

**Association between healthcare access and psychological wellness: An examination
of individuals in the 2SLGBTQIA+ community**

by

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ABSTRACT

Compared to the general population, members of the 2SLGBTQIA+ community face greater barriers to healthcare, unmet health needs as well as lower life satisfaction and higher psychological distress. The current research examined healthcare access and psychological wellness in the 2SLGBTQIA+ community in Canada and the United States. In total, 534 participants completed an online questionnaire package to assess healthcare access, unmet health needs, and psychological wellness. Results demonstrated the continued disparity between 2SLGBTQIA+ and non-2SLGBTQIA+ populations in healthcare access and psychological wellness. Compared to cis-gender sexual minorities, individuals who identified as both a gender and sexual minority reported more problems on aspects of healthcare access and psychological wellness. 2SLGBTQIA+ individuals from Canada and the United States reported healthcare access differences, with affordability of care a greater barrier for US residents. Overall, these results support previous research and highlight the need for continued focus on services for the 2SLGBTQIA+ community.

Keywords: healthcare access, sexual minority, gender minority, unmet health needs, psychological wellbeing, health & wellness, 2SLGBTQIA+

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List of Abbreviations

2SLGBTQIA+	Sexual and Gender Minority Groups
2S	Two Spirit; Indigenous Gender Identity
LGB	Lesbian, Gay, Bisexual; Sexual Minority Groups
T	Transsexual; Gender Minority
Q	Queer, Questioning; Sexual and/or Gender Minority
I	Intersex; Born with both male and female sex organs
A	Asexual; Sexual Minority
+	Other Gender and Sexual Minority Groups, i.e., Pansexual
GAD-7	General Anxiety Disorder 7-Item Questionnaire
SELSA-S	Social and Emotional Loneliness Scale for Adults – Short Form
PHQ-9	Patient Health Questionnaire-9 (Depression)
SWL; SWLS	Satisfaction with Life; Satisfaction with Life Scale
RAND-36	RAND 36-Item Short Form Health Survey (Physical and Psychological Health)

Association between healthcare access and psychological wellness: An examination of individuals in the 2SLGBTQIA+ community

A national survey of transgender and non-binary Canadians found that 12% reported avoiding the emergency room when it was needed only because of their identity (Trans PULSE Canada Team, 2020). Further, Kates and colleagues (2018) conducted a survey of LGBTQ+ (lesbian, gay, bisexual, transgender, queer, etc.) people in the United States and reported that more than 50% of respondents indicated being denied care, use of harsh language, and blaming the cause of the patient's illness or disease on their sexual orientation or gender identity by their health provider (Kates et al., 2018). Disparities are clear across both Canada and the United States and improvements are needed in the delivery and accessibility of care and services.

Data collected in a nationally representative Canadian survey indicated that, on average, 29% of Canadians reported difficulties accessing care when needed (Clarke, 2016; Statistics Canada, 2016a), with long wait times for services and difficulty getting appointments the most common obstacles to care (Clarke, 2016; Statistics Canada, 2016a). Certain demographic factors were also predictive of poorer access and more difficulties receiving care; specifically, adults under the age of 65, being female, having higher levels of education, working full-time, being an immigrant, and having general health that is poor or fair (Clarke, 2016; Statistics Canada, 2016a). Compared to Canadians, individuals in the United States report more financial barriers to receiving healthcare (Office of Disease Prevention and Health Promotion, 2020) and individuals who do not have health insurance or require treatment not covered by their provider may forgo regular appointments, screenings, or procedures due to financial barriers (Office of Disease Prevention and Health Promotion, 2020). Access to healthcare services is

impacted by a multitude of social factors including poverty, health status, proximity to facilities, and specific demographic variables, including age, race, and education level (Health Canada, 2020). Although these factors will be taken into consideration in this study as covariates, this research focuses on access to health services in the context of sexual and gender minority status and psychological wellness. Further, due to differing healthcare systems, financial implications, and population demographics, I expect disparities between respondents from Canada and the United States.

Mental health concerns are common in the general population and, in recent years, has come to the forefront as a “pandemic” that many communities face. One in every five adults in the United States experiences a mental illness each year, and suicide is the second leading cause of death in the country (SAMSHA, 2021). In Canada, one in every five people experiences mental illness or addiction (Smetanin, 2011), which has climbed to 1 in every 4 people during the COVID-19 pandemic (Statistics Canada, 2021). Compared to the cisgender heterosexual population, members of the LGBTQ+ community report greater mental health concerns and psychological distress, as demonstrated by higher rates of depression, anxiety, obsessive compulsive and phobic disorders, suicidality, self-harm, substance use, and post-traumatic stress disorder (Diamont & Wold, 2003; Gilmour, 2019; Roberts et al., 2010).

These disparities were made worse during the COVID-19 pandemic (Findlay & Arim, 2020) and negative impacts on mental health and wellness in the LGBTQ+ population were reported, with an even greater impact on transgender and gender diverse youth compared to their cisgender counterparts (Hawke et al., 2021). Further, Hawke and colleagues (2021) also reported more disruptions to mental health and substance use

care during the pandemic and less social support for transgender and gender diverse individuals.

Elevated prevalence of mental health disorders and distress could be partially caused or negatively impacted by increased stigma, discrimination, sexual assault and harassment, physical assault, and hate crimes experienced by members of the 2SLGBTQIA+ community (Meyer, 2003). In Canada, hate crimes based on sexual orientation more than doubled between 2007 and 2008 and were reported as being the most violent of all hate crimes (Dauverge, 2010). This trend continues and, in 2020, hate crimes targeting individuals from sexual minority groups increased 41% from the previous year, with 263 incidents reported to police (Moreau, 2021). Further, transgender individuals face even greater rates of violence, and, in Ontario, 20% of transgender individuals reported physical or sexual assault and 34% received verbal threats due to their identity (Bauer et al., 2013). Although between 2010 and 2019, there were 55 hate crimes motivated by gender expression or identity reported to police in Canada and 80% were a violent crime (Moreau, 2021), it is important to note that 2019 was the first year that Statistics Canada collected data on violence towards transgender or gender diverse populations from police services and data only includes crimes that have been directly reported to the police (Moreau, 2021). In addition, gender expression and identity were only added to the Criminal Code of Canada as a group protected from discrimination in 2017 and research suggests that discrimination and violence based on sexual orientation and gender identity or expression is more common than reported (Burczycka, 2020; Savage & Cotter, 2019; Jaffray, 2020; Moreau, 2021; Simpson, 2018). Further, violence towards the transgender community is prevalent in both Canada and the United States as higher rates of violence, harassment, and discrimination in

relation to housing, employment, health, and social services are reported in both countries (Bauer et al., 2013).

The increased barriers to health services, discrimination, and marginalization within healthcare systems, coupled with elevated levels of mental health issues and psychological distress make research on the 2SLGBTQIA+ population critical. Further, key areas of healthcare access and mental health must be addressed within the context of greater barriers for further marginalized groups within the sexual and gender minority populations (i.e., transgender). Therefore, the purpose of my study was to compare sexual and gender minorities to the general population and examine relationships between subgroups of the 2SLGBTQIA+ community, on measures of healthcare access and psychological wellness.

Sexual and Gender Minorities

Sexual minorities are defined as those whose sexualities differ from heterosexual, such as those who identify as gay, lesbian, bisexual or whose sexual or romantic attraction spans more than one sex or gender (Centre for Disease Control and Prevention, 2019). The term ‘gender minority’ refers to individuals whose gender identity or expression differs from their sex assigned at birth (Centre for Disease Control and Prevention, 2019). The identification and classification of sexual and gender minorities can be complex, as it encompasses many different facets of sexuality and gender identity (Rodrigues et al., 2017). Given the complexity, it is very difficult to use a single term to encompass the entire community of those who identify as a sexual or gender minority. Sexual and gender minorities include people who identify as non-heterosexual or non-cisgender (does not identify as sex assigned at birth), but the term

can be used to define all people who do not fall into the majority regarding their sexuality or gender identity (Chamberland & Saewy, 2011; Mizzi & Walton, 2014).

Due to both the diversity and the differences between subgroups, many common terms and acronyms are used to identify and describe the population. For example, to describe lesbian, gay, and bisexual individuals, the acronym LGB is often used; however, this term includes a limited subset of those with differing sexual orientations and excludes individuals from reporting different gender identities and expressions. The terms LGBTQ+ (lesbian, gay, bisexual, transgender, queer, and others) and LGBTQIA+ (lesbian, gay, bisexual, transgender, queer, intersex, asexual, and others) are frequently used and are two of the most common acronyms to represent sexual and gender minorities; however it is important to note that it is commonplace in Canada to use the term LGBTQ2+ (lesbian, gay, bisexual, transgender, queer, two-spirit, and others) that includes two-spirit individuals specific to Indigenous Peoples (LGBTQ2 Secretariat, 2020). In addition, because it is common for letters in the acronyms to represent more than one subgroup and many members of this community are not represented in the acronyms, it is important to discuss all subgroups of sexual and gender minorities that were considered for this study.

An individual or group of individuals who identify as gay are sexually and/or romantically attracted to people of their same sex or gender identity; for the purposes of this study, the term gay referred solely to men (LGBTQ2 Secretariat, 2020). The term “gay” is generally preferred to the outdated terms “homosexual men” or “men who have sex with men” as these terms are potentially offensive due to their historical significance (LGBTQ2 Secretariat, 2020). The term “lesbian” refers to a woman who is sexually and/or romantically attracted to other women and this term will be used instead of

“homosexual women” for the same reasons stated previously (LGBTQ2 Secretariat, 2020). “Bisexual” or “biromantic” refers to people who are sexually and/or romantically attracted to two or more genders (LGBTQ2 Secretariat, 2020). As a comparison, the terms “heterosexual” and “heteroromantic” will be used to refer to people who are sexually and/or romantically attracted to people of a different gender than themselves (LGBTQ2 Secretariat, 2020).

Other prevalent sexual minority subgroups include asexual, aromantic, pansexual, queer, and questioning. Asexual refers to people who do not have sexual attraction or interest in sexual expression; however, their sexual and romantic orientations may differ, and they may have sexual and/or romantic partners (LGBTQ2 Secretariat, 2020). Aromantic refers to people who do not have romantic attraction or interest in romantic expression and again their sexual and romantic orientation may differ, and they may have sexual and/or romantic partners (LGBTQ2 Secretariat, 2020). The term pansexual is used when a person’s choice in sexual or romantic partner or partners is not limited by the other person’s or people’s sex, gender identity, or gender expression (LGBTQ2 Secretariat, 2020). Queer is a term used by some to represent their many diverse identities that are not represented through a single term or acronym. It is important to note that this term is historically derogatory but has been reclaimed by many 2SLGBTQIA+ people (LGBTQ2 Secretariat, 2020). The term “questioning” refers to people who are uncertain about their sexual orientation and/or gender identity and is usually thought to be a transitional period as their identity is further explored; however, this can be a lasting or permanent identity (LGBTQ2 Secretariat, 2020).

For the purposes of this study, the identities of gender-fluid, intersex, non-binary, and transgender will be used when discussing gender and sex minorities. Non-binary

refers to a person whose gender identity does not fall within the binary genders of “woman” or “man” and can include different facets of gender (LGBTQ2 Secretariat, 2020). Gender-fluid refers to a person whose gender identity varies over time and may include male, female, and non-binary gender identities (LGBTQ2 Secretariat, 2020). The term intersex is used to refer to people who have various types of biological sex differentiation and may have variations in their sex characteristics such as sex chromosomes, reproductive organs, and/or secondary sex characteristics (LGBTQ2 Secretariat, 2020). Transgender, or as it is more commonly known as ‘trans’, refers to a person whose gender identity is different from the sex they were assigned at birth. Although a transgender person may have gender reaffirming surgery or procedures, such as hormone therapy, it is important to note that many choose to not pursue such procedures (LGBTQ2 Secretariat, 2020). Two-Spirit or Two-Spirited are English terms used to describe concepts of gender identity, spiritual identity, and sexual orientation traditional to many Indigenous cultures. The term refers to a culturally specific identity that is composed of both male and female spirits in the context of gender, spirituality, and/or sexual identity (LGBTQ2 Secretariat, 2020; Pruden & Salway, 2020).

As it is considered one of the most up to date and inclusive descriptions, the current study uses the acronym 2SLGBTQIA+ (Two-Spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual, and others) to refer to the general community of people who are a sexual and/or gender minority (LGBTQ2 Secretariat, 2020). It is important to note that ‘2S’ (Two-Spirit) has been placed at the beginning of the acronym to highlight the importance and impact of Two-Spirit individuals in Canada and to recognize the extensive colonial discrimination, marginalization, and oppression of this community. In addition, in order to remain consistent with the intention of

previous researchers, other forms of the 2SLGBTQIA+ acronym will be used when referring to specific research or studies. Lastly, the terms ‘sexual minority’ and ‘gender minority’, as well as ‘sexual and gender minorities’ will be used, as defined previously, as terms to encompass the broader 2SLGBTQIA+ community.

The 2SLGBTQIA+ Population

The 2014 CCHS (Canadian Community Health Survey) indicated that 1.7% of Canadians identified as gay or lesbian and 1.3% identified as bisexual (Statistics Canada, 2016a). Further, the 2018 Survey of Safety in Public and Private Spaces (SSPPS) estimated that one million people in Canada are sexual minorities (Jaffray, 2020). Despite estimates that there are 75,000 transgender people in Canada, Statistics Canada has only recently expanded their demographic information to include gender diverse, transgender, and other sexual minorities in the identification options on national surveys (Jaffray, 2020). Without consistent and inclusive population data it is difficult to provide an accurate estimate of the size of the broader 2SLGBTQIA+ community (OECD, 2019). Although it is estimated that the LGBT (lesbian, gay, bisexual, and transgender) population in the United States accounts for approximately 4.5% of the general population (Conron & Goldberg, 2020), it is difficult to determine a true estimate of the proportion of 2SLGBTQIA+ individuals due to nondisclosure of sexual orientation or gender identity. Further, discrimination, societal pressures, violence, forced medical procedures, refused health services, and other factors impact disclosure rates in many regions of the world, distorting actual population sizes (World Health Organization, 2016).

It is also difficult to identify members of the 2SLGBTQIA+ community because, unlike visible minorities, there are no physical characteristics that distinguish

2SLGBTQIA+ from non-2SLGBTQIA+ individuals (Spencer & Patrick, 2009). Sexual and gender minorities are considered “invisible minorities”, which can leave them without the support and group protection associated with having an identifiable community (Spencer & Patrick, 2009). Sexual and gender minorities are very vulnerable to stigmatization and discrimination (Meyer, 2003), and often report lower educational attainment, incomes, and satisfaction with standard of living (Gates & Newport, 2012). Thus, although members of a sexual or gender minority group can sometimes choose not to self-identify, they are still vulnerable to negative consequences associated with discrimination.

Healthcare Access in Canada and the United States

Despite universal healthcare in Canada, many barriers to healthcare services continue to exist (Clarke, 2016). In 2019, approximately 4.6 million Canadians, representing 14.5% of the population who are 12 years of age and older, reported not having a primary healthcare provider (Statistics Canada, 2019). Substantive differences between provinces also exist; significantly more Quebec, Saskatchewan, and British Columbia residents reported that they did not have a primary healthcare provider, whereas New Brunswick and Ontario residents were more likely to report that they had access to a primary care provider (Statistics Canada, 2019). In total, although 38.7% of Canadians who had a primary healthcare provider reported being able to book a same or next day appointment, Nova Scotians and New Brunswickers reported significantly less immediate access (Statistics Canada, 2019). In a study by Statistics Canada, 71% of participants reported no difficulty accessing healthcare when needed. Despite this, the waiting times for appointments and not being able to get appointments were the most reported issues for those who did have difficulty accessing care (Clarke, 2016). Those

with lower perceived health reported the most difficulty accessing specialists, non-emergency surgeries, and diagnostic testing (Clarke, 2016).

Unlike Canada, the United States does not have universal healthcare and relies on a system of not-for-profit and for-profit healthcare systems or individual hospitals (Office of Disease Prevention and Health Promotion, 2018). People living in the United States are either covered by a health insurance provider for services and procedures or are required to pay directly out of pocket for care (Office of Disease Prevention and Health Promotion, 2018). Approximately 10% of Americans do not have health insurance and are required to pay for medical visits, medications, and other costs directly; if they cannot afford services, they do not receive healthcare (Office of Disease Prevention and Health Promotion, 2018). Further, those who do not have health insurance or coverage in the United States are less likely to have a primary care provider (Office of Disease Prevention and Health Promotion, 2018). Despite paying more for healthcare, individuals in the United States have worse health outcomes than individuals in other first world and high-income countries (Tikkanen & Abrams, 2020). Further, the United States has fewer average visits to physicians and the highest rate of chronic disease among similar countries (Tikkanen & Abrams, 2020). Despite worse chronic illness and lower access to primary care, the United States outperformed other comparator countries in preventative health measures, such as cancer screenings (Tikkanen & Abrams, 2020). The United States appears to have more limited access to health services than other countries, especially for those who do not have health insurance, yet does have strong performance in the use of technology and some preventative screening in their health services. Further, the specialized care needs of the

2SLGBTQIA+ population may compound these healthcare access issues already present within both the United States and Canadian healthcare systems (Lee & Kanji, 2017).

Healthcare Access, Sexual Orientation, and Gender Identity

The use of healthcare services for LGBTQ+ individuals is negatively impacted by marginalization and discrimination (Bjorkman & Malterud, 2009). In addition, research has indicated that sexual minorities have greater and more frequent use of mental health services (Cochran et al., 2003). In Canada, compared to those who identify as heterosexual, individuals identifying as a sexual minority face more barriers to accessing healthcare and, in many cases, require specialized care, treatment, and health advice (Gahagan & Subirana-Malaret, 2018). LGBTQ+ health has often been understood through a heteronormative and cis-normative lens, furthering the complexities of accessing care (Gahagan & Colpitts, 2017).

The CCHS completed in 2014 indicated that although individuals who identified as heterosexual, homosexual, or bisexual reported approximately the same number of consultations in the past year with family physicians and specialists, they were less likely to have a family physician (Statistics Canada, 2016a). Individuals who identified as homosexual or bisexual were more likely to report having had a consultation with a psychologist during the past year (Statistics Canada, 2016a). Furthermore, compared to non-LBG individuals, LGB individuals were more likely to report not receiving healthcare when they felt they needed it in the past 12 months (Statistics Canada, 2016a). Additionally, the foundational study for this proposed research used the 2015-16 CCHS and indicated that lesbian, gay, and bisexual Canadians reported similar perceived healthcare access as compared to heterosexual respondents (Hickey, 2021).

Despite similar access, LGB individuals reported significantly greater unmet health needs and higher contacts with differing health professionals (Hickey, 2021).

There are also differences in healthcare access in subgroups or subcategories within the 2SLGBTQIA+ population. For example, gay men have been shown to use health services less than heterosexual men (Fish & Anthony, 2005; Heck et al., 2006) and, compared to heterosexual women, lesbian and bisexual women report specialized needs in areas of sexual health, reproductive health and parenting, mental health, substance abuse, cervical health, and aging (McNair, 2003). Overall, sexual minorities face greater barriers to accessing healthcare than those who are heterosexual and, in many cases, require specialized care, treatment, and health advice (Gahagan & Subirana-Malaret, 2018).

Barriers to healthcare and specialized care needs appear to be exacerbated for transgender individuals, who may require unique healthcare services such as gender-affirming care and mental health care (Stroumsa, 2014). Limited access for the transgender population is demonstrated by disproportionately high experiences of poor health outcomes (Bauer et al., 2015; Bauer et al., 2009; Grant et al., 2010; Vermeir et al., 2018). A report completed by the Government of Canada also found that between 20 and 30% of transgender individuals who experienced a medical emergency did not seek care at an urgent care centre and just over 50% of individuals who did seek care reported a negative experience (Casey, 2019). Given the population's worsened health outcomes and historic and continued marginalization and discrimination, limited access to care for the transgender community that result from negative experiences or concern that such experiences may occur is extremely worrisome. Continued negative experiences may

exacerbate fears of accessing health services, furthering poorer health outcomes, and preventing adequate and timely access to healthcare.

Rutherford and colleagues (2021) used a sample of 3,083 non-heterosexual and 552 non-cisgender Canadians and found that, compared to cisgender participants, significantly more transgender and non-binary respondents used health resources in the past year. Further, trans and non-binary Indigenous participants were three times more likely to access support from an Indigenous Elder and four times more likely to consult an Indigenous Knowledge Keeper than cisgender Indigenous respondents (Rutherford et al., 2021). Although access to a regular doctor or practitioner was similar for cisgender and non-binary participants, transgender participants reported greater access to a regular doctor or nurse practitioner than cisgender individuals (Rutherford et al., 2021). Despite greater access, trans and non-binary participants were significantly more likely to report having been denied a healthcare service compared to cisgender participants, most commonly when asking for PEP (post-exposure prophylaxis) used to prevent HIV after a potential exposure, the HPV vaccine, hormone therapy, and gender-affirming surgery or procedures (Rutherford et al., 2021). More than 15% of non-heterosexual cisgender participants reported being denied health services, compared to 35% of transgender and 32% of non-binary participants (Rutherford et al., 2021).

Sexual Orientation, Gender Identity, and Health Outcomes

Members of the LGBTQ+ community have some adverse health outcomes (Boehmer et al., 2011; Casey, 2019; Cochran et al., 2003), which may exacerbate barriers to healthcare access. For example, Cochran and colleagues (2003) reported that, compared to the general population, members of a sexual minority group report almost four times more comorbid health conditions and diseases. Further, many subgroups of

the LGBTQ+ community have higher risks for some cancers, which may be explained by both increased risk factors and a lack of screening (Boehmer et al., 2011). Lesbian and bisexual women are more likely to delay seeking routine care such as pap tests, cervical cancer screenings, breast exams, and mammograms compared to heterosexual women (Fredriksen-Goldsen et al., 2013). Further, gay men are less likely to have prostate screenings (Fredriksen-Goldsen et al., 2013). Likely at least in part due to delays in routine care, lesbian women are more likely to report having cervical and uterine cancer, and gay men are twice as likely to receive a late-stage cancer diagnosis (Boehmer et al., 2011).

Specific risks for chronic illness may be associated with the transgender community, as transgender women have lower risk of prostate cancer and higher risk of thyroid cancer compared to cisgender men (Goodman et al., 2018). Further, compared to both cisgender men and women, the risk of blood clots and strokes is elevated and continues to increase over time for transgender women who receive estrogen (Goodman, 2018). A study completed in Canada using a sample of 2,085 transgender participants found significantly greater rates of chronic illness and disease when compared to a control group of 10,425 cisgender individuals (Abramovich et al., 2020). Specifically, transgender individuals reported significantly higher rates of asthma, diabetes, chronic obstructive pulmonary disease, and HIV (Abramovich et al., 2020). Further, comorbid chronic health conditions were greater for the transgender population and, consequently trans individuals reported higher health service use, especially for mental health, self-harm, and visiting a psychiatrist (Abramovich et al., 2020). A Canadian House of Commons report confirmed previous research and indicated that members of the LGBTQ+ community have a greater prevalence of chronic illnesses and cancer (Casey,

2019). Comorbidities were also a predictor of illness severity and the likelihood to access treatment (Kessler et al., 1999). Higher rates of chronic illness and disease in the LGBTQ+ population may, in part, be caused by the discrimination, minority stress, and barriers to healthcare access faced by sexual minorities (Casey, 2019; Cochran et al., 2003; Gahagan & Subirana-Malaret, 2018).

Psychological Wellness and Distress

Historically, members of the LGBTQ+ population have demonstrated lower mental health and psychological wellbeing than members of the general population (Conlin et al., 2019), with recent studies confirming these associations (Barry et al., 2020). Research indicates that identifying as a sexual minority is associated with greater rates of mental health morbidity, comorbidity, and the use of mental health services (Cochran et al., 2003). Gay and bisexual men have higher prevalence of depression, panic attacks, and psychological distress than their heterosexual counterparts (Cochran et al., 2003). Further, there is a higher prevalence of generalized anxiety disorder among lesbian and bisexual women, compared to heterosexual women (Cochran et al., 2003).

The 2014 CCHS indicated that 33.4% of homosexual and bisexual respondents experienced stressful days, which was significantly higher than the 26.7% of heterosexual participants who reported a similar level of stress (Statistics Canada, 2016a). Research has shown that sexual minorities are challenged with higher rates of depression, anxiety, and psychological distress than the general population (Barry et al., 2020; Cochran et al., 2003). Further, research has shown that anyone who falls outside of the category of heterosexual, including those who report sexual activity with the same gender while identifying as heterosexual, reported consistently increased levels of unhappiness, mental health disorders, psychosis, suicidal thoughts and attempts, and

substance dependence (Bostwick et al., 2010; Chakraborty et al., 2011; Cochran et al., 2003).

Using data from the 2015-16 CCHS, Hickey (2021) found significantly higher levels of depression and anxiety for lesbian, gay, and bisexual Canadians compared to the general population. Further, data from two large surveys conducted in the United Kingdom and Australia found that participants who identified as LGB scored lower on satisfaction of life due to both direct and indirect effects of stigmatization and discrimination (Powdthavee & Wooden, 2015). Additionally, the negative effects of discrimination on life satisfaction are due, in part, to internalized homonegativity and expectations of rejection (Conlin et al., 2019). Overall, stigma, prejudice, and discrimination experienced by LGBTQ+ people can be chronically stressful and cause negative health outcomes (Kelleher, 2009). The oppressive social environment experienced by LGBTQ+ youth related to stigma negatively impacts overall wellbeing (Kelleher, 2009).

Discrimination and stigmatization based on sexual orientation is predictive of psychological disorders (Chakraborty et al., 2011). A meta-analysis of 25 studies including a total of 214,344 heterosexual and 11,971 homosexual participants was conducted to examine the psychological distress of sexual minorities. Results showed that suicide attempts among LGB individuals was double that of the general population for lifetime prevalence and that depression and anxiety was 1.5 times higher for LGB individuals compared to non-LGB individuals (King et al., 2008). There is increasing research showing that sexual minorities may have a higher risk for some psychological disorders because of the detrimental effects of social stigma (Fife & Wright, 2000; Johnson et al., 2008; Markowitz, 1998; Mays & Cochran, 2001; Wright et al., 2000).

Researchers in Norway surveyed just over 50,000 students and reported that transgender participants showed significantly lower scores on measures of mental health and life satisfaction, including the Hopkins Symptoms Check List and the Satisfaction with Life Scale (SWLS), compared to cisgender students; however, non-binary transgender students showed no statistically significant differences on any measure when compared to binary transgender students (Anderssen et al., 2020). Approximately 70% of transgender students reported being dissatisfied with their lives, compared with 35% of cisgender individuals (Anderssen et al., 2020). Further, compared to cisgender respondents, transgender students reported significantly greater loneliness, higher frequency of having a mental health disorder, and more prevalent self-harm and suicidal ideation (Anderssen et al., 2020).

A review of research on the effects of social stigma on healthcare access completed by Johnson and colleagues (2008) found consistent results indicating that social stigma and insensitivity related to LGBTQ+ issues are stressors with serious mental health ramifications. They found that social stigma contributed to lower self-esteem and greater suicidal ideation, depression, anxiety, substance use, and feelings of powerlessness and despair (Johnson et al., 2008). Further, sexual minority youth appear to be particularly impacted by mental health issues. A Canadian study by Blais and colleagues (2015) reported a 20% increase in negative mental health outcomes for sexual minority youth compared to heterosexual youth. Further, sexual minority youth were 1.6 to 15.1 times more likely to report suicidal ideation or attempts (Blais et al., 2015). Approximately 8% of heterosexual male youth and 11.5% of heterosexual female youth reported suicidal ideation in the past year compared to 37.9% of bisexual male youth, 43.9% of bisexual female youth, 33.9% of gay youth, and 47.1% of lesbian youth

(Blais et al., 2015). When examining suicidal attempts in the past year, Blais and colleagues (2015) found that 3% of heterosexual male youth and 8% of heterosexual female youth reported attempts compared to 13% of bisexual male youth, 30% of bisexual female youth, 9% of gay youth, and 38% of lesbian youth.

There also appear to be differences in the effects of sexual orientation on psychological distress between different subcategories of sexual minorities. Compared to heterosexual men, gay and bisexual men reported higher rates of depression, panic attacks, psychological distress, and mental health disorders (Bostwick et al., 2010; Cochran et al., 2003). In addition, lesbian and bisexual women report higher rates of generalized anxiety disorder and mood disorders than heterosexual women (Bostwick et al., 2010; Cochran et al., 2003). Overall, among men, any form of non-heterosexuality was consistently associated with increased mental health disorders further indicating the difference between men and women in the role of sexual orientation on health outcomes (Bostwick, 2010).

Psychological wellness and distress also vary according to sex and gender and sexual orientation differences. Young females who identified as a sexual minority reported greater psychological distress, suicidal ideation, and suicide attempts than males who identified as a sexual minority (Blais et al., 2015). Further, in this study of youth, bisexual males and lesbian females were more likely to report suicidality than other sexual minority groups (Blais et al., 2015). Overall, lesbian and gay youth reported higher psychological distress than all other subgroups of sexual orientation (Blais et al., 2015). A study using the health records of 6,459 transgender patients in the United States found that almost every mental health condition, including depression, were more common among those who identified as transgender (Goodman, 2018). Further, self-

harm and suicidal thoughts were significantly higher among transgender youth than cisgender youth (Goodman, 2018). It is interesting to note that researchers also found that gender-affirming therapies were associated with less body image related mental health concerns (Goodman, 2018). These findings are particularly alarming for the transgender population as many laws restrict access to needed healthcare and mental health services.

A study of 3,083 non-heterosexual and 552 non-cisgender Canadians found significantly greater levels of depression and anxiety among transgender and non-binary individuals (Rutherford et al., 2021). Participants were also asked if they wanted help in dealing with a mental health issue and again significant differences were found between cisgender and non-cisgender individuals (Rutherford et al., 2021). Although cisgender participants reported wanting help for depression (12%) and anxiety (26%), 47% of transgender respondents indicated that they wanted help for depression and 49% reported needing help with anxiety (Rutherford et al., 2021). Further, transgender individuals were more likely to have received care from a registered councillor, psychiatrist, social worker, and clinical psychologist as compared to cisgender respondents (Rutherford et al., 2021) which substantiates concerns about psychological wellness.

Psychological Wellness and Healthcare Access

Research on the associations between healthcare access and psychological wellness and psychological distress is very limited; however, not disclosing sexual orientation to a healthcare provider has been associated with poorer psychological wellbeing (Durso & Meyer, 2013). Pachankis and colleagues (2020) found that across 193 studies, there was a small positive association between sexual orientation

concealment and internalized mental health problems, including depression, anxiety, distress, and problematic eating. In addition, a small negative association between concealment and substance use problems was also reported (Pachankis et al., 2020). The combination of barriers to healthcare services and being at greater risk for mental health issues demonstrates the unique challenges facing sexual minorities (Barry et al., 2020). Further, mental health-related family doctor consultations and community-care service use are elevated in the non-heterosexual population, which may reflect the increased level of mental health problems, prompting specific health-seeking behaviours (Chakraborty et al., 2011).

In the foundational research underlying the current study, Hickey (2021) used data from the 2015-16 CCHS. Models from this data indicated that higher depression in LGB participants predicted a need for health information or advice and receiving care from a general practitioner as well as increased routine or on-going care (Hickey, 2021). Further, satisfaction with life positively predicted receiving care from a general practitioner and this association was stronger for lesbian, gay, and bisexual participants than non-LGB participants; however, considering that only these four out of a dozen measures had significant associations, there may be limited associations between psychological wellness and healthcare access when comparing LGB and non-LGB Canadians (Hickey, 2021).

Barriers to Healthcare for the 2SLGBTQIA+ Population

Training and education of healthcare practitioners is a key barrier to healthcare access for sexual minorities (Gahagan & Subirana-Malaret, 2018; Ufomata et al., 2018). In a Canadian study conducted in Nova Scotia, most sexual minorities reported that they were uncertain about the 2SLGBTQIA+ friendliness of their healthcare provider, their

healthcare provider's knowledge on 2SLGBTQIA+ health and issues, and the inclusiveness of the overall healthcare system (Gahagan & Subirana-Malaret, 2018). Members of the 2SLGBTQIA+ community often report having to educate their healthcare provider about their specific needs and practitioners sometimes refuse to treat patients because they feel they are lacking the education and training necessary for care and may refer to other providers (Casey, 2019). The need to educate healthcare providers is even greater when transgender Canadians are patients, as 53% reported educating or providing information to their primary physician about their own care (Casey, 2019).

Attitudes about treatment may be associated with unconscious attitudes about sexuality, for example, a study conducted in the United States using medical school staff and students found that faculty and residents showed a slight preference for straight people over gay people on the Implicit Association Test (Ufomata et al., 2018). Thus, medical school training may benefit from education on healthcare issues specific to the 2SLGBTQIA+ community and may not take into consideration how unconscious biases can affect overt attitudes and behaviours. Although there are clear differences between conscious and unconscious biases, it is important to recognize that both can affect attitudes and behaviour.

LGBTQ+ populations are less likely to access primary healthcare services for fear of discrimination or report being denied care (Goins & Pye, 2013; Moody & Smith, 2013; Rutherford, 2021) and, thus, negative or discriminatory experiences with the healthcare system are an important barrier to healthcare for LGBTQ+ individuals. Shockingly, 30% of lesbian, gay, bisexual, and queer patients and 50% of transgender patients reported having at least one negative experience in the healthcare system

(Gahagan & Subirana-Malaret, 2018). Much of the reluctance to seek care is due to fear of discrimination and not being understood by their healthcare provider (Gahagan & Subirana-Malaret, 2018). The fear of these negative experiences, discrimination, or the possibility of not being understood by their healthcare provider may also play a crucial role in healthcare access. Given general barriers to access coupled with needs for specialized care, members of the 2SLGBTQIA+ community may be hesitant to seek medical attention.

Quinn and colleagues (2015) identified a great need for additional staff training to improve LGBTQ+ knowledge, a sense of overall inclusiveness from health care providers, culturally sensitive intake forms, and welcoming health care environments. Further, using a university sample, Hood and colleagues (2019) reported that most participants felt that discrimination from their campus health centre staff was due to a lack of training or knowledge. Most healthcare providers reported that they did not feel comfortable addressing 2SLGBTQIA+ health topics and never received training related to 2SLGBTQIA+ health or patients due to a lack of mandated training in medical school and the use of non-mandatory training programs (Gahagan & Subirana-Malaret, 2018). Consistent with previous studies, medical residents and teaching faculty in the United States had little prior exposure to LGBTQ+-related content (Ufomata et al., 2018). The lack of education and training opportunities for healthcare providers on 2SLGBTQIA+ issues and treatment practices are of serious concern as this may impact access and the effectiveness of health services for members of this community.

Disclosure of Sexual Orientation and Gender Identity

Disclosure of sexual orientation or gender identity to a primary healthcare provider is an important barrier for members of the 2SLGBTQIA+ community seeking

health services. In some Canadian communities, up to 60% of individuals do not inform their healthcare provider of their sexual orientation and are therefore less likely to receive relevant care (Casey, 2019). In a Canadian study that included 632 LGBTQ+ participants, Quinn and colleagues (2015) found that 67% of respondents reported that they often or always disclose their sexual orientation to their healthcare provider and less than 10% reported that they received negative reactions. Further, a meta-analysis of 38 studies that examined the impacts of disclosing sexual orientation indicated that 63% of patients disclose to their healthcare provider and only 14% reported ever being asked about their sexual orientation by their healthcare providers (Ruben & Fullerton, 2018). A study of 206 transgender youth in the United States found that 46% of participants sometimes did not disclose their gender identity to their healthcare provider, however 78% reported having disclosed their gender identity to a practitioner at some point (Sequeira et al., 2020). Given that research suggests that disclosure results in greater satisfaction with healthcare providers and more routine screening (Austin, 2013; Mosack et al., 2013; Ruben & Fullerton, 2018), promoting openness in health care is essential. The need to disclose sexual orientation or gender identity may be further complicated by previous negative experiences in the healthcare system, reducing their likelihood to do so (Katz, 2009).

Current Study

Limited research is available on the relationship between healthcare access and psychological wellbeing in the 2SLGBTQIA+ community. Much of the research to date has failed to consider the implications of gender identity and, in many cases, transgender, asexual, and queer individuals are treated or categorized within the same group as lesbian, gay, and bisexual individuals. This leaves a significant gap in the

literature on the implications of sexuality and gender identity on healthcare access and psychological wellness and distress (Gahagan & Colpitts, 2017).

The aim of this study was to gain a better understanding of the impact of healthcare access on wellness between 2SLGBTQIA+ and non-2SLGBTQIA+ individuals. Further, I compared the experiences of residents of Canada and residents of the United States and contributed to the limited research examining the health and access to services for sexual and gender minorities. The results from this study have implications to identify barriers that exist for 2SLGBTQIA+ individuals accessing healthcare services in Canada and the United States and can inform strategies to address these barriers.

The current study used data collected from an online questionnaire administered through Qualtrics to members of the 2SLGBTQIA+ community and members of the general population within Canada and the United States. In addition to specific demographic questions, participants were asked to answer questions pertaining to their physical wellbeing, mental wellness, and access to healthcare. The data collected through the survey was used to answer three research questions and examine the differences and inequities in healthcare and wellness for sexual and gender minorities.

Research Questions

The first research question assessed overall differences on measures of healthcare access and psychological distress in the 2SLGBTQIA+ and non-2SLGBTQIA+ populations: Do 2SLGBTQIA+ individuals have lower perceived access and higher unmet needs than non-2SLGBTQIA+ individuals? I hypothesized that sexual and gender minority status would be associated with significantly lower levels of

perceived access to healthcare, psychological and physical wellness, and greater unmet health needs.

The second research question examined differences between subgroups of the broader 2SLGBTQIA+ population on measures of healthcare access and psychological and physical wellbeing: Do perceptions of healthcare access and ratings of psychological wellness differ between subgroups within the 2SLGBTQIA+ community? I proposed that members of the most highly marginalized sexual and gender minority subgroups, such as transgender, non-binary, and asexual respondents, would demonstrate significantly lower perceived access to healthcare, psychological and physical wellness, and greater unmet health needs when compared to other members of the community, such as lesbian, gay, and bisexual respondents.

The third and final research question focuses on differences in healthcare access, unmet needs, and psychological and physical wellbeing among sexual and gender minorities in Canada and the United States: Are there differences on measures of healthcare access, unmet needs, and psychological wellness between Canada and the United States for 2SLGBTQIA+ individuals? I hypothesized that, due to differences in healthcare systems, societal views of the 2SLGBTQIA+ community, and policies protecting access to services for marginalized and minority groups, residents of the United States would report more barriers to healthcare services, more frequent unmet health needs, and lower psychological and physical wellness than residents of Canada.

Method

To address my research questions, I used quantitative methodology and data analyses. The current study was designed as an extension of Hickey (2021), which focused on interpreting population level, Canadian data and, therefore, the current

approach was chosen as it was similar to that of Hickey (2021). Despite not using qualitative or mixed methodologies, the findings and research questions may support and inform future qualitative research designed to more deeply explore the results and experiences of the 2SLGBTQIA+ community highlighted in the present study.

Participants

The primary sample recruited were individuals who identify as members of the 2SLGBTQIA+ community within Canada and the United States. Participants were recruited from social media sites and private online groups, including Facebook (www.facebook.com) and Redditt (www.redditt.com). A control sample of cisgender and heterosexual individuals were recruited from general social media posts. Both targeted sample groups were supplemented by a sample of undergraduate students from the University of New Brunswick Saint John Department of Psychology Participant Pool. An a priori power analysis indicated that a minimum sample size of 518 participants was needed to achieve adequate power for the analysis of healthcare access and psychological wellness (18 total predictors) assuming a moderate effect size (.80; $\alpha = .05$) to compare overall 2SLGBTQIA+ to non-2SLGBTQIA+ and between main subgroups of sexual and gender minorities.

The final sample size consisted of 534 participants. The age of participants ranged from 18 to 64 years, with a mean of 26.70 years (SD = 9.22). Participants between the ages of 18 and 25 represented 58.1% of the total sample, demonstrating a skewed sample towards younger respondents. Further, the overall sample was composed of 318 Canadians and 216 Americans (United States), representing 59.6% and 40.4% of participants respectively. Additionally, the greatest number of participants, 40.8%, reported living in a medium population centre of between 30,000 and 99,999 residents,

26.2% reported a large urban centre (above 100,000), 20.4% in a small population centre (1,000 to 29,999), 7.3% in a rural area, and 5.1% of participants were unsure.

A significant majority reported their race or cultural group as white, 70.0%, with Black representing the only other large selected demographic category at 14.2%.

Further, income levels of participants were well split between income brackets with the most frequent bracket being \$60,000 to \$80,000 in annual income representing 18.2% of the sample. In addition, the vast majority of the total participants, 98.1%, reported one of their primary languages as English, while 7.7% selected French as one of their primary languages, and 6.6% indicated that one of their primary languages was another language.

All participants were categorized into the four categories of non-minority (straight and cisgender), sexual minority (non-heterosexual cisgender), gender minority (heterosexual gender minority), or double minority (non-cisgender and non-heterosexual) based on their combined responses to questions regarding sexual orientation and gender identity. The specific demographic information for each of the four categories are listed in the demographic tables below (see Tables 1 through 5).

Measures

Demographic Questionnaire

The demographics questionnaire (see Appendix A) included questions that asked participants to identify their sex (male, female, or intersex), gender, age, country of residence (Canada or the United States), region (specific province, state, or territory), population density of area of residence (large urban population centre, medium population centre, small population centre, or rural area), household income level, race or ethnicity, height, and weight. In addition, participants were asked to complete the Washington Group Short Set on Functioning to measure disability. In the second section

of the demographic questionnaire, participants were asked two questions to determine if the COVID-19 pandemic impacted their health, wellness, and ability to access healthcare services. Participants were also asked to select the category or categories within 2SLGBTQIA+ that best fits their identity: gender identity or expression and sexual orientation. Options for selecting heterosexual and cisgender were included in this section of the demographic information. Further, participants who self-identified as a member of the 2SLGBTQIA+ were asked about the current state of disclosure (commonly known as being ‘out’) of their sexual orientation or gender identity. A complete list and format of questions that were asked in the demographic information section can be found in Appendix A.

General Anxiety Disorder-7

The General Anxiety Disorder Scale (GAD-7; see Appendix B) consists of seven items measuring symptoms of anxiety on a four-point Likert scale with scores ranging from 0 to 3 (Spitzer et al., 2006). Participants are asked how often the following problems have bothered them over the last two weeks: feeling nervous, anxious, or on edge; not being able to stop or control worrying; worrying too much about different things; trouble relaxing; being so restless that it is hard to sit still; becoming easily annoyed or irritable; and feeling afraid, as if something awful might happen (Spitzer et al., 2006). Higher scores indicate greater levels of anxiety and scores greater than 10 are considered within the clinical range for diagnosis (Spitzer et al., 2006). The GAD-7 has shown strong reliability (Cronbach’s alpha = .89) and construct validity in previous research (Kroenke et al., 2001; Löwe et al., 2008; Zhong et al., 2015). During data analysis, the reliability of the GAD-7 measure was assessed and produced a Cronbach’s alpha score of .90, demonstrating very strong reliability in the present study.

Social and Emotional Loneliness Scale for Adults

The short form of the Social and Emotional Loneliness Scale for Adults (SELSA-S; see Appendix C) is designed to measure social and emotional loneliness (DiTommaso et al., 2004; DiTommaso & Spinner, 1993). The SELSA-S asks participants to rate their agreement or disagreement with 15 differing statements using a 7-point Likert scale ranging from 1, *disagree strongly*, to 7, *agree strongly* (DiTommaso et al., 2004). Three subscale scores measuring social, family, and romantic loneliness can be calculated. The short form of the SELSA has been shown to have high internal reliability, with Cronbach's α scores ranging from .87 to .90 across the subscales, and solid concurrent and construct validity (DiTommaso et al., 2004). Using data from the current study, the SELSA-S subscales of social loneliness, family loneliness, and romantic loneliness produced Cronbach's α scores of .82, .87, and .89 respectively.

Satisfaction with Life Scale

The Satisfaction with Life Scale (SWLS; see Appendix D) specifically measures global life satisfaction and scores correlate with other measures of subjective wellbeing (Diener et al., 1985). The SWLS is composed of a five-item scale where participants respond using a seven-point scale ranging from strongly disagree to strongly agree (Diener et al., 1985). Participants select a score for the following five items: in most ways my life is close to my ideal; the conditions of my life are excellent; I am satisfied with my life; so far, I have gotten the important things I want in life; and if I could live my life over, I would change almost nothing (Diener et al., 1985). The SWLS has been shown to have strong internal consistency and moderate temporal reliability with a Cronbach's α of .87 (Diener et al., 1985). Further, this scale has demonstrated to be a valid and reliable measure of satisfaction with life and to be applicable with a broad

range of age groups and scenarios (Pavot et al., 1991). Specific to the current study, the reliability of the SWLS was assessed using the collected data at a Cronbach's alpha level of .88, demonstrating strong reliability.

Patient Health Questionnaire-9

The Patient Health Questionnaire-9 (PHQ-9; see Appendix E), developed by Spitzer and colleagues (1999) is a validated instrument to measure self-reported depressive symptoms and uses a series of questions based on the individual's experiences in the past two weeks, including: interest and pleasure doing things, feeling down or hopeless, having trouble falling asleep or sleeping too much, having little energy, having poor appetite or overeating, feeling bad about yourself or that you are a failure, having trouble concentrating, moving/speaking slowly or very fidgety, having thoughts of being better off dead or hurting yourself, and the difficulty these problems have caused at work and at home. Respondents select options from a 1 to 4 scale, with 1 = *not at all* and 4 = *nearly every day*. For the final question of how these problems affect one's work or home life, respondents use a 1 to 4 scale: 1 being *not difficult at all* and 4 being *extremely difficult*. The PHQ-9 includes clinical cut-offs such that both the severity of the depression or depressive symptoms can be assessed. The PHQ-9 has demonstrated acceptable validity and reliability, with a Cronbach's α of .89 (American Psychological Association, 2020; Sun et al., 2020). Further, Cronbach's α was calculated at .86 using the data from the current study.

RAND 36-Item Short Form Health Survey

The RAND 36-Item Short Form Health Survey (SF-36; see Appendix F) is a measure of health and quality of life using a set of generic, coherent, and easily administered questions (Ware & Sherbourne, 1992). The RAND SF-36 covers and

assesses the eight concepts of physical functioning, bodily pain, role limitations caused by physical health issues, role limitations caused by personal or emotional problems, emotional wellbeing, social functioning, energy and fatigue, and general health perceptions (Ware & Sherbourne, 1992). Many questions use a five-point Likert scale, as an example: During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups? (Ware & Sherbourne, 1992). Scores on each individual item are converted to a 0 to 100 scale where higher scores indicate better health. To tabulate final scores, an average is created for each section of the RAND-36, creating 8 scale scores (Ware & Sherbourne, 1992). The RAND-36 is the commonly used measure of health-related quality of life and has shown strong reliability and validity, with Cronbach's α ranging from .78 to .93 across its eight subscales (Hayes & Morales, 2001). Specific to the current study, a Cronbach's α of .82 was achieved for the overall physical health score and .73 for the overall mental health score when assessing reliability of the measure using the current data. The total physical health and mental wellness subscales, which were used in the current study, are created by summing the scores of specific subscales within the RAND-36. The overall physical health scale scores are a product of combining the physical functioning, physical role, pain, and health subscales. The overall mental wellness scores are derived from summing the emotional role, energy, emotional wellbeing, and social wellbeing subscales.

Access to Healthcare

A series of questions were used to assess the level of access a respondent has to health care services, the issues creating barriers to receiving efficient care, and if they have unmet health care needs. Questions from the multiple versions of the Canadian

Community Health Survey (CCHS), including the 2021, 2018, and 2016 versions, and from the European Patients Forum Survey (EPF, 2016; Statistics Canada, 2016b) were adapted for use in the current study. Questions include level of difficulty accessing care, whether or not the participant has a primary healthcare provider, what type of healthcare provider, the impact of wait times, financial limitations, cost of healthcare, significant delays in care, whether or not the participant has experienced stigmatization or discrimination within the healthcare system, the type of stigma or discrimination, disclosure of sexual orientation or gender identity/expression to healthcare provider, reaction to disclosure, and unmet health needs. The specific questions included in this section can be found under Appendix G. All measures of healthcare access were coded such that low scores represent worse access, and higher scores indicate better access to care or fewer barriers to care.

Procedure

This study was reviewed by the University of New Brunswick Saint John Research Ethics Board (REB File #2022-019). Participants were recruited through social media and through SONA, an online recruitment tool of undergraduate students at the University of New Brunswick Saint John. Students recruited through SONA can complete studies and receive bonus points for participating courses in the Department of Psychology at the University of New Brunswick Saint John, specifically 1.0 bonus points for participating in the current study. The second group of participants were recruited through the social media sites Facebook (www.facebook.com) and Reddit (www.reddit.com). In addition to posting the study in general participant recruitment groups (e.g., Research Participation) to gain participants from the general population, the study was posted primarily in 2SLGBTQIA+ specific groups or subgroups (e.g., The

Queer Space). All participants completed the questionnaire through Qualtrics (<https://www.qualtrics.com>). Participants read and signed an informed consent form (see Appendix H and Appendix I) before being able to continue to other sections of the study. Participants were presented the demographic questions first, followed by the remaining questionnaires presented in a randomized order. Further, debriefing forms (see Appendix J and Appendix K) were included at the end of the questionnaire.

Results

Descriptive Analyses

Data Conditioning

The data were screened and conditioned in preparation for the main analyses. Descriptive statistics were examined for accuracy of input, which included identification of out-of-range values, as well univariate and multivariate outliers. Two invalid values were identified for the variable of age; in both cases, the participants entered their email addresses instead of their age and age was recoded as system missing. Further, 15 participants identified their country of residence as outside of Canada or the United States and were removed from the dataset as the current study is only interested in examining responses from participants in Canada or the United States and experiences within the 2SLGBTQIA+ community may vary between regions. In addition, 65 respondents who completed the questionnaire in less than five minutes or 300 seconds, equivalent to answering each question in under 5.45 seconds, were deemed invalid as their responses may be unreliable. Extremely short survey responses have been shown to have low data quality and participants may have not paid attention to their responses (Grezski et al., 2015). The specific cut-off of 300 seconds was determined through

survey testing and comparing completion times of similar surveys with comparable complexity and length.

Univariate outliers were addressed by performing descriptive analysis on all variables, calculating the critical cut-off point (three standard deviations from the mean), and visually inspecting potential univariate outliers by producing data plots. Fourteen data points fell outside of the critical cut-off for age but were determined to not be discontinuous with the remaining data, therefore were not considered outliers during analysis. Further, the data plots were also used to inspect the distribution of variables to ensure a normal distribution of data. Large samples are generally normally distributed (central limit theorem; Field, 2018), including when there are univariate outliers. Consistent with this theory, measures used in the current study, including the validated scales of psychological wellness and the scaled questions on access to healthcare appear to be adequately normally distributed.

For each regression analysis, Mahalanobis distance was calculated and graphed to identify any potential multivariate outliers. Multivariate outliers are patterns of responses from participants that significantly differ from other response patterns. No values were calculated exceeding the critical cut-off values to be considered a multivariate outlier and plots were inspected to confirm that no points were significantly discontinuous from the other data.

Missing Values

Any participant who completed less than 80% of the total questionnaire package was automatically removed from further analysis. In addition, if a participant completed less than 80% of items on a specific scale or measure, a total score for that scale was not calculated. Further, participants who did not complete key questions, including gender

identity and sexual orientation, were removed from the data set. A total of 114 participants met the criteria to be removed due to missing responses. After the removal of out-of-range values and addressing missing data, a remaining 534 participants were included in the final sample. Observed power was calculated for all major analyses and ranged from .83 for Analyses of Variances (ANOVA) to .99 for T-tests and regressions, demonstrating sufficient power with the sample sizes for each statistical model.

Assumption Analysis

The assumptions of hierarchical linear regression models were examined prior to data analyses, including linearity, normality, homoscedasticity, and multicollinearity. Linearity was assessed using scatterplots (dependent variable vs. predicted values), demonstrating linear relationships. Using histograms, normality was assessed and showed normal distributions of error between observed and residual values. Homoscedasticity was assessed by creating scatterplots and histograms (predicted vs. residual values), demonstrating no concerning patterns. Further, homoscedasticity was further evaluated by performing Breusch-Pagan tests on all ANOVA models. The variables of distance to care, unmet health needs, mental wellness (RAND-36) and family loneliness (SELSA-S) in the model assessing differences between minority status groups (Research Question 2) were significant and corrections using robust standard errors were used. In addition, the variables of having a healthcare provider, cost of mental health provider, unmet health needs, and mental wellness (RAND-36) included corrections for heteroscedasticity in the final ANOVA model (Research Question 3). Finally, multicollinearity was assessed for each regression during analyses, with acceptable VIF (variance inflation factor) levels, less than 10 (Field, 2018).

Descriptive Statistics

Results from all demographic questions were used to create four categories of minority status that are used throughout analysis: non-minority, sexual minority, gender minority, and double minority. Non-minority represents those who reported identifying as heterosexual and cisgender. Sexual minority includes participants who selected their sexual orientation as something other than heterosexual and their gender identity as cisgender. Gender minority represents those who identified their sexual orientation as heterosexual, and their gender identity differs from cisgender. Lastly, double minority represents participants that selected their sexual orientation other than heterosexual and their gender identity as differing from cisgender.

Table 1 shows the breakdown of the individual gender identity options across the four categories that will be used for statistical analysis. In total, there were 377 cisgender participants, representing 70.6% of the sample, and 157 gender minorities, representing 29.4% of the sample. It is important to note that respondents were able to select more than one gender option (i.e., a participant could identify as both non-binary and genderqueer) and thus, a participant's response may be recorded across multiple gender identification categories in Table 1.

Table 1

Frequencies and percent of relevant sample of gender in the categories of non-minority, sexual minority, gender minority, and sexual & double minority.

Gender	Non-Minority	Sexual Minority	Gender Minority	Double Minority	Overall
Man	76	48	17	30	171 (32.0%)
Woman	162	91	7	44	304 (56.9%)
Indigenous	0	0	1	10	11 (2.1%)
Non-Binary	0	0	3	40	43 (8.1%)
Genderfluid	0	0	0	20	20 (3.7%)
Genderqueer	0	0	2	39	41 (7.7%)
Agender	0	0	0	7	7 (1.3%)
Unsure / Questioning	0	0	0	13	13 (2.4%)
Other Gender	1	0	1	9	11 (2.1%)
Total	239	139	32	212	621 (100%)

Straight or heterosexual participants represented 52.1% of respondents, 18.5% of participants identified as bisexual, 12.4% queer, 9.7% gay, 8.6% lesbian, 6.0% asexual or aromantic, 5.6% pansexual, 3.9% questioning or unsure, 3.9% demisexual, and 1.1% indicated that their sexual orientation was not listed. For the purposes of my analyses, sexual orientation was aggregated into a binary, sexual minority status, in which sexual minority was defined as identifying as any sexual orientations that was not heterosexual. After collapsing categories, there were 262 heterosexual individuals (49.1%) and 272 sexual minority individuals (50.9%).

Table 2 shows the country of residence of respondents broken down across each of the four categories of sexual and gender minority status. Respondents from Canada make up a significant majority of sexual minority participants (77.7%), while those from the United States are more represented in the double minority category (64.7%) compared to Canada.

Table 2

Frequencies and percent of relevant sample of country of residence in the categories of non-minority, sexual minority, gender minority, and double minority.

Country	Non-Minority	Sexual Minority	Gender Minority	Double Minority	Overall
Canada	185	75	11	47	318 (59.6%)
United States	53	64	13	86	216 (40.4%)
Total	238	139	24	133	534 (100%)

The breakdown of population size for region of residence across the categories of sexual and gender minority status is shown in Table 3.

Table 3

Frequencies and percent of relevant sample of population size types in the categories of non-minority, sexual minority, gender minority, and double minority.

Population Size	Non-Minority	Sexual Minority	Gender Minority	Double Minority	Overall
Large urban centre	98	40	11	47	140 (26.2%)
Medium centre	107	54	7	46	218 (40.8%)
Small centre	59	28	5	26	109 (20.4%)
Rural area	20	10	1	9	39 (7.3%)
Unsure	11	7	0	4	27 (5.1%)
Total	238	139	24	132	533 (100%)

The demographic variable race or cultural group across the categories of sexual and gender minority status is presented in Table 4. A significant majority of respondents reported their race as being white, representing 60.7% of participants in the non-minority group, 72.7% in sexual minority, 41.7% in gender minority, and 62.9% in double minority. For statistical analyses purposes, the race or cultural group variables were recoded to 0 being white and 1 being non-white. After recoding, there were 373 respondents who identified their race or cultural group as being white, making up 70.0% of the total sample, and 160 non-white, representing 30.0% of the sample.

Table 4

Frequencies and percent of relevant sample of racial and cultural groups in the categories of non-minority, sexual minority, gender minority, and double minority.

Race/Cultural Group	Non-Minority	Sexual Minority	Gender Minority	Double Minority	Overall
Arab	2	1	1	0	4 (0.7%)
Black	30	18	5	23	76 (14.2%)
Latin American	8	2	6	6	22 (2.2%)
South Asian	5	3	1	3	12 (2.2%)
Southeast Asian	3	3	0	0	6 (1.1%)
East Asian	3	5	0	3	11 (2.1%)
Pacific Islander	1	0	0	0	1 (.2%)
Indigenous: First Nations	3	1	0	3	7 (1.3%)
Indigenous: Métis	0	0	0	3	3 (0.6%)
Indigenous: Inuk	0	0	0	1	1 (0.2%)
Indigenous: Prefer not to say	1	0	0	1	2 (0.4%)
White	179	101	10	83	373 (69.9%)
Not listed	12	5	1	6	15 (2.8%)
Total	295	139	24	132	533 (100%)

Income ranges are reported across the four categories of sexual and gender minority status in Table 5. There were 108 out of 237 (45.6%) non-minority respondents who reported earning above \$80,000 per year, 46.4% in the sexual minority category, and 37.5% for gender minority status. Only 26.5% of respondents in the double minority category reported their annual income as above \$80,000.

Table 5

Frequencies and percent of relevant sample of income levels in the categories of non-minority, sexual minority, gender minority, and double minority.

Income	Non-Minority	Sexual Minority	Gender Minority	Double Minority	Overall
Under \$20,000	24	11	6	24	65 (12.2%)
\$20,000 - \$40,000	19	17	2	26	64 (12.0%)
\$40,000 - \$60,000	31	28	3	27	89 (16.7%)
\$60,000 - \$80,000	55	18	4	20	97 (18.2%)
\$80,000 - \$100,000	36	20	1	13	70 (13.1%)
\$100,000 - \$120,000	22	19	7	15	63 (11.8%)
Above \$120,000	50	25	1	7	83 (15.5%)
Total	237	138	24	132	531 (100%)

Inferential Analyses

Research Question 1: 2SLGBTQIA+ and non-2SLGBTQIA+ Differences

To investigate Research Question 1, *Do 2SLGBTQIA+ individuals have lower perceived access and higher unmet needs than non-2SLGBTQIA+ individuals?*, a series of Chi-squared tests and *t*-tests were performed to examine differences between 2SLGBTQIA+ and non-2SLGBTQIA+ respondents. Differences on level of difficulty accessing care, whether the participant has a primary healthcare provider, the impact of wait times, financial limitations, significant delays in care, and unmet health needs were assessed. Further, psychological wellness, measured through the GAD-7, PHQ-9, SWLS, RAND SF-36, and SELSA-S self-report scales, were examined to determine if there were differences according to minority status. It is important to note that what variables are included differ slightly in some analyses due to limited responses on certain measures.

Members of the 2SLGBTQIA+ community were significantly more likely to have experienced a delay in receiving care, $\chi^2(1, N = 497) = 10.05, p = .002$, reported that the distance from a care facility impacted their ability to receive care, $\chi^2(1, N = 523) = 30.81, p < .001$, and that they had unmet health needs, $\chi^2(1, N = 479) = 42.06, p < .001$, compared to non-2SLGBTQIA+, as can be seen in Table 6. Further, compared to non-2SLGBTQIA+, 2SLGBTQIA+ participants were significantly more likely to have a mental healthcare provider, $\chi^2(1, N = 524) = 29.80, p < .001$, but, at the same time, were significantly less likely to be able to afford mental health care, $\chi^2(1, N = 500) = 49.22, p < .001$. There were no significant differences between 2SLGBTQIA+ and non-2SLGBTQIA+ respondents in terms of their access to a primary healthcare provider, $\chi^2(1, N = 519) = 2.80, p = .095$.

Table 6

Frequencies of responses on binary measures of healthcare access across 2SLGBTQIA+ and non-2SLGBTQIA+ groups.

Variable	Response	Non-2SLGBTQIA+		2SLGBTQIA+	
		<i>n</i>	%	<i>n</i>	%
Delay in Care	Yes	95 _a	42.79	157 _b	57.09
	No	127 _a	57.21	118 _b	42.91
Healthcare Provider	Yes	193 _a	82.48	218 _a	76.49
	No	41 _a	17.52	67 _a	23.51
Distance to Care	Yes	43 _a	18.45	119 _b	41.03
	No	190 _a	81.55	171 _b	58.97
Mental Health Provider	Yes	65 _a	27.66	148 _b	51.21
	No	170 _a	72.34	141 _b	48.79
Mental Healthcare Cost Impacts Access	Yes	68 _a	30.91	175 _b	62.50
	No	152 _a	69.09	105 _b	37.50
Unmet Health Needs	Yes	92 _a	43.40	194 _b	72.66
	No	120 _a	56.60	73 _b	27.34

Note. Means with different subscripts differ at a minimum of $p = .05$ using Chi-square tests.

As can be seen in Table 7, compared to non-2SLGBTQIA+ respondents, members of the 2SLGBTQIA+ population were significantly more likely to report a greater impact of the COVID-19 pandemic on healthcare access, including worse overall access to health services, as well as difficulties affording care. No significant differences were observed between 2SLGBTQIA+ and non-2SLGBTQIA+ respondents on the impact of COVID-19 on wait-times for care.

Members of the 2SLGBTQIA+ population also reported significantly higher scores on the GAD-7: Anxiety and PHQ-9: Depression. Further, compared to non-2SLGBTQIA+, 2SLGBTQIA+ participants demonstrated significantly lower scores on the SWLS: Satisfaction with Life and the two subscales of the RAND-36 measuring physical health and mental health. Additionally, although there were no significant differences on the SELSA-S Romantic Loneliness subscale, compared to non-2SLGBTQIA+ individuals, those who identified as 2SLGBTQIA+ had significantly higher scores on SELSA-S subscales indicating family and social loneliness.

Overall, despite having similar access to a primary care provider and being more likely to have a mental health care provider, 2SLGBTQIA+ individuals reported more barriers and negative impacts on accessing care than non-2SLGBTQIA+ participants. Further, 2SLGBTQIA+ respondents experienced significantly lower levels of psychological wellness and higher psychological distress.

Table 7

Differences in healthcare access and psychological wellness between 2SLGBTQIA+ and non-2SLGBTQIA+ respondents.

Variable	Non-2SLGBTQIA+ <i>M (SD)</i>	2SLGBTQIA+ <i>M (SD)</i>	<i>t</i>	Effect Size (Cohen's <i>d</i>)
Healthcare Access				
Pandemic Impact on Access	2.84 (1.01)	2.31 (1.00)	-6.12***	.53
Overall Access	3.34 (1.10)	2.90 (1.11)	-4.51***	.40
Wait-Time	4.00 (1.54)	3.84 (1.59)	-1.12	.10
Afford Care	4.24(0.95)	3.78 (1.04)	-5.20***	.46
Psychological Wellness				
GAD-7	15.38 (5.66)	17.19 (5.45)	3.73***	.33
PHQ-9	18.05 (5.75)	20.79 (6.12)	5.26***	.46
SWLS	23.88 (6.43)	20.24 (6.90)	-6.22***	.54
RAND Physical	74.83 (20.97)	62.09 (23.37)	-6.63***	.57
RAND Mental	53.47 (21.16)	43.57 (18.56)	-5.65***	.50
SELSA Social	14.21 (6.68)	15.68 (6.60)	2.51*	.22
SELSA Family	12.21 (6.52)	16.84 (7.40)	7.45***	.66
SELSA Romantic	17.59 (9.79)	18.38 (8.99)	0.96	.09

Note. Higher values on measures under Healthcare Access indicate higher access. GAD-7 = General Anxiety Disorder 7-Item; PHQ-9 = Patient Health Questionnaire-9; SWLS = Satisfaction With Life Scale; RAND Physical = RAND 36-Item Short Form Health Survey Total Physical Health Score; RAND Mental = RAND 36-Item Short Form Health Survey Total Mental Health Score; SELSA Social = Social and Emotional Loneliness Scale for Adults – Short Form Social Loneliness Subscale; SELSA Family = Social and Emotional Loneliness Scale for Adults – Short Form Family Loneliness Subscale; SELSA Romantic = Social and Emotional Loneliness Scale for Adults – Short Form Romantic Loneliness Subscale.

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

A series of hierarchical linear regression analyses were conducted to determine if unmet health needs predicted overall wellness. In all regressions, Block 1 was composed of demographic variables, including age, income range, country (0 = Canada, 1 = United States), and race (0 = white, 1 = non-white), Block 2 contained sexual and gender minority status, and Block 3 included measures of healthcare access and unmet health

needs. The criterion variables were the RAND-36 subscales indicating overall mental (see Table 8) and physical (see Table 9) wellness.

The overall model predicting mental wellness was statistically significant, $F(12, 381) = 14.72, p < .001, R^2 = .32$. The demographic variables statistically contributed 6.2% of the variance in the model, $\Delta F(4, 389) = 6.45, p < .001$, with income significantly adding to the model (see Table 8). Minority status (0 = minority, 1 = non-minority) was included in Block 2 and explained an additional 2.5% of the variance in the criterion, $\Delta F(1, 388) = 10.66, p = .001$. The healthcare access and unmet needs factors in Block 3 accounted for an additional 22.9% of the variance, $\Delta F(7, 381) = 18.28, p < .001$, with higher impact on access from the pandemic, greater wait-times for immediate care, not being able to afford the cost of a mental healthcare provider, and greater unmet health needs all making significant contributions. Overall, being older, reporting a greater impact of the pandemic on access to care, a greater impact of wait-times on access, not being able afford mental health care, having unmet health needs, or being a member of the 2SLGBTQIA+ community were significant predictors of lower overall mental wellness measured through a subscale of the RAND-36 Health Survey.

Table 8

Regression Coefficients of the Prediction Model for Mental Health (RAND-36 Mental Health scores)

Variable	<i>b</i>	95% CI for <i>b</i>		<i>SE b</i>	β	<i>t</i>	<i>p</i>
		<i>LL</i>	<i>UL</i>				
Step 1							
Age	0.11	-0.13	0.35	0.12	0.05	0.93	.355
Country	-1.92	-6.44	2.60	2.30	-0.05	-0.84	.404
Income	2.44	1.36	3.51	0.55	0.22	4.45	<.001
Race	-1.83	-6.63	2.98	2.44	-0.04	-0.75	.455
Step 2							
Age	0.16	-0.07	0.40	0.12	0.07	1.36	.176
Country	0.22	-4.42	4.87	2.36	0.01	0.10	.924
Income	2.16	1.09	3.24	0.55	0.20	3.96	<.001
Race	-1.75	-6.50	3.00	2.41	-0.04	-0.72	.469
Minority Status	7.11	2.83	11.39	2.18	0.17	3.27	.001
Step 3							
Age	0.28	0.07	0.49	0.11	0.12	2.64	.009
Country	0.71	-3.78	5.21	2.29	0.02	0.31	.756
Income	0.61	-0.37	1.59	0.50	0.06	1.22	.223
Race	-1.22	-5.46	3.02	2.16	-0.03	-0.57	.572
Minority Status	0.56	-3.40	4.52	2.01	0.01	.28	.782
Pandemic Impact on Access	4.48	2.41	6.55	1.05	0.23	4.26	<.001
Overall Access	0.91	-1.05	2.86	0.99	0.05	0.91	.363
Wait-Time	2.30	1.04	3.57	0.64	0.17	3.58	<.001
Distance to Care	3.85	-0.47	8.18	2.20	0.09	1.75	.081
Mental Healthcare Provider	-1.65	-5.39	2.09	1.90	-0.04	-0.87	.387
Afford Mental Healthcare	7.69	3.74	11.63	2.01	0.19	3.83	<.001
Unmet Health Needs	4.35	0.24	8.47	2.09	0.10	2.08	.038

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

The model predicting overall physical health using the RAND-36 physical health measure was statistically significant, $F(13, 390) = 31.95, p < .001, R^2 = .52$. The demographic factors contributed 29.1% of the variance in the model, $\Delta F(4, 399) = 40.87, p < .001$, with age, country of residence, income, and race significantly adding to

the model (see Table 9). Block 2 (sexual and gender minority statuses) explained an additional 0.5% of the variance in the criterion, but did not significantly contribute to the model, $\Delta F(1, 398) = 2.81, p = .094$. The healthcare access and unmet needs factors in Block 3 accounted for an additional 22.0% of the variance, $\Delta F(8, 390) = 22.16, p < .001$, with impact on overall access from the pandemic, overall access, having a healthcare provider, distance to care, the cost of care, the cost of mental healthcare, and unmet health needs significantly adding to the model. Overall, younger age, being a participant from Canada, having a higher income, being white, experiencing a lower impact on access due to the COVID-19 pandemic, not having a healthcare provider, having a shorter distance to receive care, less difficulties affording healthcare, less difficulties affording mental health care, or having fewer unmet health needs were significant predictors of greater overall physical health measured through a subscale of the RAND-36 Health Survey.

Table 9

Regression Coefficients of the Prediction Model for Physical Health (RAND-36 Physical Health scores)

Variable	<i>b</i>	95% CI for <i>b</i>		<i>SE b</i>	β	<i>t</i>	<i>p</i>
		<i>LL</i>	<i>UL</i>				
Step 1							
Age	-0.44	-0.67	-0.20	0.12	-0.16	-3.65	<.001
Country	-16.77	-21.17	-12.37	2.24	-0.36	-7.49	<.001
Income	2.52	1.48	3.57	0.53	0.21	4.75	<.001
Race	-6.51	-11.25	-1.78	2.41	-0.12	-2.70	.007
Step 2							
Age	-0.41	-0.64	-0.17	0.12	-0.15	-3.38	.001
Country	-15.67	-20.24	-11.10	2.33	-0.33	-6.74	<.001
Income	2.36	1.31	3.42	0.54	0.19	4.39	<.001
Race	-6.58	-11.31	-1.86	2.40	-0.13	-2.74	.006
Minority Status	3.63	-0.63	7.89	2.17	0.08	1.68	0.94
Step 3							
Age	-0.24	-0.44	-0.03	0.10	-0.09	-2.29	.022
Country	-9.62	-13.77	-5.46	2.11	-0.20	-4.55	<.001
Income	0.54	-0.43	1.50	0.49	0.04	1.10	.274
Race	-4.98	-9.08	-0.88	2.08	-0.10	-2.39	.017
Minority Status	-1.44	-5.19	2.31	1.91	-0.03	-0.76	.450
Pandemic Impact on Access	3.11	1.14	5.09	1.01	0.14	3.10	.002
Overall Access	2.34	0.48	4.20	0.95	0.11	2.48	.014
Healthcare Provider	-6.88	-11.44	-2.33	2.32	-0.12	-2.97	.003
Distance to Care	9.68	5.43	13.93	2.16	0.19	4.48	<.001
Afford Care	2.91	0.87	4.94	1.03	0.13	2.81	.005
Mental Healthcare Provider	-0.25	-3.97	3.47	1.89	-0.01	-0.13	.895
Afford Mental Healthcare	5.18	1.29	9.06	1.98	0.11	2.62	.009
Unmet Health Needs	5.71	1.80	9.63	1.99	0.12	2.87	.004

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Research Question 2: 2SLGBTQIA+ Subgroups

To examine Research Question 2, *Do perceptions of healthcare access and ratings of psychological wellness differ between subgroups within the 2SLGBTQIA+ community?*, an analysis of variance (ANOVA) and a series of Chi-square tests were performed to test differences in healthcare access and psychosocial wellness. Due to small sample sizes in targeted sexual orientation and gender identity groups, such as gay, lesbian, transgender, non-binary, etc., specific categories were collapsed into the three independent groups for all major analysis. For these analyses, I compared differences in individuals who were not a sexual or gender minority (non-minority), individuals who were a sexual minority (but not a gender minority), and individuals who were both a gender and sexual minority (double minority). When possible, the impact of being a gender minority (but not a sexual minority, i.e., transgender man who is heterosexual) was examined, but these analyses were exploratory due to a small sample size ($n = 24$).

Compared to non-minority participants, sexual minority, $\chi^2(1, N = 332) = 17.84$, $p < .001$, or double minority, $\chi^2(1, N = 337) = 44.96$, $p < .001$, participants were significantly more likely to have unmet health needs. Further, there were statistically significant differences between the sexual and double minority groups, and individuals in the double minority category reported greater unmet health needs, $\chi^2(1, N = 245) = 5.67$, $p = .017$. Non-minority and sexual minority participants reported similar delays in receiving care, $\chi^2(1, N = 352) = 2.52$, $p = .112$. Sexual and double minority participants also reported similar levels of delay, $\chi^2(1, N = 253) = 3.64$, $p = .056$ (see Table 10); however, participants in the double minority group were significantly more likely to experience a delay than non-minority, $\chi^2(1, N = 345) = 13.46$, $p < .001$. Non-minority participants reported significantly less impact on access to care related to distance to

healthcare services compared to both sexual minority, $\chi^2(1, N = 370) = 12.79, p < .001$, and double minority, $\chi^2(1, N = 364) = 30.91, p < .001$, groups. Further, non-minority participants were less likely to have a regular mental healthcare provider compared to both sexual minority, $\chi^2(1, N = 370) = 13.69, p < .001$, and double minority, $\chi^2(1, N = 366) = 22.67, p < .001$, respondents; there were no statistically significant differences between sexual and double minority groups on this measure. Despite the fact that non-minority participants were least likely to have a mental healthcare provider, they were the most likely to report being able to afford such care compared to both sexual minority, $\chi^2(1, N = 353) = 24.94, p < .001$, and double minority, $\chi^2(1, N = 346) = 41.59, p < .001$, categories. No significant differences were reported between any of the groups in terms of having a regular primary healthcare provider.

Table 10

Frequencies of responses on binary measures of healthcare access across non-minority, sexual minority, and double minority groups.

Variable	Response	Non-Minority		Sexual Minority		Double Minority	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Delay in Care	Yes	95 _a	42.79	67 _{ab}	51.54	78 _b	63.41
	No	127 _a	57.21	63 _{ab}	48.46	45 _b	36.59
Healthcare Provider	Yes	193 _a	82.48	103 _a	75.74	99 _a	77.95
	No	41 _a	17.52	33 _a	24.26	28 _a	22.05
Distance to Care	Yes	43 _a	18.45	48 _b	35.04	60 _b	45.80
	No	190 _a	81.55	89 _b	64.96	71 _b	54.20
Mental Health Provider	Yes	65 _a	27.66	63 _b	46.67	69 _b	52.67
	No	170 _a	72.34	72 _b	53.33	62 _b	47.33
Mental Healthcare Cost Impacts Access	Yes	68 _a	30.91	77 _b	57.89	84 _b	66.67
	No	152 _a	69.09	56 _b	42.11	42 _b	33.33
Unmet Health Needs	Yes	92 _a	43.40	81 _b	67.50	101 _c	80.80
	No	120 _a	56.60	39 _b	32.50	24 _c	19.20

Note. Means with different subscripts differ at a minimum of $p = .05$ using Chi-square tests.

There were statistically significant differences across all three groups on the impact of COVID-19 on access to physical and mental health services (see Table 11), with individuals who identified as a double minority reporting a greater impact than sexual minorities, $M_{Diff} = -0.51, p < .001$, and non-minorities, $M_{Diff} = -0.78, p < .001$). Double minority participants reported the worst impact on access to care as a result of the COVID-19 pandemic, $M = 2.06$, followed by sexual minorities, $M = 2.57$, and non-minorities, $M = 2.84$. Further, there was a significant group difference between double minorities and both non-minorities, $M_{Diff} = -0.58, p < .001$, and sexual minorities, $M_{Diff} = -.32, p = .047$; double minorities reported the worst overall access to care, $M = 2.75$. In addition, an examination of the group differences focused on the financial implications of accessing care, non-minorities were significantly different from sexual minorities, $M_{Diff} = 0.31, p = .014$, and double minorities, $M_{Diff} = 0.55, p < .001$, on our measure of affording care, reporting the least financial difficulties related to accessing healthcare, $M = 4.24$. No differences between groups were observed on our measures of wait-times for immediate care or having a primary healthcare provider.

There were statistically significant differences between the non-minority group and both the sexual minority group, $M_{Diff} = -1.51, p = .036$, and double minority group, $M_{Diff} = -2.41, p < .001$, on the GAD-7 measure of anxiety. Further, the non-minority group reported significantly lower scores on the PHQ-9 measure of depressive symptoms compared to the sexual minority, $M_{Diff} = -2.08, p = .004$, and double minority, $M_{Diff} = -3.58, p < .001$, categories. In addition, statistically significant differences were found across all three minority status groups on the SWLS, with double minority participants reporting the lowest satisfaction with life (see Table 11). Differences across all three groups were also found on both the RAND-36 subscales of physical and mental

health, members of the non-minority category reporting the highest levels of physical and mental wellness. Finally, out of the three SELSA-S subscales, only the scale of family loneliness demonstrated any differences between groups. Significant differences between the three categories of minority status were reported on the measure of family loneliness, with double minority status showing the highest scores of loneliness.

Table 11

Differences in Healthcare Access and Ratings of Psychological Wellness Across Non-Minority, Sexual Minority, and Double Minority Groups

Variable	Non-Minority		Sexual Minority		Double Minority		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Healthcare Access							
Pandemic Impact on Access	2.84 _a	1.01	2.57 _b	0.99	2.06 _c	0.94	27.11 ^{***}
Overall Access	3.34 _a	1.06	3.07 _a	1.13	2.75 _b	1.05	12.32 ^{***}
Wait-Time	4.00 _a	1.54	3.87 _a	1.67	3.79 _a	1.49	0.82
Afford Care	4.24 _a	0.95	3.93 _b	1.05	3.69 _b	1.02	13.07 ^{***}
Psychological Wellness							
GAD-7	15.38 _a	5.66	16.89 _b	5.77	17.80 _b	5.07	8.70 ^{***}
PHQ-9	18.05 _a	5.75	20.13 _b	6.09	21.63 _b	6.18	16.26 ^{***}
SWLS	23.88 _a	6.43	21.50 _b	6.99	19.05 _c	6.68	22.79 ^{***}
RAND Physical	74.83 _a	20.97	67.64 _b	22.43	57.00 _c	23.51	27.93 ^{***}
RAND Mental	53.47 _a	21.16	46.79 _b	18.83	39.61 _c	18.18	21.06 ^{***}
SELSA Social	14.21 _a	6.68	15.36 _a	6.62	15.37 _a	6.57	1.85
SELSA Family	12.21 _a	6.52	15.16 _b	7.14	18.69 _c	7.59	35.37 ^{***}
SELSA Romantic	17.59 _a	9.79	19.37 _a	9.57	17.05 _a	8.56	2.27

Note. Means with different subscripts differ at the $p = .05$ level by Bonferroni's correction. Higher values on measures under Healthcare Access indicate higher access. GAD-7 = General Anxiety Disorder 7-Item; PHQ-9 = Patient Health Questionnaire-9; SWLS = Satisfaction With Life Scale; RAND Physical = RAND 36-Item Short Form Health Survey Total Physical Health Score; RAND Mental = RAND 36-Item Short Form Health Survey Total Mental Health Score; SELSA Social = Social and Emotional Loneliness Scale for Adults – Short Form Social Loneliness Subscale; SELSA Family = Social and Emotional Loneliness Scale for Adults – Short Form Family Loneliness Subscale; SELSA Romantic = Social and Emotional Loneliness Scale for Adults – Short Form Romantic Loneliness Subscale.

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

Because the gender minority group (individuals who were a gender minority but not a sexual minority) could not be included in the general analysis due to its limited sample size of 24 participants, exploratory Chi-square tests and t-tests were performed to identify differences on our measures of healthcare access and psychological wellness

between the gender minority group and double minority group. Respondents in the double minority category were significantly more likely to have unmet health needs compared to the gender minority group, $\chi^2(1, N = 147) = 7.25, p = .007$. No other significant differences in responses were observed through Chi-square analysis between the two minority status categories (see Table 12).

Table 12

Frequencies of responses on binary measures of healthcare access across gender minority and double minority groups.

Variable	Response	Gender Minority		Double Minority	
		<i>n</i>	%	<i>n</i>	%
Delay in Care	Yes	12 _a	54.55	78 _a	63.41
	No	10 _a	45.45	45 _a	36.59
Healthcare Provider	Yes	16 _a	72.73	99 _a	77.95
	No	6 _a	27.27	28 _a	22.05
Distance to Care	Yes	11 _a	50.00	60 _a	45.80
	No	11 _a	50.00	71 _a	54.20
Mental Health Provider	Yes	16 _a	69.57	69 _a	52.67
	No	7 _a	30.43	62 _a	47.33
Mental Healthcare Cost Impacts Access	Yes	14 _a	66.67	84 _a	66.67
	No	7 _a	33.33	42 _a	33.33
Unmet Health Needs	Yes	12 _a	54.55	101 _b	80.80
	No	10 _a	45.45	24 _b	19.20

Note. Means with different subscripts differ at a minimum of $p = .05$ using Chi-square tests.

Based on the t-test analysis, only one variable indicated statistically significant differences between the two groups, SELSA-S social loneliness (see Table 13). Double minority respondents reported significantly lower social loneliness compared to gender minority. Overall, the limited number of significantly different variables across the minority status categories may indicate that these two groups are generally indistinct from one another, however it is important to note the small sample of the gender

minority group when making comparisons, as demonstrated by the post-hoc power for this t-test calculated to be 0.65, indicating an underpowered model for this exploratory analysis.

Table 13

Differences in healthcare access and psychological wellness between participants in the gender minority group and the double minority group.

Variable	Gender Minority <i>M (SD)</i>	Double Minority <i>M (SD)</i>	<i>t</i>	Effect Size (Cohen's <i>d</i>)
Healthcare Access				
Pandemic Impact on Access	2.21 (1.06)	2.06 (0.94)	0.69	.15
Overall Access	2.73 (1.24)	2.75 (1.05)	-0.11	.03
Afford Care	3.39 (1.02)	3.69 (1.02)	-1.28	.29
Psychological Wellness				
GAD-7	15.58 (5.39)	17.80 (5.07)	-1.95	.43
PHQ-9	19.88 (5.60)	21.63 (6.18)	-1.30	.29
SWLS	19.54 (6.59)	19.05 (6.68)	0.33	.07
RAND Physical	58.09 (21.49)	57.00 (23.51)	0.21	.05
RAND Mental	46.75 (15.13)	39.61 (18.18)	1.78	.40
SELSA Social	19.30 (5.80)	15.37 (6.57)	2.68**	.61
SELSA Family	16.78 (5.57)	18.69 (7.59)	-1.15	.26
SELSA Romantic	19.74 (6.86)	17.05 (8.56)	1.42	.32

Note. Higher values on measures under Healthcare Access indicate higher access. GAD-7 = General Anxiety Disorder 7-Item; PHQ-9 = Patient Health Questionnaire-9; SWLS = Satisfaction With Life Scale; RAND Physical = RAND 36-Item Short Form Health Survey Total Physical Health Score; RAND Mental = RAND 36-Item Short Form Health Survey Total Mental Health Score; SELSA Social = Social and Emotional Loneliness Scale for Adults – Short Form Social Loneliness Subscale; SELSA Family = Social and Emotional Loneliness Scale for Adults – Short Form Family Loneliness Subscale; SELSA Romantic = Social and Emotional Loneliness Scale for Adults – Short Form Romantic Loneliness Subscale.

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

Additionally, regression analyses were conducted to determine specific variables that predicted psychological wellness in the three minority status groups. In all cases, the

demographic variables, including age, income range, country, and race were entered in Block 1, Block 2 contained dummy coded variables to indicate sexual and gender minority status, and double minorities (0 = non-minority and sexual minority, 1 = double minority), and Block 3 included unmet health needs and healthcare access. The PHQ-9 (depression), GAD-7 (anxiety), and SWLS (life satisfaction) scales were used as outcome measures in this regression model.

The overall model predicting PHQ-9 was statistically significant, $F(15, 386) = 9.10, p < .001, R^2 = .26$. The demographic factors contributed 7.3% of the variance in the model, $\Delta F(4, 397) = 7.81, p < .001$, with age and country of residence significantly contributing to the model (see Table 14). Block 2 (sexual and gender minority statuses) explained an additional 2.1% of the variance, $\Delta F(3, 394) = 3.09, p = .027$, with none of the minority status groups significantly adding to the model. The healthcare access and unmet needs factors in Block 3 accounted for an additional 16.7% of the variance, $\Delta F(8, 386) = 10.91, p < .001$, with impact of the pandemic on access, distance to care, being able to afford care, and unmet needs significantly contributing. Overall, being younger, living in the United States, experiencing greater impacts on access from the pandemic, greater distance to receive care, having more difficulties affording care, and having unmet health needs were significant predictors of greater levels of depression (PHQ-9). It is important to note that minority statuses did not significantly predict level of depression.

Table 14*Regression Coefficients of the Prediction Model for Depression (PHQ-9 scores)*

Variable	<i>b</i>	95% CI for <i>b</i>		<i>SE b</i>	β	<i>t</i>	<i>p</i>
		<i>LL</i>	<i>UL</i>				
Step 1							
Age	-0.05	-0.12	0.02	0.04	-0.07	-1.35	.178
Country	1.66	0.36	2.95	0.66	0.14	2.52	.012
Income	-0.66	-0.97	-0.35	0.16	-0.21	-4.21	<.001
Race	0.35	-1.04	1.74	0.71	0.03	0.50	.618
Step 2							
Age	-0.06	-0.13	0.01	0.04	-0.09	-1.68	.093
Country	1.00	-0.35	2.36	0.69	0.08	1.46	.146
Income	-0.56	-0.87	-0.25	0.16	-0.18	-3.53	<.001
Race	0.37	-1.01	1.75	0.70	0.03	0.53	.598
Non-Minority	-2.39	-5.48	0.70	1.57	-0.20	-1.52	.129
Sexual Minority	-1.02	-4.17	2.14	1.60	-0.07	-0.63	.527
Double Minority	-0.20	-3.34	2.95	1.60	-0.02	-0.12	.903
Step 3							
Age	-0.10	-0.16	-0.03	0.03	-0.14	-2.95	.003
Country	-0.44	-1.78	0.90	0.68	-0.04	-0.65	.516
Income	-0.12	-0.43	0.43	0.16	-0.04	-0.74	.463
Race	-0.04	-1.34	1.26	0.66	-0.03	-0.06	.954
Non-Minority	-0.27	-3.15	2.61	1.47	-0.02	-0.18	.855
Sexual Minority	0.27	-2.65	3.19	1.49	0.02	0.18	.856
Double Minority	0.39	-2.51	3.29	1.48	0.03	0.26	.792
Pandemic Impact on Access	-0.82	-1.46	-0.19	0.32	-0.14	-2.55	.011
Overall Access	-0.33	-0.93	0.26	0.30	-0.06	-1.11	.267
Healthcare Provider	0.96	-0.49	2.41	0.74	0.06	1.31	.192
Distance to Care	-1.65	-3.00	-0.30	0.69	-0.13	-2.39	.017
Afford Care	-0.77	-1.41	-0.12	0.33	-0.13	-2.32	.021
Mental Healthcare Provider	0.53	-0.66	1.72	0.61	0.04	0.87	.384
Afford Mental Healthcare	-0.91	-2.15	0.33	0.63	-0.08	-1.45	.148
Unmet Health Needs	-2.05	-3.30	-0.80	0.64	-0.17	-3.23	.001

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

The overall model predicting anxiety (GAD-7) was statistically significant, $F(15, 383) = 5.16, p < .001, R^2 = .17$. The demographic factors explained 5.2% of the variance in the model, $\Delta F(4, 394) = 5.45, p < .001$, with age and income significantly adding to

the model (see Table 15). Block 2 (minority status) contributed an additional 1.7% of the variance, $\Delta F(3, 391) = 2.32, p = .075$, but did not make a statistically significant addition to the overall model. Healthcare access and unmet needs in Block 3 accounted for an additional 9.9% of the variance, $\Delta F(8, 383) = 1.87, p < .001$, with overall access contributing significantly. Overall, being younger, having lower income, and having worse overall access to care were significant predictors of higher levels of anxiety (GAD-7). Minority statuses were not significant predictors of level of anxiety in this model.

Table 15*Regression Coefficients of the Prediction Model for Anxiety (GAD-7 scores)*

Variable	<i>b</i>	95% CI for <i>b</i>		<i>SE b</i>	β	<i>t</i>	<i>p</i>
		<i>LL</i>	<i>UL</i>				
Step 1							
Age	-0.05	-0.12	0.01	0.03	-0.09	-1.64	.102
Country	0.38	-0.83	1.58	0.61	0.03	0.61	.541
Income	-0.59	-0.88	-0.31	0.15	-0.20	-4.08	<.001
Race	-0.04	-1.33	1.25	0.66	-0.01	-0.06	.951
Step 2							
Age	-0.06	-0.13	0.00	0.03	-0.10	-1.94	.054
Country	-0.16	-1.42	1.11	0.64	-0.01	-0.24	.810
Income	-0.51	-0.80	-0.21	0.15	-0.17	-3.41	.001
Race	-0.01	-1.29	1.29	0.65	-0.01	-0.01	.989
Non-Minority	-0.89	-3.75	1.98	1.46	-0.08	-0.61	.544
Sexual Minority	0.25	-2.68	3.18	1.49	0.02	0.17	.866
Double Minority	0.97	-1.95	3.89	1.49	0.08	0.65	.513
Step 3							
Age	-0.09	-0.16	-0.03	0.03	-0.14	-2.84	.005
Country	-0.98	-2.29	0.33	0.67	-0.09	-1.47	.143
Income	-0.17	-0.47	0.14	0.15	-0.06	-1.09	.276
Race	-0.44	-1.71	0.83	0.65	-0.04	-0.69	.493
Non-Minority	0.45	-2.35	3.26	1.43	0.04	0.32	.752
Sexual Minority	1.02	-1.83	3.86	1.45	0.08	0.70	.483
Double Minority	1.23	-1.60	4.05	1.44	0.10	0.85	.394
Pandemic Impact on Access	-0.54	-1.16	0.08	0.32	-0.10	-1.71	.089
Overall Access	-0.59	-1.17	-0.02	0.29	-0.12	-2.02	.044
Healthcare Provider	-0.03	-1.44	1.39	0.72	-0.01	-0.04	.971
Distance to Care	-0.89	-2.21	0.43	0.67	-0.08	-1.32	.187
Afford Care	-0.34	-0.98	0.29	0.32	-0.06	-1.07	.286
Mental Healthcare Provider	0.03	-1.14	1.20	0.59	0.01	0.05	.961
Afford Mental Healthcare	-0.86	-2.07	0.35	0.61	-0.08	-1.40	.161
Unmet Health Needs	-1.21	-2.44	0.01	0.62	-0.11	-1.94	.053

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

The final regression model, predicting life satisfaction (SWLS) was statistically significant, $F(15, 384) = 6.36, p < .001, R^2 = .20$. The demographic factors explained 12.5% of the variance, $\Delta F(4, 395) = 14.09, p < .001$, with age and income significantly contributing variability to the model (see Table 16). Block 2 (minority status) significantly contributed an additional 3.5% of the variance to the model, $\Delta F(3, 392) = 5.40, p = .001$, with non-minority status making a significant contribution. In Block 3, healthcare access and unmet health needs accounted for an additional 3.9% of the model variance, $\Delta F(8, 384) = 2.37, p = .017$, with being able to afford care significantly contributing to the model. Overall, higher income, younger age, experiencing fewer financial difficulties to afford care, and being neither a sexual nor gender minority significantly predicted greater satisfaction with life (SWLS).

Table 16*Regression Coefficients of the Prediction Model for Life Satisfaction (SWLS scores)*

Variable	<i>b</i>	95% CI for <i>b</i>		<i>SE b</i>	β	<i>t</i>	<i>p</i>
		<i>LL</i>	<i>UL</i>				
Step 1							
Age	-0.08	-0.16	-0.01	0.04	-0.11	-2.20	.028
Country	-0.82	-2.22	0.58	0.71	-0.06	-1.15	.251
Income	1.12	0.79	1.45	0.17	0.32	6.63	<.001
Race	-0.63	-2.13	0.87	0.76	-0.04	-0.82	.410
Step 2							
Age	-0.07	-0.15	0.01	0.04	-0.09	-1.84	.066
Country	0.06	-1.39	1.50	0.74	0.01	0.08	.939
Income	1.00	0.66	1.33	0.17	0.28	5.83	<.001
Race	-0.63	-2.11	0.85	0.75	-0.04	-0.84	.400
Non-Minority	4.10	0.79	7.41	1.68	0.30	2.44	.015
Sexual Minority	2.79	-0.59	6.17	1.72	0.18	1.62	.105
Double Minority	1.07	-2.30	4.44	1.71	0.07	0.63	.532
Step 3							
Age	-0.05	-0.13	0.03	0.04	-0.07	-1.30	.194
Country	0.28	-1.27	1.83	0.79	0.02	0.35	.725
Income	0.76	0.40	1.23	0.18	0.22	4.17	<.001
Race	-0.26	-1.77	1.25	0.77	-0.02	-0.34	.737
Non-Minority	3.42	0.08	6.77	1.70	0.25	2.01	.045
Sexual Minority	2.42	-0.96	5.80	1.72	0.16	1.41	.160
Double Minority	0.90	-2.46	4.27	1.71	0.06	0.53	.597
Pandemic Impact on Access	0.12	-0.62	0.86	0.38	0.02	0.32	.750
Overall Access	0.42	-0.27	1.10	0.35	0.07	1.20	.233
Healthcare Provider	-0.56	-2.24	1.12	0.85	-0.03	-0.66	.510
Distance to Care	-0.55	-2.12	1.02	0.80	-0.04	-0.69	.491
Afford Care	0.82	0.07	1.58	0.38	0.13	2.14	.033
Mental Healthcare Provider	0.55	-0.83	1.94	0.71	0.04	0.79	.433
Afford Mental Healthcare	0.58	-0.86	2.01	0.73	0.04	0.79	.431
Unmet Health Needs	1.05	-0.41	2.51	0.74	0.08	1.42	.157

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Research Question 3: National Differences

Research Question 3: *Are there differences on measures of healthcare access, unmet needs, and psychological wellness between Canada and the United States for 2SLGBTQIA+ individuals?*, was addressed using a series of Chi-square tests and t-tests to determine differences between 2SLGBTQIA+ respondents living in Canada and those living in the United States to assess differences on measures of perceived healthcare access, unmet health needs, and psychological wellness.

As is presented in Table 17, 2SLGBTQIA+ residents of the United States were more likely to report difficulty accessing care because of the distance to a care facility, $\chi^2(1, N = 290) = 18.14, p < .001$, but they were more likely to have a mental healthcare provider, $\chi^2(1, N = 289) = 16.32, p < .001$. There were no statistically significant differences between Canadian and American participants in terms of delays in care, having a primary healthcare provider, being able to afford mental healthcare, or having unmet health needs.

Table 17

Frequencies of responses on binary measures of healthcare access across residents of Canada and the United States.

Variable	Response	Canada		United States	
		<i>n</i>	%	<i>n</i>	%
Delay in Care	Yes	64 _a	54.24	93 _a	59.24
	No	54 _a	45.76	64 _a	40.76
Healthcare Provider	Yes	103 _a	79.84	115 _a	73.72
	No	26 _a	20.16	41 _a	26.28
Distance to Care	Yes	36 _a	27.48	83 _b	52.20
	No	95 _a	72.52	76 _b	47.80
Mental Health Provider	Yes	50 _a	38.17	98 _b	62.03
	No	81 _a	61.83	60 _b	37.97
Mental Healthcare Cost Impacts Access	Yes	79 _a	65.29	96 _a	60.38
	No	42 _a	34.71	63 _a	39.62
Unmet Health Needs	Yes	82 _a	70.69	112 _a	74.17
	No	34 _a	29.31	39 _a	25.83

Note. Means with different subscripts differ at a minimum of $p = .05$ using Chi-square tests.

Although 2SLGBTQIA+ respondents living in the United States experienced significantly lower wait-times for immediate care, they also reported greater difficulty affording care than 2SLGBTQIA+ Canadians (see Table 18). Further, 2SLGBTQIA+ residents of the United States also reported significantly lower overall physical health scores, but significantly better mental health scores than Canadian respondents.

Although participants from the United States reported significantly higher social loneliness than Canadian respondents, there were no statistically significant differences between the groups on subscales measuring family and romantic loneliness. Levels of depression, anxiety, or satisfaction with life among 2SLGBTQIA+ participants did not differ significantly between Canada and the United States.

Compared to Canadian participants, 2SLGBTQIA+ respondents from the United States reported greater distance to receive care and financial barriers to accessing care, but they also reported less impact from wait-times on receiving care. Despite these results, there were no significant differences between American and Canadian participants on most measures of healthcare access. Finally, participants in the United States reported better physical health, but there were mixed results between the samples on measures of psychological wellness.

Table 18

Differences in healthcare access and psychological wellness of 2SLGBTQIA+ participants between Canada and the United States.

Variable	Canada (n = 133) M (SD)	United States (n = 163) M (SD)	t	Effect Size (Cohen's d)
Healthcare Access				
Pandemic Impact on Access	2.38 (1.01)	2.26 (0.99)	1.01	.12
Overall Access	2.99 (1.11)	2.83 (1.11)	1.22	.15
Wait-Time	3.22 (1.41)	4.35 (1.55)	-6.19***	.76
Afford Care	4.00 (1.06)	3.60 (1.00)	3.27**	.39
Psychological Wellness				
GAD-7	17.89 (5.96)	16.63 (4.96)	1.94	.23
PHQ-9	21.40 (6.46)	20.29 (5.81)	1.55	.18
SWLS	19.83 (7.34)	20.58 (6.53)	-0.92	.11
RAND Physical	69.78 (21.81)	55.81 (22.77)	5.35***	.63
RAND Mental	40.88 (19.12)	45.82 (17.84)	-2.28*	.27
SELSA Social	13.69 (6.70)	17.32 (6.07)	-4.78***	.57
SELSA Family	16.30 (8.16)	17.28 (6.71)	-1.09	.13
SELSA Romantic	18.34 (10.59)	18.41 (7.46)	-0.07	.01

Note. Higher values on measures under Healthcare Access indicate higher access. GAD-7 = General

Anxiety Disorder 7-Item; PHQ-9 = Patient Health Questionnaire-9; SWLS = Satisfaction With Life Scale;

RAND Physical = RAND 36-Item Short Form Health Survey Total Physical Health Score; RAND Mental

= RAND 36-Item Short Form Health Survey Total Mental Health Score; SELSA Social = Social and

Emotional Loneliness Scale for Adults – Short Form Social Loneliness Subscale; SELSA Family = Social

and Emotional Loneliness Scale for Adults – Short Form Family Loneliness Subscale; SELSA Romantic = Social and Emotional Loneliness Scale for Adults – Short Form Romantic Loneliness Subscale.

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

Specific differences between sexual and double minorities living in Canada compared to those in the United States was assessed using a series of Chi-square tests and the frequency of responses across categories (see Table 19). In the sexual minority group, there was a significantly greater impact on access due to the distance to care for those living in the United States, $\chi^2(1, N = 140) = 11.35, p < .001$, and participants in the United States were more likely to have a mental healthcare provider compared to Canada, $\chi^2(1, N = 138) = 11.28, p < .001$. Further, double minority participants in the United States were significantly more likely to report distance as a barrier to accessing health services compared to double minority participants in Canada, $\chi^2(1, N = 136) = 4.86, p = .027$. Additionally, double minority respondents in Canada were more likely to report having difficulties affording a mental healthcare provider, $\chi^2(1, N = 131) = 9.04, p = .003$. No significant differences were found between double minority participants in Canada and the United States on delays in care, having a healthcare provider, having a mental healthcare provider, or unmet health needs. No significant differences between Canada and the United States were observed for sexual minority participants on the measures of delays in care, having a primary healthcare provider, the cost of mental healthcare, or having unmet health needs.

Table 19

Frequencies of responses on binary measures of healthcare access between sexual minority and double minority groups across Canada and the United States.

Variable	Response	Canada				United States			
		Sexual Minority		Double Minority		Sexual Minority		Double Minority	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Delay in Care	Yes	37 ^a	53.62	24 ^c	58.54	32 ^b	50.79	57 ^c	65.52
	No	32 ^a	46.38	17 ^c	41.46	31 ^b	49.21	30 ^c	34.48
Healthcare Provider	Yes	60 ^a	77.92	38 ^c	84.44	46 ^a	74.19	64 ^c	74.42
	No	17 ^a	22.08	7 ^c	15.56	16 ^a	25.81	22 ^c	25.58
Distance to Care	Yes	18 ^a	23.38	15 ^c	31.91	32 ^a	50.79	46 ^d	51.69
	No	59 ^a	76.62	32 ^c	68.09	31 ^a	49.21	43 ^d	48.31
Mental Health Provider	Yes	26 ^a	34.21	20 ^c	41.67	39 ^b	62.90	52 ^c	59.09
	No	50 ^a	65.79	28 ^c	58.33	23 ^b	37.09	36 ^c	40.91
Mental Healthcare Cost Impacts Access	Yes	39 ^a	54.93	38 ^c	82.26	41 ^a	63.08	48 ^d	56.47
	No	32 ^a	46.07	8 ^c	17.39	24 ^a	36.92	37 ^d	43.53
Unmet Health Needs	Yes	42 ^a	64.62	38 ^c	86.36	41 ^a	71.93	66 ^c	77.65
	No	23 ^a	35.38	6 ^c	13.64	16 ^a	28.07	19 ^c	22.35

Note. Means with different subscripts differ at a minimum of $p = .05$ using Chi-square tests. *A* and *b* subscripts are used to compare sexual minority groups and *c* and *d* subscripts compare double minority groups across country.

Further, a series of ANOVAs were conducted to explore the differences on healthcare access and psychological wellness across minority status and country. A 2x2 ANOVA model was used, composed of country of residence (0 = Canada, 1 = United States) and minority status (0 = sexual minority, 1 = double minority). Table 20 shows that there was a statistically significant interaction between country and minority status for wait times. For Canadians, the difference between sexual and double minority

participants was not statistically significant; however, among American respondents, compared to double minority participants, participants who identified as a sexual minority reported less impact on access from wait-times.

Table 20

Differences in Healthcare Access and Ratings of Psychological Wellness Across Minority Status and Country of Residence

Variable	Canada		United States		<i>F</i>
	Sexual Minority	Double Minority	Sexual Minority	Double Minority	
Healthcare Access					
Pandemic Impact on Access	2.68 (0.97)	1.91 (0.94)	2.44 (1.01)	2.14 (0.94)	1.89
Overall Access	3.21 (1.66)	2.63 (0.87)	2.92 (1.09)	2.81 (1.10)	1.28
Wait-Time	3.21 (1.46)	3.33 (1.30)	4.67 (1.55)	4.01 (1.54)	4.33*
Afford Care	4.17 (1.00)	3.76 (1.09)	3.65 (1.05)	3.65 (0.96)	1.35
Psychological Wellness					
GAD-7	17.29 (6.46)	19.44 (5.12)	16.51 (4.89)	16.94 (4.91)	1.32
PHQ-9	20.46 (6.55)	23.13 (6.44)	19.77 (5.60)	20.72 (5.93)	1.54
SWLS	21.08 (7.35)	17.65 (7.27)	22.14 (6.49)	19.88 (6.12)	0.02
RAND Physical	76.09 (18.90)	60.02 (23.69)	57.54 (22.20)	55.76 (23.05)	2.67
RAND Mental	45.71 (20.31)	32.03 (15.44)	48.24 (17.09)	44.23 (18.13)	3.28
SELSA Social	13.93 (6.57)	12.00 (6.19)	17.05 (6.37)	17.09 (6.03)	1.97
SELSA Family	14.97 (7.87)	18.14 (9.05)	15.40 (6.30)	18.81 (6.68)	0.12
SELSA Romantic	19.06 (10.76)	16.31 (10.65)	19.48 (7.89)	17.15 (7.12)	0.11

Note. F statistics included in the table are values for the interaction. Higher values on measures under Healthcare Access indicate higher access. GAD-7 = General Anxiety Disorder 7-Item; PHQ-9 = Patient Health Questionnaire-9; SWLS = Satisfaction With Life Scale; RAND Physical = RAND 36-Item Short Form Health Survey Total Physical Health Score; RAND Mental = RAND 36-Item Short Form Health Survey Total Mental Health Score; SELSA Social = Social and Emotional Loneliness Scale for Adults – Short Form Social Loneliness Subscale; SELSA Family = Social and Emotional Loneliness Scale for Adults – Short Form Family Loneliness Subscale; SELSA Romantic = Social and Emotional Loneliness Scale for Adults – Short Form Romantic Loneliness Subscale.

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

Discussion

Despite the inability to assess differences within the specific subgroups of the 2SLGBTQIA+ populations, such as gay, lesbian, pansexual, asexual, and transgender, the overall analysis of differences between 2SLGBTQIA+ and non-2SLGBTQIA+ populations and between the four independent categories of minority status provides important insights. Further, thanks to significant sample sizes in both Canada and the United States, differences were assessed on a national basis for measures of healthcare access and psychological wellness.

Differences in Healthcare Access

Overall Access to Healthcare

Compared to those who did not identify as 2SLGBTQIA+, 2SLGBTQIA+ respondents reported significantly worse overall access. More specifically, approximately 21% of non-2SLGBTQIA+ participants responded that it was difficult or very difficult to access healthcare, and more than 33% of 2SLGBTQIA+ participants reported problems with health care access. Research focused on whether sexual minorities have problems accessing healthcare is mixed. For example, despite the fact that the 2014 iteration of the Canadian CCHS reported that LGB individuals were more likely to not receive healthcare when they felt they needed it in the past 12 months (Statistics Canada, 2016a), Hickey (2021) used the 2015-16 CCHS data and found limited differences in healthcare access between LGB and heterosexual Canadians. Further, Mascapagal and colleagues (2016) examined healthcare access in LGBTQ+ individuals in the United States and results indicated that 68% of participants had relatively easy access to care, compared to 27% of overall participants in current study who reported easy or very easy overall access to healthcare, and more specifically, only

26% of 2SLGBTQIA+ participants in the United States. These mixed findings may be the result of a changing healthcare landscape for sexual and gender minorities, differences in which minority groups are included in research, or inconsistencies in the methodologies used to measure perceived healthcare access.

An examination of group differences indicated that, compared to both sexual and non-minorities, overall access to care was worse for double minorities. This finding is consistent with other research in the field, including a national survey of transgender and non-binary Canadians in which 12% reported avoiding the emergency room because of their identity (Trans PULSE Canada Team, 2020). In contrast, Rutherford and colleagues (2021) found that significantly more transgender and non-binary respondents accessed health resources in the past year compared to cisgender participants. Interestingly, the same study also reported that transgender and non-binary individuals were more likely to report being denied care compared to cisgender respondents (Rutherford et al., 2021). Although Rutherford and colleagues (2021) reported greater use of care for trans and non-binary individuals, it is important to point out that this may not equate to better access, as is evidenced by the significantly higher rates of being denied care. Although the current study did not specifically measure healthcare avoidance, service use, or being outright denied care, approximately 21% of non-2LSGBTQIA+ participants reported difficult or very difficult access to care, compared to just over 27% of sexual minority respondents. The fact that 39% in the double minority group reported difficulties accessing care is troubling and highlights the fact that access to care is difficult for sexual and/or gender minorities.

Access to a Healthcare Provider

Consistent with the results of the foundational study (Hickey, 2021), 2SLGBTQIA+ and non-2SLGBTQIA+ participants reported almost equal access to a primary healthcare provider. Approximately 82% of non-2SLGBTQIA+ and 76% of 2SLGBTQIA+ respondents reported having a primary healthcare provider. Given that Hickey's (2021) sample included only individuals who identified as lesbian, gay, and bisexual, the current results expanded previous findings and applied it to the broader 2SLGBTQIA+ population. This trend is inconsistent with previous iterations of the CCHS, which indicated that LGB individuals were less likely to have a primary care provider (Statistics Canada, 2016a). Changes in reporting of having healthcare providers may be the result of improving healthcare systems for 2SLGBTQIA+ patients or changes in societal acceptance (Poushter & Kent, 2020).

Although the current results indicated that minority status did not affect access to a primary healthcare provider, some researchers have found that transgender individuals report greater access to a regular practitioner relative to cisgender individuals (Rutherford et al., 2021). The current exploratory analysis that included the small sample of 24 gender minority participants indicated small and statistically non-significant differences, with 82% of non-2SLGBTQIA+ respondents reported having a primary healthcare provider compared to 76% in the sexual minority sample, 78% in the double minority sample, and 73% in the gender minority sample. Regardless of whether members of the 2SLGBTQIA+ have equal or greater access to a primary care provider, research continues to show that primary care providers, such as family doctors, receive inadequate education and training to care for 2SLGBTQIA+ patients, which may impact the quality of care received (Schreiber et al., 2021).

Mental Healthcare Access

Interestingly, in the current study, 2SLGBTQIA+ respondents were significantly more likely to have a mental healthcare provider, with 51% of 2SLGBTQIA+ and 28% of non-2SLGBTQIA+ participants reporting having a regular mental health provider. These results may be indicative of either a greater need for mental health services or better access to mental healthcare relative to non-2SLGBTQIA+ individuals. Despite being more likely to have a mental healthcare provider, 2SLGBTQIA+ individuals reported more difficulty affording mental health services than non-2SLGBTQIA+ participants. Approximately 63% of 2SLGBTQIA+ participants reported difficulties affording mental health services compared with only 31% of non-minority respondents. Similarly, Dawson and colleagues (2021) reported that individuals who identified as LGBTI+ reported higher rates of accessing mental healthcare but continued to face more barriers to receiving the care, and, consistent with the current results, the barriers were primarily financial. Other research has also indicated that sexual minorities have greater and more frequent use of mental health services (Cochran et al., 2003) and those who identify as homosexual or bisexual are more likely to report having consultations with psychologists (Statistics Canada, 2016a). Further, transgender individuals are more likely to have received care from a mental health professional compared to individuals who are cisgender (Rutherford et al., 2021). It is important to note that less need of mental healthcare may explain why non-2SLGBTQIA+ respondents report greater ease affording such care – if one does not need to frequently use services, they would have fewer financial barriers. Further, compared to cisgender individuals, individuals who identify as a gender minority have been shown to be more likely to report that they would like help addressing a mental health concern (Rutherford et al., 2021). Therefore, it may be difficult to predict whether 2SLGBTQIA+ participants are more likely to have

a mental health provider as a result of better access to this form of care or because of a significantly increased demand in this population.

Wait-Times & Delays

The current results indicated that the wait-times associated with accessing care were similar for 2SLGBTQIA+ and non-2SLGBTQIA+ respondents. This finding is highlighted by the fact that approximately 15% of 2SLGBTQIA+ and 17.5% of non-2SLGBTQIA+ participants reported access to same or next day appointments for care. Despite non-significant differences between samples, wait-times for specialized care has been shown to be significant, especially during the pandemic (Ontario Medical Association, 2022). Unfortunately, in the current study, specific differences between the different minority statuses on wait-times could not be analysed because of limited responses from some 2SLGBTQIA+ subgroups, including asexual and non-binary participants.

2SLGBTQIA+ participants were more likely to experience a significant delay in receiving care, with 57.1% of 2SLGBTQIA+ and 42.8% of non-2SLGBTQIA+ respondents reporting delays. Further, compared to non-minorities, both sexual and double minorities were more likely to have a major delay in care. Consistent with the current findings indicating that only 43% of non-2SLGBTQIA+ reported a significant delay in care, 63% of respondents who identified as both a sexual and gender minority reported delays. Macapagal and colleagues (2016) found that transgender individuals are more likely experience a delay in care compared with individuals who are cisgender. Further, compared to heterosexual women, lesbian women are more likely to experience significant delays to care (Macapagal et al., 2016). Despite not being able to analyze differences specifically for lesbian participants, there were significant differences

between overall sexual minority and non-2SLGBTQIA+ participants, with 52% and 43% reporting delays in care respectively. Further, a survey of LGBTQ+ people in the United States reported that more than 50% of respondents indicated being denied care (Kates et al., 2018), consistent with my findings that approximately 60% of 2SLGBTQIA+ Americans reporting significant delays in care.

Distance to Care

In the present study, 2SLGBTQIA+ respondents reported distance to care as a significant barrier much more frequently than non-2SLGBTQIA+ participants (41% vs. 18.5%, respectively). Further, compared to the two minority categories, non-2SLGBTQIA+ participants reported significantly fewer negative effects on access due to distance to health services. Although research is limited in this specific area of 2SLGBTQIA+ healthcare access, previous findings are consistent with the current results. For example, Kattari et al. (2020) reported that transgender individuals in the United States had to often travel over 25 miles (40.23 kilometers) to access a care provider who had knowledge and training in transgender health care. More research is needed to better understand how distance to care facilities or specialized services for 2SLGBTQIA+ populations impact ability to receive care, especially for those living in rural or remote regions. A systemic review of studies related to transportation barriers to receiving care found that an inability to get effective transportation is a significant healthcare barrier, especially for individuals with lower income or poor insurance coverage (Syed et al., 2013). Research has also shown that the greater distance between an individual and healthcare services, the less health services will be accessed compared to those who live in closer proximity to care facilities (Murphy et al., 2021).

Affordability of Care

In the current study, 2SLGBTQIA+ participants experienced financial difficulties associated with health care costs at significantly higher rates than non-2SLGBTQIA+ participants. I measured affordability using the variables of the financial impact of healthcare, which were aggregated into a scale of ability to afford care. Current results indicated that 52% of 2SLGBTQIA+ reported having to forego care due to cost compared to only 30% in the non-2SLGBTQIA+ sample. Consistently, LGB individuals in the United States have been shown to be more likely to forego care due to the cost, even if they had health insurance, compared to the heterosexual population (Nguyen et al., 2018). Further, non-minorities reported significantly fewer financial difficulties affording care compared to both sexual and double minorities in the present study. A study examining the experiences of sexual minorities found that lesbian women and bisexual men were less likely than their heterosexual counterparts to afford needed healthcare services; interestingly, in this study there were non-significant differences in access for gay men and heterosexual people (Mascapagal et al., 2016). Additionally, and as would be expected, financial barriers to receiving care is associated with fewer visits to health providers, which results in increased disease morbidity and negative health outcomes (Nguyen et al., 2018; Parikh et al., 2014). To conclude, the affordability of healthcare is a significant barrier to accessing care, especially for the 2SLGBTQIA+ population who experience greater difficulties affording healthcare, which may impact access to needed services and health outcomes.

Unmet Health Needs

In the current study, 2SLGBTQIA+ respondents reported unmet health needs more frequently than non-2SLGBTQIA+, 77.66% vs. 43.30% respectively. Further, group differences were observed and indicated that respondents who reported that they

were both a sexual and gender minority were significantly more likely to have unmet health needs than both the non-minority and sexual minority groups. Approximately 81% of participants in the double minority group reported unmet health needs compared to 67.5% in the sexual minority category and 43% in the non-minority participants. Similar findings have been demonstrated in previous research and are consistent with the literature. For example, Fish and colleagues (2021) reported greater unmet health needs for sexual minorities in the United States compared to members of the general population. Further, Hickey (2021) found significantly greater unmet health needs for LGB Canadians compared to non-LGB. In addition, Macapagal and colleagues (2016) reported significantly greater unmet health needs for sexual minorities compared to the general population.

Exploratory analysis examining differences between the gender minority group and double minority group revealed significant unmet health needs differences. Double minority participants reported greater unmet health needs (80.8%) compared to respondents categorized as a gender minority (54.6%). It is important to note that this is only exploratory as there were only 24 participants who met the criteria to be placed in the gender minority category. There is limited research examining differences between these two specific groups, but research has found evidence supporting that the intersectionality of multiple minority identities may compound inequities (Fattoracci et al., 2021).

The Impact of the COVID-19 Pandemic

Compared to non-2SLGBTQIA+ respondents, members of the 2SLGBTQIA+ population were significantly more likely to report that the COVID-19 pandemic negatively impacted their access to healthcare. Just over 10% of the non-2SLGBTQIA+

sample reported that the pandemic significantly impacted their access to health services, compared with 25% of 2SLGBTQIA+ participants. This finding is consistent with recent research demonstrating the growing disparities that are the result of the pandemic (Findlay & Arim, 2020). Further, Hawke and colleagues (2021) reported more disruptions to mental health and substance use care and less social support for transgender and gender diverse individuals during the pandemic. In addition, the mental health and wellness of the LGBTQ+ population appears to have declined in conjunction with the pandemic (Hawke et al., 2021).

When examining differences between the non-minority, sexual minority, and double (sexual + gender) minority groups, there were significant differences between each of the groups on the impact of the pandemic on access to care, with the double minority group reporting the greatest negative effects of COVID-19. Considering that gender-affirming care and procedures were placed on hold in much of Canada and the United States because of the pandemic (Canadian Medical Association, 2021; City of New York, 2020), this finding is not surprising. Limited access to affirming care for trans and queer communities has been linked to poorer mental health, including heightened anxiety, mood disorders, depression, and suicide attempts (American Psychiatric Association, 2020). Although the current results were unable to address the specific experiences of transgender participants, results demonstrate the inequity in health services as double minorities reported the most significant impacts from the pandemic and the worst overall access to care compared to both sexual and non-minorities.

Further, current wait-times during the pandemic across Canada for upper or “top” procedures is 12 to 24 months and up to 65 months for other forms of affirming

care, such as vaginoplasty (Ontario Medical Association, 2022). Differences in the forms of necessary care for non-minorities, sexual minorities, and gender minorities may be the driving force behind differences in access during the pandemic; however, other social factors already present before the pandemic may compound and worsen outcomes, such as the overall lower financial resources and access to health insurance for members of the transgender community (Loggins, 2020). Overall, the greater impact of the pandemic on access for 2SLGBTQIA+ participants, especially double minorities, is consistent with the general literature and new research emerging on the effects of the COVID-19 restrictions. Already disadvantaged groups in healthcare systems require attention regarding their experiences during the pandemic, as conditions appears to be worsening and access continues to be limited.

Psychological and Physical Wellness

Members of the LGBTQ+ community have consistently reported lower mental health and psychological wellbeing compared to members of the general population (Conlin et al., 2019). Further, research has shown that sexual minorities face higher rates of depression, anxiety, and psychological distress (Barry et al., 2020; Bostwick et al., 2010; Chakraborty et al., 2011; Cochran et al., 2003). In the broader 2SLGBTQIA+ population, members of the community report greater mental health concerns, demonstrated by higher rates of depression, anxiety, obsessive compulsive and phobic disorders, suicidality, self-harm, substance use, and post-traumatic stress disorder (Diamont & Wold, 2003; Gilmour, 2019; Roberts et al., 2010).

In the current study, t-test analyses indicated that 2SLGBTQIA+ respondents reported significantly worse overall RAND-36 mental wellness than non-2SLGBTQIA+ participants. Despite differences between samples, minority status was not a significant

predictor of RAND-36 mental wellness in regression analyses. Although minority status was not a significant predictor of mental wellness, a greater impact on access from the pandemic, the impact of wait-times to receive care, not being able to afford mental healthcare, and having unmet health needs were all predictors of lower mental wellness. Further, in an ANOVA, members of the non-minority group reported the highest levels of mental wellness, followed by the sexual minority category and lastly the double minority group. Consistent with current findings that participants in the double minority group reported the lowest mental wellness, previous research has shown how transgender individuals are more likely to have a mental health disorder and to have self-harmed or reported suicidal ideation compared to cisgender respondents (Anderssen et al., 2020). Further, Blais and colleagues (2015) reported a 20% increase in negative mental health outcomes among sexual minority youth and compared to heterosexual youth, they were 1.6 to 15.1 times more likely to report suicidal ideation or attempts.

Anxiety, Depression, and Life Satisfaction

Levels of anxiety (GAD-7) and depression (PHQ-9) were significantly elevated in the 2SLGBTQIA+ sample compared to non-2SLGBTQIA+. Further, participants in the non-minority category reported significantly lower anxiety and depressive symptoms than members of the sexual and double minority groups. Despite these observed differences, minority status categories did not significantly predict levels of depression or anxiety in regression analyses. 2SLGBTQIA+ participants also demonstrated significantly lower life satisfaction (SWLS); current results indicated that non-minority participants showed the highest satisfaction with life, followed by sexual minorities who also showed significantly higher satisfaction than the double minority group. Regression analysis revealed non-minority status significantly predicted higher level of satisfaction

with life, but sexual and double minority statuses did not significantly predict life satisfaction.

Results from the foundational study for the current research (Hickey, 2021), found significantly higher levels of depression and anxiety for lesbian, gay, and bisexual Canadians compared to the general population, which is consistent with the current results. Survey data collected in the United Kingdom and Australia found that LGB participants scored significantly lower on satisfaction with life as a result of stigmatization and discrimination (Powdthavee & Wooden, 2015). Further, a meta-analysis of 25 studies composed of 214,344 heterosexual and 11,971 homosexual participants indicated significantly higher rates of suicide attempts, depression, and anxiety among LGB individual compared to non-LGB (King et al., 2008).

As previously discussed, non-minority participants reported significantly lower levels of anxiety and depression, and post hoc comparisons indicated significant differences across the three minority status groups on satisfaction with life. All four groups of minority status reported elevated levels of anxiety, beyond the threshold of severe anxiety at the cut-off point of 15 (Spitzer et al., 2006). Further, non-minority participants scored within the moderately severe range for depression, while sexual minority and double minority groups scored within the severe depression range of the PHQ-9 (Kroenke et al., 2001). These results are congruent with previous research that indicated significantly higher depression and anxiety among transgender and non-binary individuals compared to the cisgender population (Goodman, 2018; Rutherford et al., 2021). Non-minority and sexual minority participants in the current study reported within the average score range (20-24) of the SWLS on satisfaction with life, while double minority and gender minority groups scored within the slightly low satisfaction

range (15-19; Diener et al., 1985). Interestingly, researchers in Norway reported differences between transgender and non-binary students on the Hopkins Symptoms Check List and the Satisfaction with Life Scale (SWLS); transgender students had lower mental wellness and life satisfaction. Differences may have been present between these groups in the current study, however due to a limited sample size specific differences between these groups were not able to be fully explored but this may be an area for exploration in the future (see Anderssen et al., 2020). Anderssen et al. also reported that approximately 70% of transgender students were dissatisfied with their lives, compared with 35% of cisgender individuals (Anderssen et al., 2020). Although results from the current research are less extreme, large differences between minority status categories were observed, just 11% of non-2SLGBTQIA+ participants reported scores of 15 or less on the SWLS indicating dissatisfaction with life, compared with 24% of sexual minority and 30% of double minority respondents.

Looking more closely at group differences in the 2SLGBTQIA+ community, previous research has shown that heterosexual men report significantly lower rates of depression psychological distress, and mental health disorders than gay and bisexual men (Bostwick et al., 2010; Cochran et al., 2003). Further, sexual minority women report higher rates of anxiety disorders than heterosexual women (Bostwick et al., 2010; Cochran et al., 2003). Overall, in the current study, although minority status did not always emerge as a significant predictor in regression models, members of the 2SLGBTQIA+ community experience greater anxiety and depression, and poorer life satisfaction than the general population; preliminary results indicate especially poor mental health outcomes for transgender and other gender minorities.

The Negative Impact of Loneliness

Not only did 2SLGBTQIA+ participants report higher levels of anxiety and depression, as well as lower satisfaction with life, they also reported significantly higher levels of family and social loneliness than individuals who did not identify as 2SLGBTQIA+. Further, when examining differences across the three groups of minority statuses, double minority participants reported the highest level of family loneliness compared to the other groups. In addition, exploratory analyses examining differences between the gender minority and double minority group revealed significant differences in social loneliness. Double minority participants reported lower social loneliness than respondents who identified as gender minority. Although only some forms of loneliness showed significant differences across groups, other research has shown differences across more specific groups. For example, in a study of secondary level students, participants who were transgender reported significantly greater loneliness than those who were cisgender (Anderssen et al., 2020), which is consistent with the current results found using the SELSA-S subscales of loneliness. Interestingly, in a global sample of LGBTQ individuals, marginalization was significantly associated with higher social and emotional loneliness (Elmer et al., 2022). Further, greater involvement in the LGBTQ community was associated with higher marginalization but was also associated with lower social and emotional loneliness (Elmer et al., 2022), which could explain some of the current results. Research specifically examining differences in loneliness among members of the 2SLGBTQIA+ community is limited, and current results do not show significant differences across all three forms of loneliness included (social, family, romantic), however higher loneliness may be tied to greater marginalization and strong ties to the queer community acting as a potential protective factor.

Physical Health

Compared to non-2SLGBTQIA+, significantly lower physical health (RAND-36) was reported in the 2SLGBTQIA+ sample; members of the non-minority group also reported the highest levels of physical health, followed by the individuals who identified as a sexual minority, and lastly those in the double minority group showing the lowest levels of physical wellness. In addition, a greater impact on access because of the COVID-19 pandemic, having a primary healthcare provider, being required to travel greater distances to access care, difficulties affording care, difficulties affording mental healthcare, and having unmet health needs predicted lower overall physical health. Surprisingly, having a primary healthcare provider predicted significantly worse physical health scores, which may be a result of patients seeking care because they have greater health needs or concerns. Minority status was not a significant predictor of physical health despite group differences observed through t-test and ANOVA analyses.

Poorer physical health in gender minority groups has been demonstrated through elevated rates of chronic health conditions, which are linked to higher health service use, mainly mental health concerns, for the transgender population (Abramovich et al., 2020). Further, members of the LGBTQ+ community have been shown to experience adverse health outcomes (Boehmer et al., 2011; Casey, 2019; Cochran et al., 2003), which may exacerbate already present barriers to care. In addition, many subgroups of the LGBTQ+ community have higher risks for some cancers, including lesbian women who are more likely to have cervical and uterine cancer, and gay men who are two times more likely to receive a late diagnosis of cancer (Boehmer et al., 2011).

It is important to note that the health outcomes for the transgender population are even more negative than those of other members of the 2SLGBTQIA+ community (Abramovich et al., 2020), which is somewhat represented in the current findings that

double minorities reported the lowest physical health scores. Transgender women have a higher risk of thyroid cancer, blood clots, and strokes compared to cisgender men and women (Goodman et al., 2018). Other research has also found higher rates of asthma, diabetes, chronic obstructive pulmonary disease, and HIV among the transgender population (Abramovich et al., 2020).

Overall, the current literature supports current findings that members of the 2SLGBTQIA+ population experience considerably worse physical health outcomes compared to non-2SLGBTQIA+ samples (Casey, 2019), and those inequities are exacerbated for transgender and other gender minority groups (Abramovich et al., 2020; Goodman et al., 2018). Further, greater rates of chronic illness in the 2SLGBTQIA+ may be the result of continued discrimination, minority stress, and barriers to healthcare access faced by sexual and gender minorities (Casey, 2019; Cochran et al., 2003; Gahagan & Subirana-Malaret, 2018).

A Comparison of Healthcare Access in Canada and the United States

2SLGBTQIA+ participants living in the United States reported shorter wait-times for immediate care. Median wait-times between primary care provider referral and appointment with the referred specialist in Canada have varied; wait times of 58 days (Thind et al., 2012), 78 days (Liddy et al., 2020), and a range of 39 to 76 days (Jaakkimainen et al., 2014) have been reported. Although it is difficult to make direct comparisons to the United States because of significant differences in health systems and measurement standards, some U.S. estimates include approximately 66 days for a Parkinson's specialist (Holmes et al., 2016); however, data differs between the countries depending on the exact service, speciality, region, and insurance.

Participants in Canada reported significantly fewer barriers to care as a result of distance to health services, with 52.2% of American and 27.5% of Canadian 2SLGBTQIA+ respondents reporting negative impacts on access due to long distances to receive care. Further, less difficulty affording healthcare was reported by 2SLGBTQIA+ participants in Canada, with 42.1% reporting never having financial difficulties, compared to only 24.7% of those in the United States reporting the same. Additionally, Canadian participants demonstrated better overall physical health than American participants. Further, being from Canada, as opposed to the United States, was a significant predictor of better physical health as measured through the RAND-36 Health Survey when 2SLGBTQIA+ and non-2SLGBTQIA+ samples were examined in combination.

The financial difficulties of Americans related to accessing care is consistent with the literature and likely results in barriers to access services because of financial constraints (Office of Disease Prevention and Health Promotion, 2020). Further, Sanmartin and colleagues (2006) found that income disparities exist between the two nations in healthcare access. Although individuals living in poverty in the United States faced worse health outcomes than those living in Canada, there were no significant differences in physical health among wealthy individuals. Previous research has also found that, compared to individuals who reside in the United States, individuals who reside in Canada who report living in poverty or have lower levels of education are more likely to access health services (Plylypchuk & Sarpong, 2012). There were differences in access to a regular provider, number of visits to providers, and access to specialists (Plylypchuk & Sarpong, 2012). Plylypchuk and Sarpong (2012) also found limited differences in healthcare access for individuals with high incomes or high education

levels across the two countries. Despite reporting non-significant differences on the measure of unmet health needs, previous research has found that there is a greater prevalence of unmet health needs among Americans (Sanmartin et al., 2006). In summary, residents of Canada appear to have fewer financial barriers to care and experience better health outcomes compared to those who live in the United States; however, Americans have faster access to services if they can afford it and very few differences in access exist for the highest income earners across countries.

2SLGBTQIA+ respondents in the United States were more likely to have a mental healthcare provider (63% United States vs. 38.2% Canada) and indicated greater mental wellness than respondents who live in Canada. Further, Canadian residents demonstrated lower social loneliness than American residents. Interestingly, U.S. and Canadian residents reported similar levels of depression, anxiety, satisfaction with life, family loneliness, or romantic loneliness. Similar rates of depression were reported on the Joint Canada/United States Survey of Health, however, when only individuals without health insurance were examined, significantly higher rates were found in the United States (Vasiliadis et al., 2007). Further, there were non-significant differences between countries in terms of use of mental health services (Vasiliadis et al., 2007). Overall, it appears that 2SLGBTQIA+ Canadians and Americans face different challenges, but both continue to experience psychological distress at similar rates.

Limitations of the Current Study

The categorization of sexual orientation and gender identity/expression to ensure sufficient power in analyses was the primary limitation of the study. In this study, participants were categorized as heterosexual/cisgender, sexual minority/cisgender, and sexual minority/gender minority based on responses to questions in the demographic

questionnaire. Although the current classification was necessary, it does limit the applicability and representativeness of the results. The combination of categories into broader minority and non-minority groups is a significant limitation of the current study as it precluded my ability to fully understand the individual experiences of these diverse groups and aggregates data from populations with limited shared characteristics. Further, the sexual minority/cisgender and sexual minority/gender minority categories were created by aggregating data from diverse categories within the sexual and gender minority identifications, resulting in the overrepresentation of specific groups (i.e., gay men). In addition, participants were primarily recruited from online groups specific to the 2SLGBTQIA+ community, which may have biased our participant pool to those well connected to the community and those who are actively receiving or seeking a support system.

Further, the 24 participants who reported that they were a gender minority but not a sexual minority were not included in the majority of analyses due to the limited sample size. Given that inferential analyses focused on the experiences of non-minorities, sexual minorities, and double (sexual + gender) minorities, any potential unique experiences of those who are gender minorities, but not sexual minorities were likely missed. This significant limitation impacts the applicability and representativeness of this research to the broader 2SLGBTQIA+ community and should be an area to be further explored in future research.

The cross-sectional design of the current study limited the ability to understand changes in healthcare access and psychological wellness across time, especially considering the fact that data was collected during the COVID-19 pandemic, which may have influenced access to healthcare services or perceptions of access to care. Further,

the use of an online questionnaire limited my ability to recruit participants without access to smart devices or the internet which would likely limit participation from individuals who are older or live in poverty. Further, several healthcare access questions, for example unmet health needs, used a binary scale for responses (yes or no), which limited response variability and the ability to better understand differences in experiences. In addition, a demographic variable on education level was not included in the current study, which may pose a significant limitation as level of education achieved may have helped explain differences between the United States and Canada. Although I included only questionnaires to allow me to answer my primary research questions, the length of the study may have deterred participants from completing the questionnaire package, resulting in the exclusion of 65 participants due to missing data.

Implications and Directions for Future Research

This study provides a greater understanding of the different challenges in healthcare access experienced by 2SLGBTQIA+ and non-2SLGBTQIA+ individuals in Canada and the United States. Further, it elucidates the differences in psychological and physical wellness and unmet health needs of non-2SLGBTQIA+, sexual minorities, and gender minority populations, and allows national comparisons of participants in Canada and the United States. The results expand upon Hickey (2021) who used data from the CCHS and focused on expanding those findings to examine experiences in the broader 2SLGBTQIA+ community and specific impacts on psychological wellness within this population. In addition, the results can be used to inform healthcare practices for these vulnerable groups, address regional differences, and create policies to close gaps between 2SLGBTQIA+ individuals and the general population.

There is a need for future research that addresses the main limitations of the present study, specifically allowing for the examination of differences in healthcare access and psychological wellness between specific subgroups of the 2SLGBTQIA+ community. The individual experiences of this diverse population require more in-depth exploration. Much of the current analyses could not include participants who identified exclusively as a gender minority and these individuals should be the focus of future research. Further, some research has highlighted differences between transgender and non-binary groups, such as research by Anderssen and colleagues (2020), and these distinct groups should be further explored as having unique experiences within healthcare systems.

Further, using a longitudinal study design would highlight changes in healthcare access and psychological and physical wellness in 2SLGBTQIA+ populations over time. It is important to consider recent anti-LGBTQ+ legislation across many states in the United States (American Civil Liberties Union, 2022), which may impact access to care and the overall psychological and physical wellness of 2SLGBTQIA+ individuals in these regions. Additionally, a longitudinal design would allow for direct comparisons between measures at different time points, as many studies use differing methods of capturing perceived healthcare access and psychological wellness.

Other variables should also be included in future research in this area to better capture experiences. For example, in the literature, health insurance has continued to be discussed as an important factor determining healthcare access and thus, future research should include this variable to provide better understanding of its impacts. Further, the impact of being 'out' or public with sexual or gender identity should be included in future analyses to elucidate how this factor influences psychological wellness in the

2SLGBTQIA+ community. More specifically, whether an individual has disclosed their sexual orientation or gender identity to their healthcare provider should also be considered to elucidate impact on access and quality of care provided. In addition, the experience of discrimination within healthcare settings should be included in future research to inform changes in healthcare policies and help eliminate this occurrence for 2SLGBTQIA+ patients. Lastly, a closer examination of specific regions may highlight differences between 2SLGBTQIA+ populations in urban and rural areas, as distance to care facilities was shown to be an important factor in access to health services in the current study.

Conclusions

This study has contributed to the limited literature examining healthcare access and psychological and physical wellness in 2SLGBTQIA+ populations, an underserved population in healthcare systems in both Canada and the United States. Current results replicated Hickey (2021) and provide continued evidence to demonstrate the continuously changing experiences of 2SLGBTQIA+ peoples while accessing care. It is also important to note that this field of research is also continuously evolving, and I recognize that the standards and terminology used are currently accurate, but these may change as society and the communities I research also evolve. Although I was unable to examine differences between individual sexual and gender minority groups due to a limited sample size, some differences between aggregated categories were explored and shed light on the need for more research into the unique experiences of the different 2SLGBTQIA+ subsections. Further, more research is needed to investigate how differences between communities can inform healthcare practices and make healthcare more inclusive and accessible for the broader 2SLGBTQIA+ community.

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Appendix A

Demographic Information

What sex were you assigned at birth?

- 1 – Male
- 2 – Female
- 3 – Intersex

What do you consider to be your current biological sex?

- 1 – Male
- 2 – Female
- 3 – Intersex

Currently, what gender(s) characterizes you the best? Please select all that apply.

- 1 – Man
- 2 – Woman
- 3 – I identify with an Indigenous (e.g., Two-Spirit) gender identity
- 3 – Non-binary
- 4 – Gender-fluid
- 5 – Genderqueer
- 6 – Agender
- 7 – Unsure/questioning
- 8 – Not listed (please specify)

Which of the following statements best describes you?

- 1 – I identify as cisgender (the sex I was assigned at birth accurately represents my current gender)

2 – I identify as transgender (the sex I was assigned at birth does not accurately my current gender)

3 – None of these statements describe me (please specify if you identify with another identity)

Please enter your current age in years.

Valid 1 through 120.

Please select your current country of residence (where you currently live).

1 – Canada

2 – United States

3 – Other (please enter country)

Please enter your province, territory, or state of residence (where you currently live).

Open entry.

Please select the option that best describes the population where you live.

1 – Large urban population centre (above 100,000 people)

2 – Medium population centre (population between 30,000 and 99,999)

3 – Small population centre (population between 1,000 and 29,999)

4 – Rural area (population under 1,000)

5 – Unsure

Please select the category that best describes your household's annual income before taxes.

1 – Under \$20,000

2 - \$20,000 to \$40,000

3 - \$40,000 to \$60,000

4 - \$60,000 to \$80,000

5 - \$80,000 to \$100,000

6 - \$100,000 to \$120,000

7 – Above \$120,000

What racial, ethnic, and geographic backgrounds do you identify with? Please select all that apply.

1 – Arab

2 – Black

3 – Latin American

4 – South Asian (e.g., East Indian, Pakistani, Sri Lankan)

5 – Southeast Asian (e.g., Vietnamese, Cambodian)

6 – West Asian (e.g., Iranian, Afghan)

7 – East Asian (e.g., Chinese, Korean, Japanese)

8 – Pacific Islander (e.g., Native Hawaiian, Samoan)

9 – Indigenous: First Nations

10 – Indigenous: Métis

11 – Indigenous: Inuk

12 – Indigenous: prefer to self-describe (please specify)

13 – Indigenous: prefer not to say

14 – White

15 – Population group not listed (please specify)

Please enter your height in centimeters or inches.

Valid 1 through 300 (separated entry fields for measurement types).

Please enter your approximate weight in kilograms or pounds.

Valid 1 through 1000 (separated entry fields for measurement types).

Washington Group Short Set on Functioning - the next questions ask about difficulties you may have doing certain activities because of a health problem.

Do you have difficulty seeing, even if wearing glasses? Would you say...

- 1 – No difficulty
- 2 – Some difficulty
- 3 – A lot of difficulty
- 4 – Cannot do at all
- 5 – Don't know

Do you have difficulty hearing, even if using a hearing aid(s)? Would you say...

- 1 – No difficulty
- 2 – Some difficulty
- 3 – A lot of difficulty
- 4 – Cannot do at all
- 5 – Don't know

Do you have difficulty walking or climbing steps? Would you say...

- 1 – No difficulty
- 2 – Some difficulty
- 3 – A lot of difficulty
- 4 – Cannot do at all
- 5 – Don't know

Do you have difficulty with self-care, such as washing all over or dressing? Would you say...

- 1 – No difficulty
- 2 – Some difficulty

3 – A lot of difficulty

4 – Cannot do at all

5 – Don't know

Using your usual language, do you have difficulty communicating, for example understanding or being understood? Would you say...

1 – No difficulty

2 – Some difficulty

3 – A lot of difficulty

4 – Cannot do at all

5 – Don't know

Has the COVID-19 pandemic impacted your physical, mental, or emotional health?

1 – Significantly

2 – Moderately

3 – Slightly

4 – Not at all

Has the COVID-19 pandemic impacted your ability to access your typical health or mental health care services?

1 – Significantly

2 – Moderately

3 – Slightly

4 – Not at all

Please select the option that best describes your sexual orientation, please select all that apply.

1 – Straight/heterosexual

2 – Asexual/Aromantic

3 – Bisexual

4 – Gay

5 – Lesbian

6 – Demisexual

7 – Pansexual

8 – Queer

9 – Questioning/unsure

10 – Not listed (please specify)

[Selected 2 through 10] Have you disclosed your sexual orientation and/or gender identity to the following groups (do you consider yourself to be ‘out’)?

1 – I have not told anyone about my sexual orientation/gender identity.

2 – I have told someone close to me about my sexual orientation/gender identity.

3 – I have told my family and friends about my sexual orientation/gender identity.

4 – I am publicly ‘out’ with my family, friends, co-workers, etc.

5 – Prefer not to say

6 – I am unsure what this means

What language(s) do you speak at home? Please select all that apply.

1 – English

2 – French

3 – Another language

Appendix B

General Anxiety Disorder 7-Item

Over the last two weeks, how often have you been bothered by the following problems?

Feeling nervous, anxious, or on edge

- 0 – Not at all
- 1 – Several days
- 2 – More than half the days
- 3 – Nearly every day

Not being able to stop or control worrying

- 0 – Not at all
- 1 – Several days
- 2 – More than half the days
- 3 – Nearly every day

Worrying too much about different things

- 0 – Not at all
- 1 – Several days
- 2 – More than half the days
- 3 – Nearly every day

Trouble relaxing

- 0 – Not at all
- 1 – Several days
- 2 – More than half the days
- 3 – Nearly every day

Being so restless that it is hard to sit still

- 0 – Not at all
- 1 – Several days
- 2 – More than half the days
- 3 – Nearly every day

Becoming easily annoyed or irritable

- 0 – Not at all
- 1 – Several days
- 2 – More than half the days
- 3 – Nearly every day

Feeling afraid, as if something awful might happen

- 0 – Not at all
- 1 – Several days
- 2 – More than half the days
- 3 – Nearly every day

If you checked any problems, how difficult have they made it for you to do your work, take care of things at home, or get along with other people?

- 1 – Not difficult at all
- 2 – Somewhat difficult
- 3 – Very difficult
- 4 – Extremely difficult

Appendix C

Social and Emotional Loneliness Scale for Adults

I feel alone when I am with my family.

- 1 – Disagree strongly
- 2 – Disagree moderately
- 3 – Disagree a little
- 4 – Neither agree nor disagree
- 5 – Agree a little
- 6 – Agree moderately
- 7 – Agree strongly

I feel part of a group of friends.

- 1 – Disagree strongly
- 2 – Disagree moderately
- 3 – Disagree a little
- 4 – Neither agree nor disagree
- 5 – Agree a little
- 6 – Agree moderately
- 7 – Agree strongly

I have a romantic partner with whom I share most intimate thoughts and feelings.

- 1 – Disagree strongly
- 2 – Disagree moderately
- 3 – Disagree a little
- 4 – Neither agree nor disagree
- 5 – Agree a little

6 – Agree moderately

7 – Agree strongly

There is no one in my family I can depend on for support and encouragement, but I wish there was.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

My friends understand my motives and reasoning.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

I have a romantic or marital partner who gives me the support and encouragement I need.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

I don't have any friends who share my views, but I wish I did.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

I feel close to my family.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

I am able to depend on my friends for help.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

I wish I had a more satisfying romantic relationship.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

I feel part of my family.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

My family really cares about me.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

I do not have any friends who understand me, but I wish I did.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

I have a romantic partner to whose happiness I contribute.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

I have an unmet need for a close romantic relationship.

1 – Disagree strongly

2 – Disagree moderately

3 – Disagree a little

4 – Neither agree nor disagree

5 – Agree a little

6 – Agree moderately

7 – Agree strongly

Appendix D

Satisfaction with Life Scale

Below are five statements that you may agree or disagree with. Using the one to seven scale, indicate your agreement with each item.

In most ways my life is close to ideal

- 7– Strongly agree
- 6 – Agree
- 5 – Slightly agree
- 4 – Neither agree nor disagree
- 3 – Slightly disagree
- 2 – Disagree
- 1 – Strongly disagree

The conditions of my life are excellent.

- 7– Strongly agree
- 6 – Agree
- 5 – Slightly agree
- 4 – Neither agree nor disagree
- 3 – Slightly disagree
- 2 – Disagree
- 1 – Strongly disagree

I am satisfied with my life.

- 7– Strongly agree
- 6 – Agree
- 5 – Slightly agree

4 – Neither agree nor disagree

3 – Slightly disagree

2 – Disagree

1 – Strongly disagree

So far I have gotten the important things I want in life.

7– Strongly agree

6 – Agree

5 – Slightly agree

4 – Neither agree nor disagree

3 – Slightly disagree

2 – Disagree

1 – Strongly disagree

If I could live my life over, I would change almost nothing.

7– Strongly agree

6 – Agree

5 – Slightly agree

4 – Neither agree nor disagree

3 – Slightly disagree

2 – Disagree

1 – Strongly disagree

Appendix E

Patient Health Questionnaire

Over the last two weeks, how often have you:

had little interest or pleasure in doing things?

- 1 – Not at all
- 2 – Several days
- 3 – More than half the days
- 4 – Nearly every day

Over the last two weeks, how often have you:

felt down, depressed, or hopeless?

- 1 – Not at all
- 2 – Several days
- 3 – More than half the days
- 4 – Nearly every day

Over the last two weeks, how often have you:

had trouble falling or staying asleep, or sleeping too much?

- 1 – Not at all
- 2 – Several days
- 3 – More than half the days
- 4 – Nearly every day

Over the last two weeks, how often have you:

felt tired or had little energy?

- 1 – Not at all
- 2 – Several days

3 – More than half the days

4 – Nearly every day

Over the last two weeks, how often have you:

had poor appetite or overate?

1 – Not at all

2 – Several days

3 – More than half the days

4 – Nearly every day

Over the last two weeks, how often have you:

felt bad about yourself, or that you are a failure or have let yourself or your family down?

1 – Not at all

2 – Several days

3 – More than half the days

4 – Nearly every day

Over the last two weeks, how often have you:

had trouble concentrating on things, such as reading the newspaper or watching television?

1 – Not at all

2 – Several days

3 – More than half the days

4 – Nearly every day

Over the last two weeks, how often have you:

been moving or speaking so slowly that other people could have noticed? Or the

opposite, being so fidgety or restless that you have been moving around a lot more than usual?

- 1 – Not at all
- 2 – Several days
- 3 – More than half the days
- 4 – Nearly every day

Over the last two weeks, how often have you:

had thoughts that you would be better off dead, or of hurting yourself?

- 1 – Not at all
- 2 – Several days
- 3 – More than half the days
- 4 – Nearly every day

How difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

- 1 – Not difficult at all
- 2 – Somewhat difficult
- 3 – Very difficult
- 4 – Extremely difficult

Appendix F

RAND 36-Item Short Form Health Survey

In general, would you say your health is:

- 1 – Excellent
- 2 – Very good
- 3 – Good
- 4 – Fair
- 5 – Poor

Compared to one year ago, how would you rate your health in general now?

- 1 – Much better now than one year ago
- 2 – Somewhat better now than one year ago
- 3 – About the same
- 4 – Somewhat worse now than one year ago
- 5 – Much worse now than one year ago

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports

- 1 – Yes, limited a lot
- 2 – Yes, limited a little
- 3 – No, not limited at all

Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf

- 1 – Yes, limited a lot

2 – Yes, limited a little

3 – No, not limited at all

Lifting or carrying groceries

1 – Yes, limited a lot

2 – Yes, limited a little

3 – No, not limited at all

Climbing several flights of stairs

1 – Yes, limited a lot

2 – Yes, limited a little

3 – No, not limited at all

Climbing one flight of stairs

1 – Yes, limited a lot

2 – Yes, limited a little

3 – No, not limited at all

Bending, kneeling, or stooping

1 – Yes, limited a lot

2 – Yes, limited a little

3 – No, not limited at all

Walking more than a while

1 – Yes, limited a lot

2 – Yes, limited a little

3 – No, not limited at all

Walking several blocks

1 – Yes, limited a lot

2 – Yes, limited a little

3 – No, not limited at all

Walking one block

1 – Yes, limited a lot

2 – Yes, limited a little

3 – No, not limited at all

Bathing or dressing yourself

1 – Yes, limited a lot

2 – Yes, limited a little

3 – No, not limited at all

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

Cut down the amount of time you spent on work or other activities

1 – Yes

2 – No

Accomplished less than you would like

1 – Yes

2 – No

Were limited in the kind of work or other activities

1 – Yes

2 – No

Had difficulty performing the work or other activities (for example, it took extra effort)

1 – Yes

2 – No

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

Cut down the amount of time you spent on work or other activities

1 – Yes

2 – No

Accomplished less than you would like

1 – Yes

2 – No

Didn't do work or other activities as carefully as usual

1 – Yes

2 – No

During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, family, neighbors, or groups?

1 – Not at all

2 – Slightly

3 – Moderately

4 – Quite a bit

5 – Extremely

How much bodily pain have you had during the past 4 weeks?

1 – None

2 – Very mild

3 – Mild

4 – Moderate

5 – Severe

6 – Very severe

During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

1 – Not at all

2 – A little bit

3 – Moderately

4 – Quite a bit

5 – Extremely

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks...

Did you feel full of pep?

1 – All of the time

2 – Most of the time

3 – A good bit of the time

4 – Some of the time

5 – A little of the time

6 – None of the time

Have you been a nervous person?

1 – All of the time

2 – Most of the time

3 – A good bit of the time

4 – Some of the time

5 – A little of the time

6 – None of the time

Have you felt so down in the dumps that nothing could cheer you up?

1 – All of the time

2 – Most of the time

3 – A good bit of the time

4 – Some of the time

5 – A little of the time

6 – None of the time

Have you felt calm and peaceful?

1 – All of the time

2 – Most of the time

3 – A good bit of the time

4 – Some of the time

5 – A little of the time

6 – None of the time

Did you have a lot of energy?

1 – All of the time

2 – Most of the time

3 – A good bit of the time

4 – Some of the time

5 – A little of the time

6 – None of the time

Have you felt downhearted and blue?

- 1 – All of the time
- 2 – Most of the time
- 3 – A good bit of the time
- 4 – Some of the time
- 5 – A little of the time
- 6 – None of the time

Did you feel worn out?

- 1 – All of the time
- 2 – Most of the time
- 3 – A good bit of the time
- 4 – Some of the time
- 5 – A little of the time
- 6 – None of the time

Have you been a happy person?

- 1 – All of the time
- 2 – Most of the time
- 3 – A good bit of the time
- 4 – Some of the time
- 5 – A little of the time
- 6 – None of the time

Did you feel tired?

- 1 – All of the time
- 2 – Most of the time

3 – A good bit of the time

4 – Some of the time

5 – A little of the time

6 – None of the time

During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

1 – All of the time

2 – Most of the time

3 – Some of the time

4 – A little of the time

5 – None of the time

How true or false is each of the following statements for you.

I seem to get sick a little easier than other people

1 – Definitely true

2 – Mostly true

3 – Don't know

4 – Mostly false

5 – Definitely false

I am as healthy as anybody I know

1 – Definitely true

2 – Mostly true

3 – Don't know

4 – Mostly false

5 – Definitely false

I expect my health to get worse

1 – Definitely true

2 – Mostly true

3 – Don't know

4 – Mostly false

5 – Definitely false

My health is excellent

1 – Definitely true

2 – Mostly true

3 – Don't know

4 – Mostly false

5 – Definitely false

Appendix G

Access to Healthcare

Thinking of access overall, how difficult, or easy was it to actually obtain the healthcare services you needed within the past 12 months?

1 – Very difficult

2 – Difficult

3 – Moderate

4 – Easy

5 – Very easy

Do you have a regular health care provider? By this, we mean one health professional that you regularly see or talk to when you need care or advice for your health.

1 – Yes

2 – No

3 – Unsure

Is that regular health provider a...?

1 – Family doctor or general practitioner

2 – Medical specialist such as cardiologist or a pediatrician

3 – Nurse practitioner

4 – Other

5 – Unsure

When you need immediate care for a minor health problem, how long do you usually have to wait before you can have an appointment your healthcare provider?

1 – Same day

2 – Next day

- 3 – In 2 to 3 days
- 4 – In 4 to 6 days
- 5 – In 1 to 2 weeks
- 6 – Between 2 weeks and one month
- 7 – One month or more
- 8 – Unsure

When you need it, can you afford (financially) to access your primary care provider?

- 1 – Always
- 2 – Very Often
- 3 – Sometimes
- 4 – Rarely
- 5 – Never
- 6 – Not applicable

When you need it, can you afford (financially) to access a specialist doctor?

- 1 – Always
- 2 – Very Often
- 3 – Sometimes
- 4 – Rarely
- 5 – Never
- 6 – Not applicable

Do you experience financial difficulties because of spending on healthcare?

- 1 – Never
- 2 – Rarely
- 3 – Sometimes

4 – Regularly

In the past 12 months, did you reduce your spending on essential needs, such as food or clothing, to be able to cover healthcare costs?

1 – Yes

2 – No

In the past 12 months, did you forgo (do without) or postpone healthcare visits because of cost?

1 – Never

2 – One time

3 – Two times

4 – Three or more times

Over the past 12 months, have you experienced a significant delay in accessing care?

1 – Yes

2 – No

3 – Not applicable

Does the distance from your home to the nearest or needed medical or health facility impact your ability to receive care?

1 – Yes

2 – No

3 – Not applicable

Do you have a regular mental health care provider? By this, we mean one mental health professional that you regularly see or talk to when you need care or advice for your mental health or wellness.

1 – Yes

2 – No

3 – Unsure

Does the cost of seeing a mental healthcare provider impact your ability to receive care?

1 – Yes

2 – No

3 – Unsure

Have you ever felt stigmatised when seeking or receiving healthcare because of (mark all that apply)?

1 – Your young age

2 – Your older age

3 – Your physical disabilities

4 – Your intellectual disabilities

5 – Your mental health status

6 – Your chronic/long term condition

7 – Your ethnicity/race

8 – Being a woman

9 – Being a man

10 – Being intersex

11 – Being transgender

12 – Your income/social status

13 – Your religion

14 – Your sexual orientation

15 – No

16 – Other (please specify)

What type of stigma or discrimination did you experience? Mark all that apply.

- 1 – Attitude of healthcare staff
- 2 – Denial of my rights
- 3 – Inappropriate language
- 4 – Lack of healthcare facility in my community
- 5 – Refusal to provide me with treatment/services
- 6 – Other (please specify)

What measures need to be taken to prevent this situation?

[open ended]

Have you disclosed your sexual orientation or gender identity/expression to your primary healthcare provider?

- 1 – Yes
- 2 – No
- 3 – Not applicable

If you have disclosed your sexual orientation or gender identity/expression, how was it received by your healthcare provider?

- 1 – Positively and provided relevant information or care
- 2 – Positively but I did not receive relevant information or care
- 3 – Neutral or no reaction
- 4 – Somewhat negatively
- 5 – Negative and my provider was offensive
- 6 – Unsure

Do you feel that you have unmet health needs, by that we mean do you have concerns or conditions impacting your overall health or wellness that have not been properly addressed by a healthcare provider?

1 – Yes

2 – No

3 – Unsure

Appendix H

Informed Consent Form for Social Media Participants Department of Psychology University of New Brunswick Saint John

Patrick Hickey, MA student, under the supervision of Dr. Lisa Best, Professor in the Department of Psychology at the University of New Brunswick
CONTACT us by email at patrick.hickey@unb.ca or lbest@unb.ca

You are invited to participate in a study we are currently conducting examining the differences in healthcare access and wellbeing between 2SLGBTQIA+ and non-2SLGBTQIA+ populations. ***You must be 19 years of age or older to participate.***

Participation requirements: If you choose to participate, you will be completing a demographic questionnaire which includes general demographic inquiries (age, gender, race/ethnicity, sexual orientation, gender identity, gender expression, region, etc.), as well as current height and weight and the impact on COVID-19 on your healthcare access. Then, you will complete a series of questionnaire assessing components of your psychological wellbeing, physical health, and access to health services. It is important to note that you will be asked about discriminatory experiences The study should take between 30 and 45 minutes to complete.

Risks and Benefits of Participation: Questions, specifically on, previous discrimination and marginalization, may be sensitive to the participant. If you feel uncomfortable and wish to end the study prior to completion, you are allowed to do so and may exit the survey platform at any time. The data that you have already entered will be used for further analyses. You may also refrain from answering certain questions and skip to the next one. It is strongly encouraged that the survey be finished without interruption; however, you may start the questionnaire and later return to complete. Your answers are saved automatically once you move to the next question.

Privacy and Confidentiality: All data from the study, as well as all responses to the questionnaires, will be anonymous and confidential. The survey and data are stored on a secure survey platform, Qualtrics (www.qualtrics.com). All online data is stored on the Qualtrics site, and is housed in Toronto, Ontario. No identifying information (including IP addresses) is recorded. Downloaded data files will be used by the primary investigators and stored on password protected computers. The downloaded files will not contain any identifying information.

Compensation for Participants: You may choose at the end of the study to enter your email address, it will not be associated with your responses, to be entered into a random draw for eight \$25 gift cards. The chance of winning will be approximately 2%.

I have read the above information and consent to participate in this study.

I voluntarily consent to participate/I DO NOT consent (please note that you will not have access to the rest of the study)

Appendix I

Informed Consent Form for Undergraduate Students Department of Psychology University of New Brunswick Saint John

Patrick Hickey, MA student, under the supervision of Dr. Lisa Best, Professor in the Department of Psychology at the University of New Brunswick
CONTACT us by email at patrick.hickey@unb.ca or lbest@unb.ca

You are invited to participate in a study we are currently conducting examining the differences in healthcare access and wellbeing between 2SLGBTQIA+ and non-2SLGBTQIA+ populations. ***You must 18 years of age or older to participate.***

Participation requirements: If you choose to participate, you will be completing a demographic questionnaire which includes general demographic inquiries (age, gender, race/ethnicity, sexual orientation, gender identity, gender expression, region, etc.), as well as current height and weight and the impact on COVID-19 on your healthcare access. Then, you will complete a series of questionnaire assessing components of your psychological wellbeing, physical health, and access to health services. It is important to note that you will be asked about discriminatory experiences. The study should take between 30 and 45 minutes to complete.

Risks and Benefits of Participation: Questions, specifically on, previous discrimination and marginalization, may be sensitive to the participant. If you feel uncomfortable and wish to end the study prior to completion, you are allowed to do so and may exit the survey platform at any time. The data that you have already entered will be used for further analyses. You may also refrain from answering certain questions and skip to the next one. It is strongly encouraged that the survey be finished without interruption; however, you may start the questionnaire and later return to complete. Your answers are saved automatically once you move to the next question.

Privacy and Confidentiality: All data from the study, as well as all responses to the questionnaires, will be anonymous and confidential. The survey and data are stored on a secure survey platform, Qualtrics (www.qualtrics.com). All online data is stored on the Qualtrics site, and is housed in Toronto, Ontario. No identifying information (including IP addresses) is recorded. Downloaded data files will be used by the primary investigators and stored on password protected computers. The downloaded files will not contain any identifying information.

Compensation for Undergraduate Students: By participating in this study, you will be receiving 1 bonus point in SONA from a list of selected courses of your choice. If you choose to end the survey prior to completion, you will still receive your bonus point.

I have read the above information and consent to participate in this study.

I voluntarily consent to participate/I DO NOT consent (please note that you will not have access to the rest of the study)

Appendix J

Debriefing Form for Social Media Participants

Association between healthcare access and psychological wellness: An examination of individuals in the 2SLGBTQIA+ community

Thank you for taking the time to complete this survey.

This study aims to expand our understanding of the barriers to healthcare access for members of the 2SLGBTQIA+ community and its impacts on health and wellbeing. Research such as this is important to be able to address inequities in healthcare system and build knowledge around how to support different members of the 2SLGBTQIA+ community.

When the results of the study are available, they will be posted on this site, and you will be notified of any conference presentations or publications. We realize that some of the questionnaire items could be upsetting based on your previous experiences and interactions within the healthcare system. If you have any specific concerns about the study, please feel free to contact Patrick Hickey (patrick.hickey@unb.ca). If you are currently struggling with your sexual orientation, gender identity or mental health please refer to a trusted health professional such as your family doctor or counsellor, or to the different resources we have listed below.

The Trevor Project

The Trevor project specializes in providing support to young LGBTQ individuals, reach a counsellor 24/7. <https://www.thetrevorproject.org/>

Trans LifeLine

Trans LifeLine provides trans peer support for our community. Call 877-330-6366 (Canada) or 877-565-8860 (United States). <https://translifeline.org/>

Crisis Services Canada

Receive suicide prevention services and connect with a responder immediately by calling 1-833-456-4566. <https://www.crisisservicescanada.ca/en/>

Canadian Mental Health Association

Find non-emergent mental health resources, information, and programs in your local area. <https://cmha.ca/>

Appendix K

Debriefing Form for Undergraduate Students

Association between healthcare access and psychological wellness: An examination of individuals in the 2SLGBTQIA+ community

Thank you for taking the time to complete this survey.

This study aims to expand our understanding of the barriers to healthcare access for members of the 2SLGBTQIA+ community and its impacts on health and wellbeing. Research such as this is important to be able to address inequities in healthcare system and build knowledge around how to support different members of the 2SLGBTQIA+ community.

When the results of the study are available, they will be posted on this site, and you will be notified of any conference presentations or publications. We realize that some of the questionnaire items could be upsetting based on your previous experiences and interactions within the healthcare system. If you have any specific concerns about the study, please feel free to contact Patrick Hickey (patrick.hickey@unb.ca). If you are currently struggling with your sexual orientation, gender identity or mental health please refer to a trusted health professional such as your family doctor or counsellor, or to the different resources we have listed below.

By participating in this study, you will be receiving 1 bonus point in SONA from a list of selected courses of your choice.

UNB Saint John Student Services

<https://www.unb.ca/saintjohn/studentservices/health/index.htm>

The Trevor Project

The Trevor project specializes in providing support to young LGBTQ individuals, reach a counsellor 24/7. <https://www.thetrevorproject.org/>

Trans LifeLine

Trans LifeLine provides trans peer support for our community. Call 877-330-6366 (Canada) or 877-565-8860 (United States). <https://translifeline.org/>

Crisis Services Canada

Receive suicide prevention services and connect with a responder immediately by calling 1-833-456-4566. <https://www.crisisservicescanada.ca/en/>

Canadian Mental Health Association

Find non-emergent mental health resources, information, and programs in your local area. <https://cmha.ca/>

CURRICULUM VITAE

Patrick Michael Hickey

Universities attended:

University of Ottawa, 2016-18

University of New Brunswick, 2018-2021, Bachelor of Science

Publications:

Beaulieu, D. A., Hickey, P. M., Proctor, C. J., Reiman, A. J., & Best L. A. (2021). The benefits of connections to people and activities: Improving wellness of cancer survivors. In C. Pracana (Ed). *Psychology Applications & Developments*. inScience Press.

Conference Publications:

Hickey, P. M., Best, L. A., & Speed, D. (2021). Access to healthcare and psychological wellness and distress in lesbian-gay-bisexual Canadians [Conference presentation]. Atlantic Health and Discovery Collaborative Health Research Conference.

Hickey, P. M., Best, L. A., & Speed, D. (2021). LGB Healthcare Access and Psychological Wellness and Distress [Conference presentation]. University of New Brunswick Graduate Research Conference.

Hickey, P. M., Best, L. A., & Speed, D. (2021). Access to Healthcare and Psychological Wellbeing and Distress in LGB Canadians [Conference presentation]. Canadian Psychological Association 82nd Annual National Convention.