cultural practices, and connections to the land (Panofsky et al., 2021). Speak with Indigenous individuals to confirm the veracity of recommendations before offering them to students.

(5) Increase the offerings for paid and volunteer positions among undergraduates to provide more opportunities for meaningful engagement across campus. For example:

   (a) Offer free, culturally inclusive stress management classes monthly that both encourage community involvement and student volunteer opportunities.

   (b) Create a university-located helpline run by trained, volunteering, and paid students. This service would help individuals who are struggling with loneliness and mental health concerns; this would also give volunteering students the opportunity to meet people with shared interests, help others, gain knowledge, demonstrate leadership, and improve hiring options. This could be offered to undergraduate students to improve their skills before entering further education in social work or counselling. With online methods such as Zoom, include anonymous options that allow students to block their name and camera. An example of this concept includes the University of Victoria Student Society Peer Support Center (UVSS, n.d.).

   (c) Develop volunteer-based, informal support networks on campus, such as buddy systems, and improve the quality of connection between students by implementing surveys to match personalities and interests.

(6) Create an elective or mandatory course geared toward improving academic, relational, and career experiences. The course could offer research-backed methods of improving psychological needs, such as managing interpersonal conflict, improving social skills, sustaining motivation on meaningful activities, developing a growth-based mindset, and managing stressful experiences (e.g., coping strategies such as self-compassion, mindfulness, and how to manage trauma responses). This course could encourage a hands-on application of strategies to encourage student engagement, thus potentially reducing the burden on counselling services through preventative measures.

(7) Implement a centralized and updating webpage for available research assistant positions across one or several post-secondary schools, with information available on the research topic, the department, and method of application.

(8) Offer more information to students on how to find off-campus employment, with a centralized and updating webpage for in-person and remote positions in organizations and government institutes across British Columbia. An example of this option is available through Career Services at the University of Victoria (University of Victoria, n.d.).

(9) Use online screening tools that identify student preferences and needs for university-endorsed activities, and provide information that would suit their needs, such as types of available clubs, jobs, career prospects, and services on campus.

(10) Create protocols to continuously survey the quality of university-endorsed activities, as well as which types of activities are most valued or needed, given the potential for changing cultural, political, and technological climates. Further, implement more Indigenous options for university-endorsed activities, such as surveying Indigenous students for valued and meaningful improvements on campus and utilizing Indigenous volunteers to bring these improvements to life.

Conclusion

The statistical findings, response rates, and written responses from this thesis highlight a narrative of adaptation. Despite moving through one of the most challenging developmental periods for psychological wellbeing, and despite handling the challenges posed by a pandemic, students are finding innovative means of adapting, recovering, and overcoming.

In line with Indigenous perspectives, the results of this study suggest that resilience can occur in individual, social, cultural, and systemic contexts. This suggests that psychological wellbeing of individuals also relies on the adaptation of our schools, organizations, and governments. The history of Indigenous people in Canada is marked by adaptation as group of people who have had to fight to overcome racial discrimination, isolation, and systemic segregation. It is the responsibility of Western academic environments, in addition to provincial and national policy makers, to recognize this and respond in kind through acts of reconciliation.

Crises like pandemics pose existential threats that challenge mental health. As a global society, we are more interconnected and more attuned to changes in our world. This leaves countless individuals vulnerable and ill equipped to mentally handle rapid social and environmental changes that occur from natural disasters, climate change, or pandemics. Life meaning and loneliness pose two factors impacted by such existential threats. Instilling a clear sense of meaning and ensuring strong relational connections may be essential for both facing global challenges and ensuring younger generations excel despite it.

Overall, researchers, policy makers, and clinical practitioners should not mistake resilience for a coping mechanism or a glorification of one's ability to suffer. The results of this study instead highlight that resilience is an outcome, one that occurs because of individual, communal, structural, and environmental responses that aid in resolving suffering.

Limitations

The most notable limitation of this study is the number of Indigenous participants. Although the samples sizes allowed for thematic analyses, the Indigenous response rates are likely unrepresentative of the Indigenous population at the University of Victoria. In line with decolonizing research methods, the responses rates of those Indigenous students who took part in this study are included regardless, to better understand their unique voices and to provide additional context to their written responses.

This sample for this study was largely women engaged in the field of Social Sciences. As such, the results of this study may not adequately reflect the perspectives of men, or those individuals in other educational fields.

This study relied upon validated measures of life meaning, loneliness, and resilience; however, these measures may be influenced by student perceptions, the time data was collected, or cultural variation. Additional effort was placed into finding and using measures that had been assessed on more than one sample or country, with all measures reviewed and approved by the IACE at the University of Victoria. Despite this, the validated measures in this study have not been specifically researched as valid among Indigenous populations. Further, due to the cross-sectional nature of this data, direction of effects or causality cannot be determined from this analysis.

Given the rapid changes during the pandemic, student responses are unique to the timeframe during which they were collected. Data were collected prior to the outbreak of the omicron variant, during the first semester where both in-person and remote classes were offered since the previous lockdown. Thus, these findings may differ with research conducted when schools were fully closed, or when COVID-19 cases were higher nationally or provincially.

Future Research

Among Indigenous written responses, the theme of *Locus* described an internal *vs.* external source of life meaning (see RQ9). Future research could also consider the presence and impact of internal and external sources of life meaning, as well as methods of fostering internal sources of life meaning when external sources are not available.

More research is also needed on technological innovation in Canada. Given the rates of mental health concerns among students, as well as the barriers faced by students when accessing services and activities, Canada must begin implementing more efficient and effective methods of identifying and providing care to individuals, while simultaneously increasing access to services, lowering cost, and improving the amount of time dedicated to each individual. More research is also needed on proactive technological methods of avoiding mental health concerns, as well as innovative, effective, and streamlined methods for patient follow-up once mental health services have been utilized.

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Appendix A

Participant Consent Form

NOTE: THIS WILL BE ADAPTED FOR USE IN AN ONLINE FORMAT

Improving Academic Success and Stress Recovery for Post-Secondary Students during COVID-19

You are invited to participate in a study entitled *Improving Academic Success and Stress Recovery for Post-Secondary Students during COVID-19*, which is being conducted by Brooke Lagore and Dr. Chris Lalonde

Brooke Lagore is a graduate student in the department of Psychology at the University of Victoria and you may contact her if you have further questions by email (brookelagore@uvic.ca).

As a graduate student, I am required to conduct research as part of the requirements for a degree in Lifespan Health and Development Psychology. It is being conducted under the supervision of Dr. Chris Lalonde. You may contact my supervisor email (250 721-7535 or lalonde@uvic.ca).

Purpose and Objectives

The purpose of this research project is to be better understand experiences of loneliness, life meaning, and resilience in post-secondary education during COVID-19. We are interested in surveying your needs regarding social supports, social services, and university-endorsed activities (e.g., practicums, job positions, leadership opportunities, and volunteer possibilities). We are also particularly interesting in ascertaining the needs of Indigenous students. This information will be used to identify potential, implementable solutions at the University of Victoria for supporting resilience, academic success, and stress recovery among students.

Importance of this Research

This research is important because it will inform the University of Victoria of student needs during times of crisis. Further, this information will inform researchers, government entities, and policy makers on the experiences and needs of students. This research will also inform our theoretical understanding of how resilience is influenced by life factors.

Participants Selection

You are being asked to participate in this study because you are a post-secondary student at the University of Victoria.

What is involved

If you consent to voluntarily participate in this research, your participation will include the completion of a 15- to 30-minute online questionnaire using www.surveymonkey.com. This questionnaire will consist of questions regarding your background (e.g., race, gender, age, living and work environment); your experiences with loneliness, life meaning, and resilience; and your needs, values, and barriers regarding social supports, social support services, and university-endorsed activities. You may also respond to questions in a written manner, if you would like to provide more information.

Inconvenience
Participation in this study may cause some inconvenience to you; some of the questions ask about experiences regarding the COVID-19 pandemic.

Risks
There are no known or anticipated risks to you by participating in this research.

Benefits
The potential benefits of your participation in this research include assisting in the potential improvement of social support services and university-endorsed programs on campus.

Compensation
As a way to compensate you for any inconvenience related to your participation, you will be given course credit for x% through the Department of Psychology SONA Research Participation System.

Voluntary Participation
Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. However, should you choose to complete the study and wish to withdraw your responses afterward, please note that you will be unable to make this request. Since data gathered is anonymous, individual responses provided in this study will not be able to be removed after completion of this study.

Anonymity
Anonymized, de-identified data files will be kept only on password protected computers when accessed for data analysis. Data reported will be in an aggregate format, with some quotes from qualitative responses to contextualise our findings.

Confidentiality
Every effort will be made by the institution and researchers to keep information confidential. Responses will be recorded in confidential CSV files using the University of Victoria's secure Netdrive storage system.

Dissemination of Results
The aggregate results of this study will be disseminated via presentations at conferences, publications, and/or presented at professional national or international conferences.

Disposal of Data
Information collected will include demographics (e.g., gender, age, race), responses to survey questions, and responses to standardized questionnaires. Data will be retained indefinitely and may be used in the analysis of related research questions in the future. Only Brooke Lagore and Dr. Chris Lalonde will have access to the responses of this survey. Consent forms will be kept for a minimum of five years

Contacts
Individuals that may be contacted regarding this study include Brooke Lagore (brookelagore@uvic.ca) or Dr. Chris Lalonde (250 721-7535 or lalonde@uvic.ca).

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca).

Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered by the researchers, and that you consent to participate in this research project.

_____	_____	_____
Name of Participant	*Signature*	*Date*

Future Use of Data *PLEASE SELECT STATEMENT:*

I consent to the use of my data in future research: _____ (Participant to provide initials)

I **do not** consent to the use of my data in future research: _____ (Participant to provide initials)

I consent to be contacted in the event my data is requested for future research: _____ (Participant to provide initials)

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Appendix B

Debriefing Form

Thank you for your participation in this experiment. The goal of this study was to better understand the lifestyle factors impacting post-secondary students during COVID-19. This study aimed to gather information on post-secondary student's perceived needs, values, and barriers regarding social support services and university-endorsed activities. We were also interested in post-secondary students' ratings on loneliness, life meaning, and resilience, to better understand factors essential for improving academic success and stress recovery during this time. Resilience, or the ability to adapt or recover from stress, is a phenomenon that occurs when environmental, physiological, and psychological factors are nurtured satisfactorily.

This study wishes to amplify the voices of Indigenous students, who may have unique educational experiences, as well as specific needs regarding services and supports. Resilience is a culturally embedded term. For example, while resilience is sometimes viewed as a personality trait in Western cultures, Indigenous cultures often consider this as an emerging phenomenon that interconnects with other concepts such as health, wellbeing, reconciliation, strength, and understanding. As such, this study explores life meaning, loneliness, and resilience from both Indigenous and non-Indigenous perspectives.

Your participation is appreciated by the researchers involved. This information could aid in improving social support services and university-endorsed activities on campus, to improve the mental health and career opportunities of students. This information could be implemented in university contexts to improve academic satisfaction, wellbeing, and future career success. This research could also be used to implement approaches that enhance Indigenous perspectives and needs on campus. This research will also allow for better cross-cultural and theoretical understandings regarding the relations among loneliness, life meaning, and resilience.

This study has involved the discussion of some difficult subjects, such as mental health, loneliness, isolation, and the COVID-19 pandemic. We have included helpful resources in this form, under the circumstances that you are emotionally struggling and need additional support.[1] Please also feel welcome to access counselling services available on campus free of charge.

If you would like to know more regarding the topics of this study, we have also included additional research articles.[2] [3] [4] If you have any questions about this study, please feel free to contact Brooke Lagore (brookelagore@uvic.ca) or Dr. Chris Lalonde (250 721-7535 or lalonde@uvic.ca). Thank you!

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[1] https://www.ccmhs-ccsms.ca/mental-health-resources-1
https://firelight.ca/2021/01/28/indigenous-mental-health/

[2] Luthar, S. S. (2015). Resilience in development: A synthesis of research across five decades. *Developmental Psychopathology*, 739–795. https://doi.org/10.1002/9780470939406.ch20

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Appendix C

Survey Questions and Standardized Questionnaires

Demographic Questions

1. How would you identify your gender?
- Male (1)
- Female (2)
- Transgender (3)
- Nonbinary (4)
- Two-spirited (5)
- Other (98)
- Prefer not to say (99)

2. What is your age?
- Scroll list (0-120)

3. Please identify your living arrangements:
- On-campus accommodations
- Off-campus accommodations

4. Who do you live with?

	0 (0)	1 (1)	2 (2)	3 (3)	4+ (4)
Total number of people in your household	•	•	•	•	•
Number of family	•	•	•	•	•
Number of non-family friends or roommates	•	•	•	•	•
Number of pets	•	•	•	•	•

5. How would you describe your current population density?
- I live in a rural area (fewer than 1,000 people to 5,000 people) (1)
- I live in a small city (5,000 to 100,000 people) (2)
- I live in a city (between 100,000 to 1,000,000 people) (3)
- I live in a metropolitan area (over 1,000,000 people) (4)

6. How would you describe yourself? (Check all that apply)

- ☐ White (e.g., German, English, Polish, Italian) (1)
- ☐ Indigenous (e.g., First Nations, Métis, Inuit) (2)
- ☐ East Asian (e.g., Chinese, Korean, Japanese) (3)
- ☐ South Asian (e.g., Indian, Pakistani, Sri Lankan) (4)
- ☐ Southeast Asian (e.g., Vietnamese, Thai, Filipino) (5)
- ☐ Black or Caribbean (e.g., Somalian, Ethiopian, Haitian) (6)
- ☐ South or Central American (e.g., Latinx) (7)
- ☐ Prefer not to say (99)
- ☐ Any other background (please specify) (98) _____

7. *If Indigenous selected*…I am:

- ☐ First Nations (1)
- ☐ Métis (2)
- ☐ Inuit (3)
- ☐ Other (please specify) (98) _____

Employment Questions

8. What is your employment status? (Check all that apply)

- ☐ Employed full-time (1)
- ☐ Employed part-time (2)
- ☐ Self-employed (3)
- ☐ Volunteer (unpaid) (4)
- ☐ Retired (5)
- ☐ Unemployed (receiving benefits) (6)
- ☐ Unemployed (not receiving benefits) (7)
- ☐ Prefer not to say (99)
- ☐ Other (please specify) (98) _____

9. *If Q6 response is 1, 2, 3, 4* - Are you working for, or employed by, the university?

- Yes (1)
- No (0)

10. Please choose the statements that best describe your current working/schooling conditions:

- ☐ I am working/schooling entirely from home (1)
- ☐ I am working/schooling somewhat remotely (2)
- ☐ I am an essential worker (3)
- ☐ I am expected to be on site for my work/school (4)
- ☐ I am regularly working/schooling with others (5)

- The people I work/go to school with are at high risk for contracting COVID-19 (6)
- I am struggling to find employment (7)
- I am unable to work/participate in school as much as a used to (8)
- I am deliberately choosing to work/attend school less during this time (9)
- I do not have an adequate space to complete my work (10)
- I do not have adequate technology available to complete my work (11)

11. How has COVID-19 affected your income?

- My income has increased (1)
- My income has decreased (2)
- My income is about the same (3)
- Does not apply to me (99)

12. How would you describe your financial situation during the past 12 months?

- I am never able to pay my bills in full (1)
- I have been often unable to pay my bills (2)
- I have been living paycheck to paycheck (3)
- I have been able to add some savings each month (4)
- I have been able to save a good deal of savings each month (5)

13. How many hours do you devote to work and volunteering?

- Scroll list 0-40+

Educational Experience

14. Are you an international student?

- Yes (1)
- No (0)

15. Are you completing your schooling from a different city than Victoria?

- Yes, I am completing my schooling in a different city, but I am <u>still</u> in Canada (1)
- Yes, I am completing my schooling in a different city, but I am <u>outside</u> of Canada (2)
- No, I am residing in Victoria (0)

16. Are you attending classes:

- Part-time (1)
- Full-time (2)

17. What type of program are you taking?

- Diploma (1)
- Undergraduate degree (2)
- Graduate degree (3)
- Other (please specify) (98) _____

18. Which best described your field of study?

- ☐ Business, Economics, and Law (1)
- ☐ Education and Family (2)
- ☐ Engineering, Math, and Technology (3)
- ☐ Environment and Sustainability (4)
- ☐ Fine Arts and Digital Media (5)
- ☐ Health and Life Sciences (6)
- ☐ Indigenous Focus (7)
- ☐ Languages and Global Cultures (8)
- ☐ People, Society, and Social Sciences (9)
- ☐ Physical Sciences (10)

19. What year did you start your post-secondary education?

- Scroll list

20. What is your expected graduation year?

- Scroll list

21. What year of your post-secondary schooling are you in?

- Year 1 (1)
- Year 2 (2)
- Year 3 (3)
- Year 4 (4)
- Year 5+ (5)

22. How confident are you that you will graduate?

- Not at all confident (0)
- Not confident (1)
- Neutral (2)
- Confident (3)
- Extremely confident (4)

23. How many hours do you devote to your studies per week (class time included)?

- Scroll list (0-50+ hours)

24. How has your academic workload changed since the outbreak of COVID-19?

- My workload has increased (1)
- My workload has decreased (2)
- My workload is about the same (3)

25. Is your student workload manageable?

- Yes (1)
- No (0)

26. Here are some questions about your university experience. Read each sentence and choose the response option that best describes you felt in the past semester.

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I have had a great academic experience at this university	1	2	3	4	5	6	7
2. I am a hard worker in my classes	1	2	3	4	5	6	7
3. I feel like a real part of this school	1	2	3	4	5	6	7
4. I am so thankful that I'm getting a university education	1	2	3	4	5	6	7
5. I am happy with how I have done in my classes	1	2	3	4	5	6	7
6. I am a diligent student	1	2	3	4	5	6	7
7. People at this school are friendly to me	1	2	3	4	5	6	7
8. I am grateful to the professors and other students who have helped me in class	1	2	3	4	5	6	7
9. I am satisfied with my academic achievements since coming to university	1	2	3	4	5	6	7
10. I am an organized and effective student	1	2	3	4	5	6	7
11. I can really be myself at this school	1	2	3	4	5	6	7
12. I feel thankful for the opportunity to learn so many new things	1	2	3	4	5	6	7
13. I am pleased with how my university education is going so far	1	2	3	4	5	6	7
14. I study well for my classes	1	2	3	4	5	6	7
15. Other students here like me the way I am	1	2	3	4	5	6	7
16. I am grateful for the people who have helped me succeed in university	1	2	3	4	5	6	7
17. Starting university here was an easy transition for me	1	2	3	4	5	6	7
18. I felt welcomed when I first started at this university	1	2	3	4	5	6	7

Health and Wellbeing

27. How have your relationships changed since the outbreak of COVID-19? (Check all that apply)

	We talk more (1)	We argue more (2)	We have grown closer (3)	I am more isolated (4)	Our relationship has not changed (5)	N/A (0)
Friends	☐	☐	☐	☐	☐	☐
Family	☐	☐	☐	☐	☐	☐
Classmates	☐	☐	☐	☐	☐	☐
Coworkers	☐	☐	☐	☐	☐	☐
Community groups	☐	☐	☐	☐	☐	☐

28. How often do you see the following people in-person?

	Never (0)	Less than monthly (1)	Monthly (2)	Weekly (3)	Several times a week (4)	Daily (5)
Friends	•	•	•	•	•	•
Family	•	•	•	•	•	•
Classmates	•	•	•	•	•	•
Coworkers	•	•	•	•	•	•
Community groups	•	•	•	•	•	•

29. How has COVID-19 affected your…

	Improved (1)	Worsened (2)	Stayed the Same (3)	N/A
Mental Health	•	•	•	•
Cultural Connection	•	•	•	•
Spiritual Wellbeing	•	•	•	•

30. Have you received a COVID-19 Vaccine?

- Yes (1)
- No (0)

31. *If Q28 = yes*…how many doses?

- 1 of 1 (1)
- 1 of 2 (2)
- 2 of 2 (3)

32. *If Q28 = no*….do you intend to get a vaccine?

- Yes (1)
- No (0)

Note: Some measures adapted for use from the following source.

Rathod, S., Saseendran, P., Young, A. H., Graves, L., Rahman, M. M., Brooks, A., Soomro, M., Rathod, P., & Phiri, P. (2020). Psychological impacts of COVID-19: Protocol and results of first three weeks from an international cross-section survey – focus on health professionals. *Journal of Affective Disorders Reports.* https://doi.org/10.1016/jadr.2020.100005

Social Supports

33. If you were having a personal or emotional problem, how likely is it that you would seek help from the following people or groups?
Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

	Extremely unlikely	Unlikely	Neutral	Likely	Extremely likely
Intimate partner (e.g., girlfriend, boyfriend, husband, wife, de' facto)	1	2	3	4	5
Friend (not related to you)	1	2	3	4	5
Parent	1	2	3	4	5
Relative/family member	1	2	3	4	5
Cultural or spiritual leaders (e.g., Elders, mentors)	1	2	3	4	5
Mental health professional (e.g., psychologist, social worker, counsellor)	1	2	3	4	5
Phone helpline	1	2	3	4	5
Doctor or general practitioner	1	2	3	4	5
Minister or religious leader (e.g., Priest, Rabbi, Chaplain)	1	2	3	4	5

Online mental health professional (e.g., psychologist/psychiatrist)	1	2	3	4	5
Online professional support sites (e.g., support groups, counsellor-led chat rooms)	1	2	3	4	5
Online social relations (e.g., FaceBook, Instragram, Twitter, etc.)	1	2	3	4	5
Anonymous online forums (e.g., Reddit, 4Chan, etc.)	1	2	3	4	5
Cultural or community centers	1	2	3	4	5
Group support spaces (e.g., support groups, group therapy, talking circles)	1	2	3	4	5
I would not seek help from anyone	1	2	3	4	5
I would seek help from another not listed above (please list in the space provided, (e.g., work colleague). If no, leave blank) _____	1	2	3	4	5

Note: The following scale was adapted from the General Help-Seeking Questionnaire.

Wilson, C. J., Bean, F. P., Ciarrochi, J., & Rickwood, D. (2005). Measuring help-seeking intentions: Properties of the general help-seeking questionnaire. *Canadian Journal of Counselling, 39*(1).

34. When having a personal or emotional problem, how frequently do you use the following methods to access support?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

	Rarely	Sometimes	Neutral	Often	Extremely Often
Phone texting	1	2	3	4	5
Phone calling	1	2	3	4	5
Video calling	1	2	3	4	5
Social media	1	2	3	4	5
Face-to-face, in-person communication	1	2	3	4	5
Virtual reality chat rooms	1	2	3	4	5
Anonymous chat rooms	1	2	3	4	5
Mental Health Websites	1	2	3	4	5
Other. Please specify _____	1	2	3	4	5

35. When accessing social supports and social support service, have you run into the following barriers:

	Never	Rarely	Sometimes	Often	Extremely often
I feel I lack deep connections with others, which makes it difficult to find or open up to others for social support	0	1	2	3	4
I feel my emotional needs are greater than what my social supports can handle	0	1	2	3	4
I have difficulties getting to social support options e.g., issues with transportation, supports are far away, etc.	0	1	2	3	4
I have found it difficult to access information on available social support options	0	1	2	3	4
Accessing social support services have included confusing or stressful application processes	0	1	2	3	4
I have struggled with technological issues when it comes to social supports and services, e.g., low internet access, lack of technological options, etc.	0	1	2	3	4
Professional social support services are too costly	0	1	2	3	4
Professional social support services are not available as often as I need them (e.g., services are always busy or booked up).	0	1	2	3	4
Professional social support services do not recognize my personal, spiritual, or cultural perspectives	0	1	2	3	4
I am uncomfortable about receiving professional social support services, as a result of past experiences with prejudice or mistreatment	0	1	2	3	4
I do not believe professional social support services can help me	0	1	2	3	4
Other. Please specify _____	0	1	2	3	4

36. If you would like to expand on your social support needs and experiences, please feel free to:

University-Endorsed Activities

37. Please rate the following university-endorsed activities (e.g., jobs, volunteering, co-op programs, research positions, teaching positions, leadership roles) for how valuable and rewarding they are to you.

	Not valued at all	Not Valued	Neutral	Valued	Extremely Valued
Paid job positions (e.g., co-op, articling)	0	1	2	3	4
Teaching assistantships	0	1	2	3	4
Research assistantships	0	1	2	3	4
Community volunteering	0	1	2	3	4
Leadership roles	0	1	2	3	4
On-campus employment	0	1	2	3	4
Off-campus employment	0	1	2	3	4
Club involvement	0	1	2	3	4
Mentorship roles	0	1	2	3	4
Group based collaborations	0	1	2	3	4
I would seek university-endorsed activities from another not listed above (please list in the space provided; If no, leave blank) _____	0	1	2	3	4

36. Please rank the extent to which you value the following experiences when engaging with university-endorsed activities (1 being highest priority, and 6 being lowest priority).

	Rank
Meeting and working with people with similar interests	
Meeting and working with people with similar backgrounds	
Improving knowledge in a field I care about	
Improving my career options and hire-ability	
Giving back and helping others in my community	
Receiving additional income while completing my studies	
Feeling integrated in my community	
Other. Please specify_____	

37. **Please rate the frequency with which you have run into the following barriers when engaging with university-endorsed activities.**

	Never	Rarely	Sometimes	Often	Very Often
Low pay for the work provided	0	1	2	3	4
Not enough hours available	0	1	2	3	4
Positions demand more work from me than I am paid for	0	1	2	3	4
Not enough positions available	0	1	2	3	4
Not enough remote/from-home positions available	0	1	2	3	4
Difficult or confusing application processes	0	1	2	3	4
There is too much competition for positions	0	1	2	3	4
Relevant positions are difficult to find	0	1	2	3	4
Entry positions that require no experience are impossible to find	0	1	2	3	4
Lack of inclusivity	0	1	2	3	4
Lack of culturally meaningful options	0	1	2	3	4
Lack of guidance or support in application or engagement with activities	0	1	2	3	4
Lack of meaning or purpose, or feelings of aimlessness, in positions I'm engaged in	0	1	2	3	4
Other. Please specify _____	0	1	2	3	4

38. **If you would like to expand on your needs with university-endorsed activities e.g., (jobs, volunteering, co-op programs, clubs, research positions, teaching positions, leadership roles), please feel free to:**

39. **Current and Desired Access**

	Never	Yearly	Monthly	Weekly	Several Times a Week	Daily	Several times a day
How often would you access social support services, if there were no financial or other barriers?	0	1	2	3	4	5	6
How often are you currently accessing social support services?	0	1	2	3	4	5	6
How often would you access university-endorsed activities, if there were no financial or other barriers?	0	1	2	3	4	5	6
How often are you currently accessing university endorsed activities?	0	1	2	3	4	5	6

40. **The Life Engagement Test (LET)**

Please answer the following questions about yourself by indicating the extend of your agreement. Be as honest as you can throughout and try not to let your response to one question influence your response to other questions. There are no right or wrong answers.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
There is not enough purpose in my life	5	4	3	2	1
To me, the things I do are all worthwhile	1	2	3	4	5
Most of what I do seems trivial and unimportant to me	5	4	3	2	1
I value my activities a lot	1	2	3	4	5
I don't care very much about the things I do	5	4	3	2	1
I have a lot of reasons for living	1	2	3	4	5

Source:

Scheier, M. F., Wrosch, C., Baum, A., Cohen, S., Martire, L. M., Matthews, K. A., Schulz, R., & Zdaniuk, B. (2006). The Life Engagement Test: Assessing purposeful life. *Journal of Behavioural Medicine*, *29*(3), 291-298. https://doi.org/10.1007/s10865-005-9044-1

41. **De Jong Gierveld Loneliness Scale (LS)**

In this 6-itm scale, three statements are made about "emotional loneliness" and three statements are made about "social loneliness". Social loneliness (SL) occurs when someone is missing a wider social network, and emotional loneliness (EL) is caused when you miss an "intimate relationship".

	No	More or Less	Yes
I experience a general sense of emptiness [EL]	0	1	1
I miss having people around me [EL]	0	1	1
I often feel rejected [EL]	0	1	1
There are plenty of people I can rely on when I have problems [SL]	1	1	0
There are many people I can trust completely [SL]	1	1	0
There are enough people I feel close to [SL]	1	1	0

Source:

De Jong Gierveld, J., & Van Tilburg, T. (2010). The De Jong Gierveld short scales for emotional and social loneliness: Tested on data from 7 countries in the UN generation and gender surveys. *European Journal of Ageing, 7*, 121-130. https://doi.org/10.1007/s10433-010-0144-6

42. *If ethnicity (Q6) is Indigenous*…Please rate the following to the best of your ability:

	Don't Know (99)	Do Not Agree (0)	Agree a Little (1)	Kind of Agree (2)	Mostly Agree (3)	Strongly Agree (4)
My Indigenous culture fuels my desire to live a good life	•	•	•	•	•	•
I believe there is a reason the Creator gave me life	•	•	•	•	•	•
I seek to understand my purpose in life through cultural knowledge	•	•	•	•	•	•
The more I learn about my culture, the more confident I feel about life	•	•	•	•	•	•
The Creator made a way for me to live a good life	•	•	•	•	•	•
My relationship with the land I come from is important	•	•	•	•	•	•
My identity as an Indigenous person helps me to know who I am and what to do in life	•	•	•	•	•	•
Ceremonies and cultural activities open me up to share my thoughts and feelings with others	•	•	•	•	•	•
I have a necessary role in my family	•	•	•	•	•	•
I know who my extended or adopted family is	•	•	•	•	•	•
I see the strengths Indigenous people have as a community	•	•	•	•	•	•
I recognize that I can contribute to my community	•	•	•	•	•	•
I feel confident getting support from my community	•	•	•	•	•	•

Note: The following scale was adapted from the Native Wellness Assessment

Thunderbird Partnership Foundation. (2015). *Native wellness assessment.* https://thunderbirdpf.org/about-tpf/scope-of-work/native-wellness-assessment/

43. The Brief Resilience Scale (BRS)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I tend to bounce back quickly after hard times.	1	2	3	4	5
I have a hard time making it through stressful events.	5	4	3	2	1
It does not take me long to recover from a stressful event.	1	2	3	4	5
It is hard for me to snap back when something bad happens.	5	4	3	2	1
I usually come through difficult times with little trouble.	1	2	3	4	5
I tend to take a long time to get over setbacks in my life.	5	4	3	2	1

Source:

Smith, B. W., Dalen, J., Wiggens, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief Resilience Scale: Assessing the ability to bounce back. *International Journal of Behavioural Medicine, 15*, 194-200.

Appendix D

Table 9

Frequencies (N), Means (M) and Standard Deviations (SD) for Scores on Measures of Loneliness, Life Meaning, Resilience, School Satisfaction, Social Support Barriers, and University-Endorsed Activities Barriers

Questionnaire	*N*	*M*	*SD*
De Jong Gierveld Loneliness Scale	**642**	**3.68**	**1.84**
White Students	432	3.59	1.85
Students of Color	197	3.95	1.79
Indigenous Students	19	3.95	1.78
Life Engagement Test	**651**	**21.17**	**4.87**
White Students	432	21.42	4.84
Students of Color	204	20.41	4.85
Indigenous Students	21	22.33	5.25
Brief Resilience Test	**649**	**3.01**	**0.81**
White Students	434	3.04	0.83
Students of Color	200	2.91	0.75
Indigenous Students	19	2.92	0.79
College Student Subjective Wellbeing Questionnaire	**632**	**5.28**	**0.82**
White Students	422	5.34	0.82
Students of Color	194	5.15	0.81
Indigenous Students	20	5.39	0.71
Barriers to Social Support Services	**625**	**15.28**	**8.37**
White Students	411	14.67	8.05
Students of Color	200	16.71	8.83
Indigenous Students	22	19.86	11.34
Barriers to University-Endorsed Activities	**590**	**19.11**	**10.69**
White Students	390	18.47	9.97
Students of Color	185	20.12	11.81
Indigenous Students	16	21.00	14.34

Note: Higher scores on measures of loneliness and barriers respectively denotes greater loneliness and worsened access to services and activities. Higher scores on measures of life meaning, resilience, and school satisfaction denote greater wellbeing and satisfaction.