Who is More Likely to Self-Injure? Exploring the Risk and Protective Factors for the Engagement of NSSI Among Sexual and Gender Minority Youth

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Abstract

Sexual and Gender Minority (SGM) youth have been identified as a high-risk group for those who engage in nonsuicidal self-injury (NSSI). However, there has been little research in understanding the nature of self-injury among SGM youth. This thesis aims to explore the demographics of SGM youth who are most at-risk for engaging in NSSI. Furthermore, this thesis also aims to explore which stressors and protective factors may influence NSSI engagement. The data used for this thesis served as a pilot study for a national resilience survey, which will launch in the fall of 2016. There were a total of 121 SGM youth between the ages of 12 and 29 who participated in this study. The results revealed that certain demographics were more likely to engage in NSSI, in particular those who identify as bisexual, were female, or were between the ages of 15-17 were the most likely to have engaged in NSSI. Those who engaged in NSSI were more likely to be engaged in other risk behaviours and were also more likely to have negative perceptions of themselves. Contrary, those who refrained from NSSI were more likely to have positive self-perceptions and were more likely to have a stronger social support network compared to SGM youth who engaged in NSSI. These results have important implications for furthering research in this topic, and informing prevention and intervention initiatives that work with SGM youth.

Keywords: NSSI, Sexual Gender Minority Youth, Risk, Resilience

Dedication

This thesis is dedicated to Kevin Carey. Thank you for your patience and encouragement throughout this thesis process. Your ongoing love and support mean the world to me. You continue to inspire me to be the best version of myself. I love you, and I can't wait to see what this crazy life journey has in store for us.

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Chapter 1: Introduction

There are many different variables that can influence youth's development. Risk factors or stressors (e.g., poverty, marginalized youth) make it more likely for youth to face difficult circumstances that can lead to a hindrance in their physical, mental, emotional, cognitive, and social development (Grace, 2015). Youth who experience stressors are also more likely to engage in risk-taking behaviours, such as substance use/ abuse, self-injury, truancy in school, etc. These risk-taking behaviours can have numerous consequences on their overall health and their future outcomes. However, it is important to note that the majority of youth are able to grow into resilient individuals and do not engage in risk-taking behaviours. That is, many youth possess resilient traits and have the support and abilities to grow into resilience, which tends to lead to a higher likelihood of indicators of thriving and positive outcomes (Grace, 2015). Thus, when attempting to understand certain risk behaviours, it is important to take into account both the risk factors/ stressors that may lead them to engage in the behaviours, and also the protective/ resilient factors that can help individuals refrain from engagement.

Nonsuicidal self-injury (NSSI) is one example of a risk-taking behaviour, and is a growing concern among youth, particularly among adolescence and young adults. NSSI confers risk for other risk behaviours and other mental health issues, including suicidal tendencies, which suggests NSSI is a critical mental health issue among youth (Nock & Joiner, 2012; Kress, Newgent, Whitlock, & Mease, 2012). Sexual and Gender minority (SGM) youth have been identified as a key demographic of those who self-injure, but research has sparsely investigated this demographic and its relationship with NSSI engagement (Klonsky et al., 2014; Sornberger et al., 2013). In order to better understand

this behaviour within this population, it would be important to understand the various stressors that SGM youth face, which may be prompting them to engage in NSSI. In addition, it would be valuable to understand the various resilient/ protective factors that allow SGM youth to refrain from self-injury. This information would be useful for informing future research in NSSI with SGM youth, as well as informing prevention and intervention initiatives.

The research objectives for this thesis were to explore the relationship between NSSI and SGM youth. Specifically, there were three areas that were investigated: (1) demographics of SGM youth who (a) self-injured (NSSI) and (b) those that did not, (2) stressors and risk-taking behaviours that were associated with NSSI engagement, and (3) resilient/ protective factors that were common in those who refrained from NSSI engagement.

In order to investigate these research objectives, the sample comprised of 121 SGM youth between the ages of 12 and 29. This sample served as the pilot study to the national resilience survey that will launch in the fall of 2017.

This thesis will begin by identifying key literature and theories that are relevant to this topic, which will provide important background knowledge to this topic. This chapter will conclude with the research objectives and hypotheses for this thesis. Next, the methodology section will describe the nature of the participants, the survey, and the process of this study. The findings of the study will then be revealed in the results section, which will demonstrate the findings for each of the hypotheses. Lastly, the discussion will further analyze the results and compare how the results of this thesis align with the current research.

Chapter 2: Literature Review

Non-suicidal Self-Injury (NSSI)

Nonsuicidal self-injury (NSSI) is defined as the direct and deliberate destruction of body tissue without conscious suicidal intent and for purposes that are not culturally accepted (Klonsky, Muehlenkamp, Lewis, Walsh, 2011). Thus, culturally accepted forms of 'self-injury', such as tattooing or body piercing, are not considered forms of NSSI. Common methods of NSSI include but are not limited to cutting, scratching, burning, bruising, hitting, and skin embedding. Ample studies have revealed that there are high NSSI prevalence rates among adolescents and young adults, with anywhere from 14 to 24 percent of youth engaging in this behaviour (Heath et al., 2009; Swannell et al., 2014). Although there is some evidence that suggests that females are slightly more likely to engage in NSSI than males (Bresin & Schoenleber, 2015; Whitlock et al., 2011), there is also evidence to suggest that there are equivalent rates of NSSI between women and men (Klonsky et al., 2014). However, research does suggest that there are differences in methods used for NSSI. In particular, females are more likely to use cutting as a form of NSSI, whereas men tend to engage in hitting or burning (Klonsky et al., 2014). Furthermore, there is strong evidence that suggests that NSSI is more prevalent within LGBTQ individuals (Klonsky et al., 2014; Sornberger et al., 2013; Whitlock et al., 2011).

NSSI is not only prevalent among youth populations, but it associates with numerous other mental health issues and risky behaviours within these populations. In particular, research suggests that there tends to be higher levels of depression and anxiety in those who engage in NSSI (Fox et al., 2015; Klonsky et al., 2011; Selby, Bender, Gordon, Nock, & Joiner, 2012; Nock et al., 2006). NSSI is also listed as a symptom of

Borderline Personality Disorder (BPD) in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-V), and thus commonly co-occurs with individuals who meet criteria for BPD (Goldstein, Flett, Wekerle, & Wall, 2009; Whitlock, Eckenrode, & Silverman, 2006). In addition to mental health issues, engagement of NSSI may sometimes lead to dangerous situations, including unintentional serious harm that requires medical attention (Kress et al., 2012). Furthermore, many individuals who engage in NSSI also tend to engage in other risky behaviours. In particular, research suggests that NSSI is correlated with eating disorders and substance abuse (Goldstein et al., 2009; Klonsky et al., 2011; Paul, Schroeter, Dahme, & Nutzinger, 2014; Whitlock et al., 2006). Arguably one of the biggest concerns is that NSSI also confers risk for suicidal behaviours (suicidal ideation, attempts, and completed suicides; Muehlenkamp, Walsh, & McDade, 2010). Although NSSI and suicidal behaviours are highly comorbid, there are differences between NSSI and suicidal behaviours (Fox et al., 2015; Klonsky et al., 2014; Whitlock et al., 2013). In particular, NSSI is more prevalent than suicidal behaviours, typically involves different methods (use of less lethal methods), and tends to be less severe medically. The most important distinguishing factor is that those who engage in NSSI most often do not intend to end their life (Klonsky et al., 2014). Given that NSSI has a high prevalence rate, various associated risks, including elevated suicide risk, NSSI represents a critical mental health issue that needs to be better understood.

NSSI is often considered to be a paradoxical behaviour, in which it seems unnatural for humans to intentionally inflict physical harm on themselves. So, it can be confusing as to why individuals would engage in this behaviour. However, research suggests that engaging in NSSI can be very rewarding because of its strong ability to

temporarily reduce negative emotions and/ or increase positive emotions (Klonsky, 2007). It may not be surprising then, that the use of NSSI to cope with negative internalizing symptoms is the most commonly reported reason that individuals engage in NSSI (Fox et al., 2015; Klonsky, 2007; Klonsky et al., 2014). A study that Turner and colleagues (2016) conducted analyzed the process of engaging in NSSI. The results revealed that there was a peak in negative emotional states prior to engaging in NSSI, and a decrease in these emotional states following NSSI, thus positively reinforcing NSSI behaviours. After reducing negative emotions, the second most frequently reported function is the use of NSSI as a form of self-directed anger or self-punishment (Klonsky et al., 2014). The third common use of NSSI is to influence others, particularly, through the creation of a physical sign of the emotional distress one is experiencing. After engaging in NSSI, there may be desired changes in the environment, such as an increase in support and compliance with requests. Engagement of NSSI may also reduce unwanted demands or requests in a social context, thus reinforcing NSSI behaviours (Turner et al., 2016). These different functions and motivations for individuals to engage in NSSI, adds to the complexity of understanding NSSI behaviour, as engagement in NSSI can occur for a variety of reasons that are unique to the individual. Overall, the reasons individuals choose to engage in NSSI are intrapersonal and/ or interpersonal in nature, and although they are effective in providing temporary relief, NSSI is a maladaptive coping mechanism. Engagement of NSSI can be viewed as a sign of distress, which is typically caused because less costly/ intense coping mechanisms and behaviours failed to meet an individual's intrapersonal and interpersonal needs.

Risk Factors

Previous research has identified various risk factors that may make certain individuals more susceptible to engaging in NSSI. Specifically, research has identified intrapersonal, interpersonal, and even demographic characteristics that serve as risk factors for NSSI. It is important to understand the various risk factors that tend to precede NSSI behaviours to inform prediction and intervention efforts (Fox et al., 2015). Research consistently suggests that prior NSSI engagement is one of the strongest predictors of future behaviour (Fox et al., 2015). As mentioned previously, NSSI is very effective in reducing negative emotions, and thus is negatively reinforcing future NSSI behaviours. However, this can turn into a maladaptive coping mechanism that becomes difficult to discontinue.

Perhaps not surprisingly, many of those who engage in NSSI report greater daily negative affect in comparison to those who refrain from engaging in NSSI (Bresin, 2014; Turner et al., 2016). This may explain the correlation between NSSI and various mental illnesses (e.g., anxiety, depressive disorders), given that these youth tend to have pre-existing negative emotions prior to engaging in NSSI. In terms of intrapersonal risk factors, research suggests that having a lack of ability to adaptively regulate emotions is a risk factor to NSSI, particularly when they also have difficulty regulating these emotions (Fox et al., 2015). Other characteristics that have been associated with an increased likelihood of engaging in NSSI include rumination, impulsivity, and affective lability, although emotion regulation issues tends to be the predominating risk factor (Turner et al., 2016). Thus, those who are experiencing more negative emotions, and have a difficult time regulating these negative emotions, can be considered to be at-risk for engaging in NSSI.

There are also a variety of interpersonal risk factors that contribute to the risk of engaging in NSSI. Kress and colleagues (2012) found individuals who engage in NSSI tend to be more dissatisfied with their interpersonal relationships. In particular, they were more likely to experience conflicts with family members and friends and were more likely to experience peer victimization (Adrian, Zeman, Erdley, Lisa, & Sim, 2011; Kress et al., 2012). Bullying is a strong risk factor for the development of severe emotional and behavioural issues, including the engagement of NSSI behaviours (Barker et al., 2008; Jantzer et al., 2015). Studies have shown that those who engage in NSSI were more likely to experience instances of bullying/ victimization (in-person or cyber bullying). Thus, individuals may be engaging in NSSI in response to the various negative interpersonal conflicts or rejection they have experienced (Turner et al., 2016). Turner and colleagues (2016) aimed to understand what prompted NSSI engagement, and the results indicated that on days where individuals experienced high interpersonal conflicts, they were more likely to engage in NSSI. Furthermore, it was noted that when self-injury was disclosed to others, it was likely followed by desirable changes in the environment, ultimately reinforcing NSSI behaviours (Turner et al., 2016). Thus, those who experience bullying/ victimization and/ or negative interactions with family and friends are at-risk and more likely to engage in NSSI. Through engagement of NSSI, individuals use NSSI to cope with these negative interactions and/ or make desirable changes in their environment.

In addition to intrapersonal and interpersonal risk factors, there are certain demographic factors that make certain individuals more susceptible to engaging in NSSI. Youth (adolescents and emerging adults) are believed to be the most at-risk age category, as they tend to experience heightened levels of negative affective states during this period

and may have not yet developed adaptive coping mechanisms (Martin et al., 2016). When these experiences are coupled with a peak of impulsivity and risk-taking during their youthful years, they become more likely to engage in risky behaviours, such as NSSI. Furthermore, individuals who have a history of childhood neglect, emotional abuse, relational trauma, or sexual abuse, have been found to be more likely to engage in NSSI (Glassman, Weierich, Hooley, Deliberto, & Nock, 2007; Martin et al., 2016; Whitlock et al., 2006; Yates, 2009). According to Linehan's biosocial model (1993) experiencing negative familial interactions throughout childhood, which hinder, ignore, or do not adequately support one's emotional needs can negatively effect the child's ability to develop healthy and adaptive emotion regulation skills. Ultimately, this may lead the individual to develop less than optimal ways of coping, such as NSSI (Martin et al., 2016). Altogether, research suggests that inadequate caregiving experiences that cause stress to the individual impede one's ability to develop adaptive emotion regulation and coping skills, thus leaving those with traumatic familial experiences to be more at risk for engaging in NSSI.

Sexual and Gender Minority (SGM) youth (also referred to as LGBTQ youth) have also been identified as at increased risk for engaging in NSSI, as they are more likely to experience unique intrapersonal and interpersonal stressors associated with their minority status (Liu & Mustanski, 2012; Muehlenkamp, Hilt, Ehlinger, & McMillan, 2015; Reisner, Biello, Perry, Garmarel & Mimiaga, 2014; Sornberger et al., 2013). Much research suggests that SGM youth often experience higher experiences of stress in comparison to their heterosexual and cisgender (self-affirmed gender matches natal sex) peers. According to Muehlenkamp and colleagues (2015), SGM youth have higher rates

of various psychiatric symptoms that are associated with SGM youth being 3 to 5 times more likely to engage in NSSI compared to their heterosexual and cisgender peers. In order to better understand the correlation between SGM youth and higher NSSI engagement, it is important to take a deeper look into the stressors that are unique to SGM youth.

Sexual and Gender Minority Youth: Stressors and Risk-Taking

Minority stress theory suggests that SGM individuals experience minority-specific stressors, such as stigma, prejudice, discrimination and victimization that make them more susceptible to poor physical and mental health outcomes (Meyer, 2003). These minority-specific stressors tend to be persistent in nature, which often stems from various institutions and interpersonal interactions, often creating chronic stressors for SGM youth (Greene & Britton, 2014). Sometimes, these stressors can be traumatic for SGM youth, which may lead to more negative health outcomes and risk-taking behaviours in attempt to cope with these stressors (Goldbach, Fisher, & Dunlap, 2015). Experiences that are classified as traumatic to SGM youth are unique to the individual. These experiences may include unexpected events that may or may not be cumulative, and can include life threatening and non-life threatening events (Goldbach et al., 2015). Research consistently shows that SGM youth are more likely to experience adversity and trauma including child maltreatment, bullying/ interpersonal violence, sexual assault, child abuse/ neglect, hate crimes, rejection/ separation from family, homelessness, trauma to a close friend/ relative (Alvy, Hughes, Kristjanson, & Wilsnack, 2013; Balsam, Rothblum, & Beauchaine, ; Goldbach et al., 2015; Grossman et al., 2009; Herek, 2009; Roberts, Austin, Corliss, Vandermorris, & Koenen, 2010).

As a consequence to experiencing these stressors, much research has suggested poor physical and mental health outcomes can include symptoms of depression (Birkett, Newcomb, & Mustanski, 2015; Burgess, Lee, Tran, & van Ryn, 2007; Robinson, Espelage, & Rivers, 2012), anxiety (Burgess et al. 2007; Robinson et al., 2012), suicidality (Birkett et al., 2015; Kelleher, 2009; Robinson et al., 2012), psychotic symptoms (Robinson et al., 2012), increased sexual risk (Robinson et al., 2012; Wong & Tang, 2004), damage to the immune system (Mays, Cochran, & Barnes, 2007), and cardiovascular disease (Mays et al., 2007). Furthermore, identification with more than one minority status would likely lead to a greater vulnerability to experiencing poor mental health and physical health outcomes, since there are multiple sources of minority stressors. Although this may be applied to having more than one SGM identity, this could also be applied to belonging to other minorities (e.g., ethnic minorities) in addition to SGM identity locations. For example, someone who identifies as a SGM youth and is also belonging to an ethnic minority may be at an increased risk for experiencing additional stressors, such as double victimization: discrimination for being part of an ethnic minority group and for being a SGM youth.

There are three different categories for various stressors SGM individuals may encounter: societal stressors, interpersonal stressors, and intrapersonal stressors. Societal stressors include homo/bi/transphobic prejudices and discrimination against SGM youth that are held in society. This can also include the use of homo/bi/transphobic language (e.g., 'that's so gay', 'faggot'), which continues to persist across Canada (Taylor & Peter, 2011). This is particularly troubling, since this language tends to be conflated with words like 'stupid', or 'not cool', thus giving SGM youth the impression that they are unworthy

in everyday society. Unfortunately, these prejudices are also common in institutions that interact with SGM individuals on a daily basis, including the education system, legal and medical services, and many religious institutions. Arguably, youth are particularly vulnerable, as they often do not get to choose their environmental conditions (e.g., home, school, and community environments; Goldbach et al., 2015). Considering that it is common for SGM youth to interact with these services, it is likely these youth will experience adverse social situations with these services. Furthermore, these institutions do not always have policies in place that would help support and protect these individuals, leaving them with no option other than to face these oppressive interactions. A study that Greene and Britton (2014) conducted found that psychological distress was positively related to oppressive situations. Thus, society's negative biases and prejudices against SGM youth can create oppressive environments (e.g., verbal harassment, intimidation), which can negatively impact the well-being of SGM youth (Greene & Britton, 2014). Unfortunately, research also suggests that when SGM youth perceive their community / society as prejudiced or discriminatory against SGM youth, they are much less likely to seek needed medical and mental health treatment (Trivedi & Ayanian, 2006). Consequently, SGM youth are commonly facing these oppressive environments and are not getting the adequate support and services that they need to recover and thrive in our society.

Another widespread problem for SGM youth is that they are more susceptible to interpersonal stressors, such as victimization and bullying from their peers. Bullying includes acts that are intentionally acted upon to inflict physical or emotional harm onto others (Sung Hong & Espelage, 2012). Bullying against SGM youth can include multiple

forms, such as physical, verbal, emotional, sexual abuse or harm; although research suggests that emotional/ psychological or verbal bullying tends to be the most common (D'Augelli, Grossman & Starks, 2006). Homo/bi/transphobia can also be perpetuated directly to the individual if the victimization is specifically targeting their sexual or gender identity. These activities include, but are not limited to being physically hurt, verbally teased, or subjected to anti-gay jokes (Kelleher, 2009). Research has shown that individuals who are open about their SGM identities are more likely to be bullied (Birkett et al., 2015; Goldbach et al., 2015; Kelleher, 2009; Robinson & Espelage, 2013; Robinson, et al., 2012; Russell, 2010; Sung Hong & Espelage, 2012; Taylor & Peter, 2011; Ullman, 2014; Wernick, Kulick & Inglehart, 2013). In particular, 65 to 85 percent of SGM youth report victimization based on perceived or actual sexual orientation or gender identity, which is much higher than heterosexual and cisgender rates of bullying (20-33%; Wang, Iannotti & Nansel, 2009; Wernick et al., 2013). As a result, one study revealed that 64.3 percent of SGM youth felt unsafe at their school because of their sexual orientation (Sung Hong & Espelage, 2012). These results suggest that SGM youth are more likely to be at-risk for peer victimization solely based on their sexual or gender identity status. These hostile environments can lead to feelings of vulnerability, and self-doubt/ low self-esteem, which often results in psychological distress (Blais, Gervais & Hebert, 2013; Kelleher, 2009). In addition to these mental health issues, victimization and prejudice in society has been associated with internalized homophobia, which will be discussed as part of the intrapersonal stressors SGM youth may experience.

The stressors that SGM youth experience from their society or their interpersonal interactions can cause SGM youth to internalize these negative messages, which may

lead them to believe that they are not valued in our society and that their SGM identities are 'wrong' or 'immoral'. Research has suggested that those who possess awareness of society's negative attitudes toward their identity are more likely to develop negative self-regard (Kelleher, 2009). These SGM youth may have difficulty accepting their identity, perhaps choosing to conceal their identity for fear of further discrimination/ victimization; this can lead to self-hatred (Thomas, Mience, Masson, & Bernoussi, 2014). Other times, as a consequence of SGM stigma in society and in interpersonal relations, internalized homophobia can occur, in which sexual minority youth internalize anti-SGM stigma toward the self (Blais, Gervais & Hebert, 2013). Internalized homophobia is associated with low self-esteem and also has evidence of being a predictor of post-traumatic stress symptoms in SGM youth (Blais, et al., 2013; Dragowski, Halkitis, Grossman, & D'Augelli, 2011; Thomas et al., 2014). Having low self-esteem due to internalized homophobia can sometimes lead SGM youth to take more risks and engage in risk-taking behaviours, which can be damaging to one's health (Thomas et al., 2014). As Meyer's (2003) minority stress theory suggests, the various stressors that SGM youth experience tend to lead SGM youth to experiencing psychological distress. However, in addition to experiencing psychological distress, it can also be common for SGM youth to engage in risk-taking behaviours as a response to these SGM-unique stressors.

The stressors that SGM youth experience have serious implications for the well being of these youth, including negative effects on their education, and mental and physical health. In particular, SGM youth who are bullied/ victimized in school settings are more likely to feel unsafe at school and feel a weak school attachment (Taylor & Peter, 2011). As a result of this, they are more at-risk for low academic performance,

decreased aspirations for education, being truant/ absent in school, and dropping out of school (Birkett, Espelage & Koenig, 2009; Walls, Kane, & Wisneski, 2010; Wernick et al., 2013). This can be particularly problematic because then SGM youth do not have the education that most members of society need to find productive employment.

In addition to an increased likelihood of experiencing multiple mental health issues, experiencing stressors is also more likely to lead to maladaptive ways of coping and poor physical health outcomes. Much research has suggested that SGM youth are more likely to abuse substances, including alcohol, cigarettes, and other illicit drugs to help cope with the stressors they experience (Birkett et al., 2015; Burgess et al., 2007; Goldbach et al., 2015; Thomas et al., 2014). Goldbach and colleagues (2015) found that not only do SGM have higher rates of drug use compared to their heterosexual and cisgender peers, but they also are more likely to have higher rates of earlier drug use and engage in poly-drug use (e.g., using more than one type of illicit drug; Marshal et al., 2008). The repercussions of engaging in substance use, particularly at an early age, can have long-lasting negative impacts on one's health. Furthermore, engaging in drug use furthers the risk for potential addiction/ substance abuse and overdose issues. Substance use and abuse can also contribute to poor decision-making, including risky behaviours (e.g., sexual behaviours, suicidal behaviours). Research has found that the stressors SGM experience (e.g., victimization, discrimination, stigma, internalized homophobia, etc.) are also associated with risky sexual behaviours, which consequently increases the probability for teenage pregnancies and contracting sexual transmitted infections (STIs), including Human Immunodeficiency Virus (HIV; Rasberry et al., 2015; Robinson &

Espelage, 2013; Saewyc, Bearinger, Blum, & Resnick, 1999; Saewyc, Poon, Homma, & Skay, 2008; Thomas et al., 2014).

SGM Youth and NSSI

As previously mentioned, research suggests that SGM youth are more likely to engage in NSSI in comparison to their heterosexual and cisgender peers (Liu & Mustanski, 2012; Muehlenkamp et al., 2015; Reisner et al., 2014; Skegg et al., 2003, Sornberger et al., 2013; Whitlock et al., 2006). Although it is common for studies to lump SGM youth into one category and compare them to heterosexual youth, Sornberger and colleagues (2013) differentiated between various SGM identities and found that youth who identified as bisexual or questioning typically had higher rates of NSSI behaviours in comparison to other SGM identities and heterosexual/ cisgender youth. It was hypothesized that those who identify as bisexual or questioning may experience additional stressors and discrimination based on their identity (Sornberger et al., 2013). However, there are very few studies that look at the various SGM identities (vs. combining them into one category). This is particularly problematic because although SGM youth have some commonalities (e.g., face similar stressors), there are many individual differences within this population that should be explored. Considering NSSI prevalence rates are consistently higher among SGM youth, there is a need for stronger emphasis in this research in order to better understand NSSI within this population.

After exploring the unique stressors (intrapersonal and interpersonal) that most SGM youth experience, it may not be surprising that SGM youth are more likely to engage in NSSI, as the functions of NSSI are also intrapersonal and interpersonal in nature (Klonsky, 2007). As minority stress theory suggests, SGM youth are more likely

to experience a variety of stressors that are likely to cause negative physical and mental health outcomes (Meyer, 2003). In particular, experiencing societal prejudice, discrimination, and interpersonal victimization/ bullying are likely to increase symptoms of psychological distress and mental illness. As a way to cope, SGM youth may engage in NSSI to help regulate their negative emotions, or perhaps use their self-injury to communicate their feelings of distress in dealing with others (Klonsky, 2007). Furthermore, if SGM youth have internalized the stigma around SGM identities, they may experience many intrapersonal stressors, such as perceived burdensomeness, shame, anger, heightened stress, and poor expectations (Muehlenkamp et al., 2015). And similarly, they may turn to NSSI to help cope with these internal feelings. Internalized homophobia, with the tendency for lower self-esteem and self-depreciation characteristics, has been associated with NSSI functions that include self-punishment and regulating self-directed anger, and reducing negative affect (Muehlenkamp et al., 2015).

It can thus be concluded that SGM youth are at a higher risk for engaging in NSSI because of their tendency to experience diverse stressors. Considering NSSI is associated with various mental health issues (e.g., depression and anxiety) and is associated with other risky health behaviours (e.g., substance use, eating disorders, suicidality, unintended physical harm), the higher prevalence of NSSI among SGM youth is a critical health issue. Research needs to examine the nature of NSSI within SGM youth populations in more detail, including understanding which identities confers more risk for NSSI, and other potential risk factors or protective factors that may impact one's engagement in NSSI.

Resiliency in SGM Youth

Although SGM youth are more at-risk for engaging in NSSI behaviours in comparison to their heterosexual/ cisgender peers, it is also important to note that a large proportion of SGM youth do not engage in NSSI (Muehlenkamp et al., 2015; Reisner et al., 2014). In fact, the majority of SGM youth have degrees of resilience to the negative physical and mental health problems and are showing positive outcomes and indicators of thriving in our society (Grace, 2015; Mustanski, Newcomb & Garofalo, 2011; Wexler, DiFluvio, & Burke, 2009). Thus, when studying risk among SGM youth, it is also important to understand how youth are able to build individual assets and protective factors that would ultimately encourage resilience in SGM youth and decrease risk behaviours (Grace, 2015; Reisner et al., 2014). More specifically, when trying to understand a maladaptive behaviour, like NSSI, it is important to also understand protective factors that can help individuals refrain from, or disengage from NSSI behaviours.

Arguably, there are two categories of resilience factors that can promote indicators of thriving (positive outcomes) in youth: (1) individual assets, and (2) protective factors in the environment. Individual assets can be characterized as resilience traits (e.g., personality or learned traits) that an individual possesses that will likely help them to overcome adversity. Much of the research that focuses on individual assets tends to focus on one's ability to cope with and move past negative experiences (Grace, 2015). As such, strong emotion regulation abilities appear to be imperative to one's ability to overcome adversity and to thrive in society (Greene & Britton, 2014). Emotion regulation can be referred to as one's ability to regulate their emotional, cognitive, and behavioural states, which are ultimately progressing to meet their personal goals (Zimmerman, 2005).

By possessing a strong ability to regulate their thoughts, feelings and behaviours to various circumstances of oppression and trauma, SGM youth would be more likely to avert from experiencing numerous physical and mental health consequences, with emotion regulation acting as a buffer to the stressors that typically burden SGM youth (Greene & Britton, 2014). A significant piece of emotion regulation is the ability to draw from a repertoire of adaptive coping skills (e.g., social support, playing music, drawing, exercise, etc.). Greene and Britton (2014) conducted a study that revealed self-regulation mediated the relationship between oppressive situations and psychological distress, suggesting that emotion regulation plays a major role in one's ability to overcome oppressive situations. Other individual assets include but are not limited to: competency, education, high intellectual functioning, self-efficacy, a strong sense of self-worth, and an internal locus of control (Grace, 2015). Once again, the common theme among the resilience traits is that the traits allow individuals to move past instances of oppression, and even show indicators that they are succeeding and thriving in society.

According to Bronfenbrenner's (1994) ecological theory, youth in particular are highly dependent of their surroundings, and require the assistance and support from the social systems that they interact with everyday. This includes, but is not limited to, family support, positive peer interactions, accommodating school system, and inclusion in the overall culture of their society. Drawing from this theory, if positive and accommodating environments surround SGM youth, they are less likely to have psychological distress or engage in risk behaviours, and more likely to have positive outcomes. Ample research has also suggested that by having protective factors in the environment surrounding SGM youth, they are much more likely to have positive outcomes. For example, family support

during the stages of coming out was a strong protective factor against drug use and other risk behaviours (Goldbach et al., 2015). Furthermore, research suggests that having positive peer interactions and the ability to use peers as a form of social support is significantly associated with lower levels of psychological distress (Birkett et al., 2015).

In schools, perceived school belongingness, and a supportive and accommodating school climate (e.g., GSA or gay-straight alliance club, visibility, and appropriate bathrooms/ change rooms) protected against risk of low academic investment in education (Bos et al., 2008; Reisner et al., 2014). In addition, having even one supportive and caring adult at school or in the community has been shown to be a protective factor for SGM youth as well, moderating risks for SGM youth (Bos et al., 2008; Reisner et al., 2014). Lastly, having availability and access to resources to support SGM youth is imperative for reducing risk and promoting resilience in youth. This includes access to medical services, legal services, the educational system, and psychological/ therapy services (Grace, 2015). Thus it is important to also understand and appreciate how SGM youth are able to grow into resilience, and apply this knowledge to those who are at-risk or who engage in NSSI behaviours to ultimately intervene and prevent this critical health issue.

Although SGM youth are considered to be a target group in the engagement of NSSI, few studies have examined the nature of NSSI within this population. Furthermore, the studies that include SGM youth tend to combine or dissolve them into one category, which fails to recognize the individual differences between SGM youth. By including various identities and other demographic variables, the data is more likely to yield more nuanced information from this population.

Furthermore, most studies that look at SGM youth only tend to look at NSSI in isolation. Considering NSSI is associated with a variety of risky behaviours (e.g., suicidal ideation, suicide attempts, eating disorders, and substance use), it is important to include these other behaviours to gain a more realistic sense of what youth are using to cope. In addition to understanding NSSI and other risky behaviours, it is also important to gain a sense of the individual assets and protective factors that SGM youth have. Very little research has looked at both the risk and resilient factors simultaneously to understand how they interact together (Reisner et al., 2014). Considering it is common for SGM youth to possess or engage in a combination of maladaptive and adaptive traits/ behaviours, it would be useful to explore the complex relationship between NSSI and individual assets and protective factors.

Lastly, the majority of research studies that investigate NSSI take place on campuses. Although this is convenient, this data is localized and does not represent those who are not in the post-secondary education system. Thus, particularly when working with vulnerable youth, such as SGM youth, research should not be limited to the post-secondary institutions, or even education systems.

Conceptual Framework

The main conceptual framework for this thesis will be derived from the resilience typology that Grace (2015) has developed. He provides this understanding of resilience typology as a framework for understanding resilience as a construct, process, and outcome:

Locating resilience as an emergent concept in my research, I understand it to be a multidimensional, nonlinear, and fluid construct, and I develop the notion of growing into resilience to indicate its changing nature. This process is about capacity building, successful adaptation, and sustained competence in the face of stressors and risk

taking; it involves building assets and mobilizing strategies to enhance signs of thriving in the everyday lives of vulnerable youth who have had to deal with stressors, threat, adversity, and trauma. (p. 27)

Resilience is commonly considered to be a biological, psychological, social, and cultural process, meaning that resilience results from both the individual and the environment that surrounds them (Grace, 2013; Ungar, 2005). Resilience research commonly involves researching how youth are able to develop adaptive coping skills, problem-solving abilities, social proficiency, and a positive sense of self (Grace, 2015; Hunter & Mallon, 2000; Ungar et al., 2007). Furthermore, it also entails how youth are able to build assets, like finding and utilizing resources; this may include having and relying on a healthy and caring adult / mentor, or finding medical, legal / civil rights, and psychological resources in the community (Adams, 2006; Bernal & Coolhart, 2012; Wolkow & Ferguson, 2001). Of course, the availability and accessibility of these programs is important to consider. For those with access to information, resources, educational and intervention programs, youth are able to benefit from these services and programs (Grossman & D'Augelli, 2007; Ungar et al., 2007).

However, in researching resilience, it is also important to be aware of specific stressors that are common to SGM youth and the risk-taking behaviours that are associated with these stressors and experiences of trauma. By researching both risk and resilience, research will be able to better comprehend how SGM youth are able to navigate through these stressors, and so the results can be used to target certain stressors or risk-taking behaviours and also to inform intervention / prevention initiatives. Resilience is a process, one that is often non-linear; there is no predetermined path to reaching resilience, which makes researching resilience complex. It is also common for

SGM youth to possess traits associated with both resilience and risk, which is important to consider when working with vulnerable populations. From these perspectives, the resilience typology provides a framework used as a basis to create the survey that was used for this thesis. The survey takes into account all of the various aspects of resilience (e.g., stressors, risk-taking, individual and environmental assets, indicators of thriving), in attempts to better understand its complexity among SGM youth.

In addition to Grace's (2015) conceptual framework for understanding resilience, this thesis will also draw upon Dziengel's (2015) Be / Coming Out model. This model seeks to understand how factors of resiliency interplay with ambiguity in three domains: (1) Self-Perception, (2) Social Relationships, and (3) Society Structures. This model takes an ecological stance, which considers the ongoing interactions and experiences with one's environment. These three dimensions may act independently from one another or may intersect with one another (Dziengel, 2015).

The self-perception domain describes how an individual perceives their identity and their feelings / views of themselves. The goal of resilience in this domain is to reach a congruent identity that is self-accepting and feeling authentic in their identity/(ies) (Dziengel, 2015). Upon reaching a level of resilience, individuals are more likely to be happy and set goals for themselves. Those who are ambiguous in this category, are more likely to be confused or to have doubts about their identity. As such, they are also more likely to conceal their identity, experience lower self-esteem, sadness, anxiety/ depression, etc. (Dziengel, 2015).

The second domain, social relationships, is characterized by social relationships surrounding the individual, and their ability to use these relationships as a form of social

support if needed (Dziengel, 2015). Those who are resilient in this domain are able to form new friendships and / or strengthen existing relationships. In addition, they are able to seek out positive role models / mentors, and they may become a positive role model for their peers. Ambiguity in this domain can suggest that there were experiences of rejection and/ or a lack of social support from those around them (e.g., family, friends, religious institutions, etc.; Dziengel, 2015). Considering social support is typically considered to be a protective factor, hindrance in this area can lead SGM youth to become isolated and develop negative feelings toward themselves.

Lastly, society structures, includes the various stressors (human rights violation / discriminatory laws) and protective factors (human rights laws) that exist in society, and one's reaction / approach to dealing with these societal structures (Dziengel, 2015). Resilient SGM youth in this domain resist oppression and are likely to advocate for legal protection and human rights issues. This may also include educating others on important issues, becoming a leader in social groups, or engagement in the community. Ambiguity in this area can be caused by the loss of legal rights (e.g., legal rights denied when gender identity is incongruent with natal sex), discrimination in resources, an increase in target for hate crimes, and the continuing stressors that society places on SGM youth) (Dziengel, 2015).

According to this model, ambiguity in any of these domains can progress into becoming resilient if the individual is able to overcome or cope with the stressors they are experiencing (Dziengel, 2015). Once again, it is therefore important that research emphasize the process of resilience regarding how youth are able to grow into resilience.

In accordance with Grace's (2015) typology, both frameworks provide an understanding for how SGM youth are able to grow into resilience. Both suggest that growing into resilience is a complex process that includes the consideration of multiple components, such as stressors and risk-taking behaviours, individual assets, and outcomes of thriving. Dziengel (2015)'s model separates these components into three different domains (self-perception, social relationships, and society structures). This thesis will draw on Dziengel's categories to organize the resilience survey data and to explore whether there is a relationship between NSSI behaviours and certain categories of resilience / risk factors.

Objectives and Hypotheses

The following research questions were used to guide the focus and analysis of this thesis: (1) Among SGM youth, who is most likely to engage in NSSI? (2) For SGM youth who engage in NSSI, are there any stressors, risk-taking behaviours, or thoughts (self-perceptions) that are more common in those who self-injure? (3) Among those who refrain from engaging in NSSI, are there any thoughts (self-perceptions) or protective social or community factors that are common in those who refrain from self-injury? The current study also has three main objectives: (1) to understand the demographics within SGM youth who are most risk for engagement in NSSI, (2) to explore the relationship between NSSI and risk / stressors, (3) to explore the relationship between NSSI and resilient factors. As there has been minimal research in this area, the nature of this research is mostly exploratory. Moreover, not all objectives have research to support their hypotheses (described below).

Objective 1: There has been little research that looks at NSSI in SGM populations, even though research continues to suggest that those with SGM identities are at a higher risk of engaging in NSSI. Research that includes SGM youth in NSSI studies tends to combine all SGM identities into one group (e.g., SGM identity vs. heterosexual/cisgender). However, by doing this, the individual identities and differences that exist within the SGM community are not well understood in the context of NSSI. Thus, the first objective of this study is to understand who is more likely to engage in NSSI among those who have a SGM identity. This information would be useful in understanding which demographics (such as identities and ages) are more at-risk for engaging in NSSI.

H1A: It is hypothesized that youth who identify as bisexual or questioning may be more likely to engage in NSSI behaviours (Sornberger et al., 2013). According to one study conducted by Sornberger and colleagues (2013), those who identified as bisexuals were 8 times more likely (vs. heterosexual peers) to engage in NSSI, and those who identified as questioning were 3.74 times more likely (vs. heterosexual peers) to engage in NSSI.

Research suggests that those who identify as bisexual may experience additional stressors in comparison to their other SGM peers (Galupo, 2006). This is because in addition to experiencing homophobia, they may also experience biphobia, from both heterosexual and SGM peers. This can lead to an increase in victimization and stress, which may make bisexual youth more inclined to engage in NSSI. Furthermore, those who identify as questioning also have their own unique stressors, such as trying to figure

out and explore their identity, potentially experiencing discrimination for questioning their identity / concealing their identity (Pachankis, 2007).

H1B: It is also hypothesized that SGM youth who also belong to an ethnic minority may be more likely to engage in NSSI. Although research suggests that NSSI behaviours are most common among Caucasian (white) youth (Klonsky, 2011), SGM youth who also belong to an ethnic minority tend to experience greater stress, when compared to their SGM peers (Craig & Keane, 2014).

Youth who belong in both of these minorities commonly experience double-victimization, in which they can be discriminated against by the SGM community for being part of an ethnic minority, and they can also be victimized from their own ethnic minority groups, particularly when these groups hold negative beliefs and values about sexual and gender minorities (Meyer, 2010). Thus, considering ethnic minorities are more likely to experience greater stress as well as the negative emotions that are associated with greater stress, it is hypothesized that these individuals may be more likely to resort to engaging in NSSI to help cope with these stressors.

H1C: It is hypothesized that those who identify as transgender will be more likely to engage in NSSI. Research looking at NSSI and its relationship with gender has been mixed, with some research suggesting females are more likely to engage in NSSI (Bresin & Schoenleber, 2015) and other research suggesting there is no difference between males and females (Klonsky et al., 2014). However, some research suggests that transgender youth are more likely to engage in NSSI. It is predicted that this increase may be due to the increased likelihood of experiencing stressors (e.g., transphobia) and interpersonal problems (e.g., lack of social support; Arcelus et al., 2016).

H1D: It is hypothesized that SGM youth who are adolescents (ages 15-17) will be the most likely to engage in NSSI. Research suggests that the majority of youth (65%) will begin NSSI before they turn 18 years of age (Klonsky, 2011), which suggests NSSI activity may be higher among adolescents. Considering the adolescent years tend to also be when youth commonly explore and accept their SGM identities, the increase in stress within these years may make them more inclined to use NSSI to help cope with these stressors.

Objective 2: The second objective is to explore the relationship between NSSI and other risk factors and stressors. Considering many SGM youth experience a variety of stressors, it is important to understand the relationship between NSSI and stressors to better understand which stressor(s) may be risk factors for engaging in NSSI. Stressors will be assessed by a lack of community support / society-structures support and by a lack of social support / victimization. In response to stressors, it is also common for SGM youth to engage in multiple risk-taking behaviours in response to these stressors, including NSSI. In addition, they may also have negative self-perceptions of themselves, which may make them more vulnerable and more likely to engage in NSSI. Thus, it is important to understand which risk-taking behaviours and at-risk self-perceptions are related to NSSI engagement to better gauge how much risk is associated with NSSI in SGM youth. Risk-taking behaviours and negative self-perceptions will be assessed by the self-perceptions part of the risk survey, which includes a variety of risky behaviours as well as other items that assess negative views of themselves.

H2A: It is hypothesized that youth who engage in NSSI will have experienced more stressors, compared to those who do not engage in NSSI. These stressors may

include stressors stemming from a lack of support from society's institutions and services, or from direct experiences of victimization/ discrimination. Previous research has linked several common stressors for SGM youth (e.g., victimization, abuse) to engagement with NSSI. A study conducted by McCauley, Montano and Miller (2016) found that SGM youth who had been bullied / victimized, were significantly more likely to self-injure. In addition, SGM youth who experienced abuse (physical or emotional) and other childhood adversities were also more likely to self-injure. This ultimately suggests that SGM youth who experience more stressors may be more likely to engage in NSSI.

H2B: It is hypothesized that those who engage in NSSI will report a higher engagement of risky behaviours, in comparison to those who do not engage in NSSI. Based on previous research on NSSI, it is likely that certain risk-taking behaviours may be more likely than others to be associated with NSSI engagement. In particular, eating disorders (Goldstein et al., 2009; Klonsky et al., 2011; Paul et al., 2014; Whitlock et al., 2006), suicidal ideation and suicide attempts (Fox et al., 2015; Grandclerc et al., 2015; Muehlenkamp, Walsh, & McDade, 2010; Whitlock et al., 2014), and alcohol / substance use (Birkett, Newcomb, & Mustanski, 2015; Burgess et al., 2007; Goldback, Fisher & Dunlap, 2015) have been found to be associated with NSSI behaviours. So, it is predicted that these behaviours may be more related to NSSI vs. other risky behaviours; however, it is still likely that overall, those who engage in NSSI will have a higher engagement in other risky behaviours as a whole.

H2C: It is also hypothesized that those who engage in NSSI will have more negative perceptions of themselves. Research suggests that those who engage in NSSI are

more likely to also experience symptoms of anxiety and depression, and a negative view of themselves (Fox et al., 2015; Klonsky et al., 2011; Turner et al., 2016). Within this category, it is also predicted that those who engage in NSSI report more mental health issues, which make them more susceptible to rely on NSSI to cope with stress and negative emotions. Considering the most common function of NSSI is to help alleviate negative emotions (cope; Klonsky, 2007), it is likely that those who engage in NSSI will self-report lower coping mechanisms.

Objective 3: The third objective is to explore the relationship between NSSI and resilient factors. In addition to looking at the stressors and risk factors of engaging in NSSI, it is also important to assess resilient factors. Primarily, research on NSSI and SGM youth typically emphasize the negative traits/ characteristics and outcomes that are associated with NSSI. Very little research seeks to understand the potential resilient factors that are also associated with NSSI. It is important to understand which resilient / protective factors SGM youth have available to them, which can then inform intervention initiatives. Furthermore, it would be useful to understand which resilient traits serve as protective factors for those who do not engage in NSSI, even though they are still likely to have experienced adversity and trauma. This research would ultimately be useful for prevention efforts. Similar to objective 2, there will be three categories of resilient factors that will be assessed (self-perceptions, social relationships, and community/ society-structures support. Resilient factors within SGM youth who engage in NSSI are exploratory, as there has not been any previous research on this.

H3A: It is hypothesized that SGM youth who refrain from engaging in NSSI will have a higher perception of themselves, which include perceiving to have good mental

health, good coping abilities, and positive outcomes. Research suggests that those who engage in NSSI typically have lower mental health and coping abilities, which thus tend to lead them to rely on NSSI to help them cope (Klonsky et al., 2011). Thus, it is predicted that those who are able to refrain from engaging in NSSI are more likely to have higher self-perceptions.

H3B: It is hypothesized that SGM youth who do not engage in NSSI will report they are more likely to build and maintain friendships, and use these relationships as a form of social support. Previous research has found that social support was a protective factor for engaging in NSSI (Reisner et al., 2014). Thus, it is also predicted that social support will be a protective factor against self-injury.

H3C: It is hypothesized that those who do not self-injure are more likely to report that they feel supported by the community and the services it has to offer. If youth are able to take advantage of the services and supports that are offered in the community, and experience positive relationships in these capacities, (e.g., supportive doctor, counselor, etc.), they may be less inclined to engage in NSSI.

Altogether, these objectives serve the main purposes of this thesis: (1) to better understand the demographics of SGM youth who self-injure, (2) understand the stressors and risk-taking behaviours that are associated with NSSI engagement, and (3) analyze resilient/ protective factors that are common among those who refrain from NSSI engagement. Both Grace's (2015) typology of resilience and Dziengel's (2015) model form the conceptual framework for organizing the items in the survey to study the aforementioned objectives. The subsequent methodology section will provide more detail as to how these items were categorized.

Chapter 3: Methods

Participants

Participants were asked to complete an online risk and resilience survey, which served as a provincial pilot study (refer to Appendix A for the survey). The survey was on taken on fluidsurveys.com; a common host used for research purposes. Once the principal investigator created the survey drawing on research for conducting surveys with vulnerable populations including sexual and gender minorities, a survey expert in the Faculty of Extension at the University of Alberta was hired to complete the process of taking the survey live. According to her expertise, based on the nature of the survey and the formatting that was needed (i.e., beginning with consent), Fluidsurveys proved a most appropriate online survey option that research participants could navigate. Participants were recruited via social media, list-serves, and other connections focused on communicating with and reaching out to sexual and gender minority (SGM) youth. This included posting the survey link on the iSMSS website, using social networks (e.g., Facebook), and listservs from Camp fYrefly, iSMSS, and post secondary institutions. At times, recruitment posters would be sent to individuals who worked with SGM youth. In addition, this survey was distributed at the provincial GSA (Gay Straight Alliance) conference held in Edmonton in 2014. For participation and completion of the survey, participants had the option of entering into a draw for an iPad mini (approximately $300). To do so, participants were required to enter an e-mail address so that they could be notified if they won the draw.

A total of 132 participants completed the survey; however, 10 were excluded from the study because they did not fit into the targeted age demographics (12 to 29 years

old). Those who did not fill in an age, but completed other information in the survey that provides an approximate age (e.g., present schooling – K-12), were retained. However, those who did not provide any information regarding their age or an approximation of their age were eliminated. Furthermore, one participant who did not complete a large portion of the survey was also eliminated from this data. Thus, there were *n*= 121 remaining participants that were included in the analysis for this thesis.

As this thesis investigates NSSI among SGM youth, the demographics in this study reflect the heterogeneous identities of SGM youth. When queried about sexual orientation and gender identity, participants were able to select more than one identity. However, for the purpose of this thesis, only the identity that they most identified with will be used for the demographics section and the analyses.

In this questionnaire, there were 12 different types of gender identities and preferences that were listed. Among these identities the most prevalent included: 44.7% identified as female, 28.5% identified as male, 9.8% identified as gender queer, 4.1% did not specify which identify they preferred / most identified with, and 2.4% identified as Female to Male Trans (FTM). Please refer to Appendix B to see the full gender identity distribution. For sexual orientation, there were 18 different sexual orientation identities and categorizations. Some of the most common identities included: 22.8% identified as gay, 16.3% identified as bisexual, 13.8% identified as queer, 8.1% did not specify their preferred identity / the one they most identified with, 7.3% identified as lesbian, 7.3% identified as straight, 5.7% identified as pansexual, and 5.7% identified as heterosexual. Refer to Appendix B to see the full sexual orientation distribution for this sample.

Due to the large target age group, the ages were divided into categories based on developmental stages and schooling: 11.4% fell in the pre-teen age/ middle school years (12-14 years), 38.2% were within the adolescent / high school age (15-17 years), 20.3% were within the young adult/ post secondary stage (18-22 years), and 23.6% were in the adult stage (23-29 years). These age categories were created based on developmental stages (e.g., pre-teen, adolescence, young adults, adults).

In terms of ethnicity, the majority reported to be White (69.1%), followed by Multi-racial (12.2%), Chinese (4.9%), Aboriginal (3.3%), Other (3.3%, Latin American (2.4%), Fillipino (1.6%), and Arab (.8%). Although this survey will be distributed as a national study (2016-2017), the data for the current study served as a pilot study to the national study, in which most of the recruitment efforts were focused in Alberta. Thus, the majority of the participants resided in Alberta (87%; followed by Saskatchewan-4.1%, Ontario-3.3%, New Brunswick-0.8%, Manitoba-0.8%, and Quebec-0.8%).
The University of Alberta's research ethics board approved this study.

Materials

The current survey was developed by Grace and his research team in 2014. The survey construction process will be discussed below in the procedure section. The survey was created to reflect Grace's (2013) resilience typology, which seeks to understand how youth are able to grow into resilience. This survey also takes into account the various stressors and risk-taking that SGM youth are likely to encounter (risk component of the survey), while also considering the individual assets and indicators of thriving (resilience component of the survey). In order to help categorize the items, Dziengel's (2015) model was applied to organize the survey that was developed to reflect Grace's resilience

typology defined in his book. Dziengel's (2015) model guided the choice of categories for this thesis. Accordingly, both the risk and resilience part of the survey has been divided into three categories – Self-Perception, Social Relationships, and Society structures/ Community Support. The categories were created based on Dziengel's (2015) model; individual survey items were divided into these categories by the creator of the resilience survey (Grace) and colleagues. The survey concludes with an inclusive demographic questionnaire. It is important to note that only survey items that were related to the categories created for this thesis were used for analysis. Please refer to Appendix A to see the survey and its reliabilities. It is important to note that there have not been any previous reliability or validity studies on this survey, which is an important limitation to this thesis.

Resilience Survey. The resilience survey consists of three subgroups: (1) Self-Perception -24 items (2) Social Relationships -9 items, and (3) Community/ Society structures Support- 13 items, which result in a total of 46 items. Each item was scored on a 5-point Likert scale, ranging from strongly disagree to strongly agree (1- strongly disagree, 2- disagree, 3- neutral, 4- agree, 5- strongly agree). Each item also had a 'does not apply' option if the item was not applicable to the participant.

The Self-Perception group includes youth's self-perception of their health (physical, mental, and emotional health), their coping/ resilient traits, and indicators of thriving (positive outcomes). To measure self-perceptions of health, items such as "I am in good physical health", "I am happy", "I am hopeful", were included. Self-perceptions of coping/ resilient traits included, "I can deal with a setback when I have one", "I believe I can overcome difficulties in my life", and "I can draw on my past experiences and what

I've learned to help solve my own problems". Lastly, to measure indicators of thriving included items such as, "I accomplish many things as an LGBTQ person", and "I have succeeded/ plan to succeed in continuing my education". The reliability for this category is strong, *Chronbach's alpha* = .905.

The social relationships group inquires about youth's social relationships with friends and family, including their ability to initiate and maintain important relationships. Items include, "I am close to those I consider family", "I am able to build trusting relationships with adults", and "I am able to build friendships and relationships with other LGBTQ youth". Furthermore, this group investigates whether or not youth's social relationships can also be a form of social support, for example "I can turn to others for help in solving my problems", "I have at least one LGBTQ friend close to my age I can talk to for support", and "my family supports me as an LGBTQ person". The reliability for this category is moderate to high, *Chronbach's alpha* = .778.

The community/ society structures support asks youth about the resources/ programs that are available and accessible in the community, along with any involvement/ leadership experiences they are doing. These items included, "My faith community accepts and supports me", "Being part of a GSA has really helped me", and "I am able to find LGBTQ resources in my community". In addition, this category also asks about SGM advocacy in their community: "I challenge language and images not respectful of LGBTQ people", "I am a leader who helps other LGBTQ youth" and "I am able to help others understand what it is like to be LGBTQ". The reliability for this category is strong, *Chronbach's alpha* = .861.

Risk Survey. The risk survey also consists of the three subgroups, but are in relation to the stressors and risk-taking and negative outcomes that SGM often experience: (1) Self-Perceptions -39 items, (2) (Lack of) Social Support -17 items, and (3) (Lack of) Community/ Society Structures Support -15 items, which results in a total of 71 items. Each item had the same response option of a 5-point Likert scale, ranging from strongly disagree to strongly agree. Similar to the resilience survey, there was also a 'does not apply' option for each item, which participants were able to elect.

The self-perceptions group asked participants about their perception of their health issues (physical and mental health issues –including concealment of SGM identity/ identities), school issues, and risky behaviours that they engage in. Under the health subcategory, items included things such as, "I get sick easily", "I get sad or depressed", "I don't care about things", and "I keep my sexual orientation to myself". School issues include learning issues and truancy variables, examples include: "I have trouble reading or learning", "I skip school", and "I have trouble achieving at school". Youth were also asked to disclose risky behaviours that they were engaged in/ or have been engaged in, such as "I skip eating", "I use alcohol to cope", and "I have run away from home". The reliability for this group was high, *Chronbach's alpha* = .955.

The second category, (lack of) social support, includes youth's experiences of a lack of support from friends, family, and members of the community; this also includes victimization/ bullying. Items in this category include, "I have at least one parent who does not support me as an LGBTQ person", "Other youth have bullied me online", and "I have been called names like faggot, dyke, fence sitter, or tranny". The reliability for this group was strong, *Chronbach's alpha* = .864.

The final category, (lack of) community/ society structures support, inquires about a lack of support from the community and society's structures, including religious institutions, educational systems, and legal, medical, and psychological services. Items here include, "I have trouble finding a family doctor who is comfortable and willing to help LGBTQ people", "My current faith community does not accept and says negative things about LGBTQ people", "My school principal ignores or avoids dealing with LGBTQ students and issues", and "I have had legal problems as an LGBTQ person (e.g., problems getting my name changed)". The reliability for this group was strong, *Chronbach's alpha* = .925.

NSSI variables. There were two NSSI variables that were used to identify those who self-injure; they were included as part of the risk survey (self-perceptions category). The two variables were, "I cut myself" and "I hurt myself on purpose". The responses to these items followed the 5-point Likert scale, ranging from strongly disagree to strongly agree, and also included the 'does not apply' option. Although cutting is most often the most common method of NSSI, it does not represent the only method; thus the item, "I hurt myself on purpose" was used as a measure for NSSI engagement. Those who endorsed this item (scored either 4- agree or 5- strongly agree) were placed in the NSSI group, whereas those who did not endorse this item or who were neutral (scored 1-strongly disagree, 2-disagree, 3-neutral, or does not apply) were in the non-NSSI group.

Demographics Survey. The demographics survey was administered at the end of the survey to promote completion of the survey. The demographics survey strived to be inclusive for SGM youth, including 18 identities for sexual orientation and 12 identities for gender identity. As mentioned previously, participants had the option of selecting

more than one sexual orientation identity and/ or more than one gender identity. They were also given the option to specify the identity that they most identified with/ preferred. Other demographic variables that were collected included, age, ethnicity, religion, current grade in school, occupation, and province currently living in.

Procedure

Survey construction. This survey is part of a mixed methods research design, in which it will have relied on both quantitative and qualitative pieces, which were used to inform one another. To create the survey, Grace and colleagues (2014) developed the survey to resemble the resilience typology Grace had created, which includes understanding both the risk and resilience aspects of one's life. The stressors that typically stem from society (such as discrimination, prejudice, etc.) are common experiences for youth, which can lead them to become involved in risk-taking behaviours (self-injury, substance use, etc.) as a response to living through adversity and trauma. Thus, it is important to gauge how much SGM youth tend to experience these kinds of stressors and risk-taking behaviours. At the same time, it is extremely valuable to understand how youth are able to overcome these obstacles and thrive in society, whether it is individual attributes or assets, social support, or community support that enables them to be resilient. Thus, by understanding both the risks and resilient factors, we can better understand the experience of becoming resilient in SGM youth. In addition to following the resilience model, Grace and colleagues applied the survey literature to the survey. In particular, to avoid incomplete surveys, the survey was built to start with positive things (e.g., resilient factors) and avoided placing any triggers near the beginning. The demographics section was also

placed at the end to help promote survey completion (Ganassali, 2008; Madge et al., 2012; Saris & Gallhofer, 2007).

Once the survey was created to represent the resilience model, individual interviews and focus groups were conducted with SGM youth (*n*= 9), which served as the qualitative piece to this mixed methods research project. The objective of the interviews were to involve the target population (SGM youth) in the survey construction process, to receive feedback on factors such as, item saliency, their interpretation of items, inclusive language and how to be sensitive and inclusive in the demographics section (e.g., identities that should be mentioned). Furthermore, it was useful to gain youth's perception on more logistical items, such as item readability (grade level), survey length, and the order of the survey (e.g., resilience, then risk, then demographics). Considering these youth were also part of the target population, it was important to consider their thoughts and opinions toward the survey.

Next, Grace and colleagues took into consideration the feedback they received from the youth they had interviewed and adjusted the survey where necessary.

The revised survey was created as an online surveying method, which was used to avoid convenience sampling procedures, in an attempt for the sample to be more representative. In addition, by using an online medium for the survey, it was more likely for youth to feel comfortable responding to sensitive topics that affect SGM youth (McDermott & Roen, 2012). Considering the demographic that was targeted (youth aged 12-29), using online surveys made the survey more accessible and takes advantage of youth's increasing cyber engagement (McDermott & Roen, 2012).

Participation Procedure. Participants had to go to the fluidsurveys link to participate in the resilience survey. The survey link was available across Canada, but most distributing efforts were focused in Alberta, which explains why the majority of the participants were residing in Alberta. The survey link was disseminated to connections that were likely to come into contact with SGM youth (e.g., Camp fYrefly, iSMSS, GSA conference, trans groups, etc.). As the nature of the study was online, the study took place wherever the youth was located. Once youth opened the link, participants were asked to read the consent form, which provided details of the purposes of the survey and security, confidentiality, and anonymity of their responses. Ethics approval had been obtained so youth under the age of 18 did not require parental consent, for fear of placing SGM youth in potentially dangerous situations regarding disclosure of SGM identity. Participants were required to select an 'accept' button that meant they consented to the study. This was approved by the Research Ethics Board, and was put in place to ensure the safety of the participants.

Furthermore, it was clearly stated that participants had the option of not answering certain items, or opting out of the study at any time, without any penalties. Participants were informed about the optional draw to win an iPad mini for completing the survey. At this time, participants were given an e-mail link to one of the research assistants in the event that participants had questions about the consent process or the resilience study. There was also a link for SGM resources for the participants. Participants were insured that their responses would be confidential and that identifying information (e.g., name) would be removed and supplemented with a number. Once (and if) participants agreed to consent in this study, the resilience survey began.

Once the survey commenced, participants had access to the resilience survey. To help participants respond to items to the best of their ability, certain words/ terms were in purple. If a user was unsure of these purple word(s), they would be able to hold their mouse over the purple word, and a definition of that term would pop-up. Participants were asked to complete the resilience survey first (46 items), which was then followed by the risk survey (71 items). The last portion of the survey was the demographics questionnaire. Once participants completed the survey, they were given the opportunity to participate in the optional prize draw for an iPad mini.

Chapter 4: Results

Statistical analyses

SPSS was used to compute the statistical analyses for this thesis. For objective 1, the data was split (via split file in SPSS) to examine the demographics of those who engage in NSSI. This way, the data was split into two groups (those who engage in NSSI and those who do not) and compared across each of the key demographics. By doing this, the demographics for those who engage in NSSI (and who refrain from NSSI) could then be observed.

For objectives 2 and 3, ANOVA and MANOVA analyses were conducted to examine the differences in risk and resilience surveys among those who self-injure (vs. those who refrain from NSSI). In this thesis, the independent variable is self-injury engagement (2 levels): (1) engages in self-injury and (2) does not engage in self-injury. There are 6 dependent variables in this study: three stem from the risk survey (self-perceptions, risky behaviours, and stressors (social and community), and three stem from the resilience survey (self-perceptions, social support/ relationships, and community support).

For each of the dependent variables, t scores were computed so that they could be compared to one another. There were several important reasons why a t-score was used (in lieu of an aggregate or average score). An aggregate score could not be used since there was a 'does not apply' option in the survey. Although they had the right to choose this option, this would have significantly impacted their overall score if an aggregate score was obtained. Also, considering there were a different number of items for each category, it would be difficult and confusing to compare the different groups to one

another. Using averages of the scores would rid the issue of the 'does not apply' option, as averages would not take into account these scores. However, since a 5-point Likert scale was used, the range from 1 to 5 is not large enough to capture differences. So, instead, t-scores were used (mean= 50, standard deviation = 10). To obtain t-scores, an average of each category was computed, and then transformed into t-scores. Thus, these t-scores were not impacted by the 'does not apply' option, as averages were computed first. Furthermore, the t-scores allow for a larger spread of scores (vs. the 5-point Likert scale), which will better capture differences. Ultimately, t-scores were the most appropriate scores to use for the dependent variables.

Objective 1: NSSI Demographics

The first objective was to explore the demographics among those who engage in NSSI. There was a total of *n*= 25 participants who reported to engage in NSSI (score of 4 or 5 on the self-injury item), resulting in a NSSI prevalence rate of 20.66% for this sample. The demographics that will be reported in this section of the results section are based on those who self-injure (i.e., the 20.66% of the sample).

Table 1.
Sexual Orientation and NSSI Engagement

Sexual Orientation Identity	NSSI Frequency/ how many youth in demographic	Percentage of youth who engage in NSSI
Bisexual	7/20	28%
Did not specify preference	4/10	16%
Asexual	2/5	8%
Heterosexual	2/7	8%
Lesbian	2/9	8%
Pansexual	2/7	8%
Queer	2/17	8%
Gay	1/28	4%
Questioning/ Unsure	1/1	4%

Straight	1/9	4%
Prefer not to use labels	1/2	4%

The first hypothesis (H1A) was that youth who identified as bisexual or questioning would be more likely to engage in NSSI. This hypothesis was partially supported, as those who identified as bisexuals were the most likely to engage in NSSI, with 28% of those who self-injure identifying as bisexual. However, only 4% of those who self-injure identified as questioning, which does not support the hypothesis that questioning youth would be more likely to self-injure. However, it is interesting that 16% of those who self-injure did not indicate their preferred sexual orientation identity, which may suggest that they identify with more than one identity, or do not have a preferred identity.

Table 2.
Ethnicity and NSSI Engagement

Ethnicity	NSSI Frequency/ how many youth in demographic	Percentage of youth who engage in NSSI
White	19/85	76%
Multi-racial	4/15	16%
Fillipino	1/2	4%
Latin American	1/3	4%

The second hypothesis was that SGM youth who belong to an ethnic minority would be more likely to engage in NSSI. This hypothesis was not supported, as the majority of those who self-injure reported to be White (76% of those who self-injure). Although multi-racial SGM youth were the second most likely to self-injure (16%), the percentage of SGM youth who self-injure was substantially lower.

Table 3.
Gender Identity and NSSI Engagement

Gender Identity	NSSI Frequency/ how many youth in demographic	Percentage of youth who engage in NSSI
Female	17/55	68%
Female to Male Trans (FTM)	3/3	12%
Gender Queer	2/12	8%
Transgender	2/3	8%
Male	1/35	4%

The third hypothesis was that those who identify as transgender would be more likely to engage in NSSI. The hypothesis was somewhat supported, as youth who identified as transgender (and those who identified as female to male trans) was the second most common identity who self-injure (8% identified as transgender, and 12% identified as female to male trans; total of 20%). However, the majority of SGM youth who self-injure identified as female (68%).

Table 4.
Age and NSSI Engagement

Age Category	NSSI Frequency/ how many youth in demographic	Percentage of youth who engage in NSSI
15-17	16/47	64%
18-22	5/25	20%
12-14	3/14	12%
23-29	1/29	4%

The fourth hypothesis was that SGM youth who were within the adolescent/ high school range (15 to 17 years of age) would be the most prevalent age group for engaging in NSSI. This hypothesis was supported, as 64% of SGM youth who self-injure were within the adolescent/ high school range.

Objective 2: NSSI and its relationship to risk factors/ stressors

The second objective was to explore the relationship between NSSI and risk factors/ stressors. Risk factors and stressors have been broken down into three categories:

(1) low self-perception, (2) lack of social relationships/ victimization, and (3) lack of support from community/ services. Within each of these categories, there are subgroups that provide more detail about the subject matter within each of these categories. Higher scores in this category suggest a higher level of stressors experienced (whether it be lack of support from the community or lack of social support). For all ANOVA and MANOVA analyses, Levene's test of homogeneity and Box's M tests measuring the equality of covariance assumptions were computed. Overall, most of these tests revealed non-significant results, suggesting the assumptions were met. However, in a few cases, there were significant findings, which suggest that the assumption was not met; these results should be interpreted with caution. Analyses where assumptions were not met will be specified. Refer to Appendix C for in-depth tables that describe the results of these tests.

The first hypothesis predicted that SGM youth who engage in NSSI would report experiencing more stressors (e.g., lack of support from community/ services, victimization, abuse). There were a variety of stressors that were accounted for in this study, including community stressors (e.g., lack of support from community or its services) and social stressors (e.g., victimization/ bullying, abuse, lack of social support). Analysis revealed that those who self-injure (M= 51.82, SD= 9.73) did not report significantly higher stressors in the community, than those who did not engage in NSSI (M= 49.44, SD= 10.09), $F(1, 118) = 1.110$, p= >.05. Upon looking further into the subgroups that make up this category (e.g., lack of community support, lack of school support) each analysis was non-significant, suggesting there were no differences in

experiencing a lack of community support from those who self-injure vs. those who do not.

Table 5.
Lack of Community Support and NSSI Engagement

Community Stressors:	Means	Analysis
Lack of Community Support	NSSI: *M*= 51.82 No NSSI: *M*= 49.44	$F(1, 118) = 1.110$, $p = .294$, $\eta^2 = .009$
Subgroups:		
Lack of Support from Community and its Services	NSSI: *M*= 52.601 No NSSI: *M*= 48.598	$F(1, 104) = 3.155$, $p = .079$, $\eta^2 = .029$
Lack of School Support	NSSI: *M*= 50.370 No NSSI: *M*= 49.897	$F(1, 104), = 0.40$, $p = .842$, $\eta^2 = .000$

Next, stressors stemming from a lack of social support, victimization, and abuse were analyzed to see whether there were any differences for those who engaged in NSSI. ANOVA results for the (lack of) social relationships section, which encompasses all interpersonal stressors, revealed that there were no significant differences between those who engage in NSSI and those who do not. Specifically, those who self-injure (*M*= 53.23, *SD*= 10.09), did not significantly differ in interpersonal stressors, compared to those who do not self-inure (*M*= 49.15, *SD*= 9.91), $F(1, 118) = 3.333$, $p = >.05$. However, further MANOVA analysis on the subcategories within a lack of social relationships revealed that there was a statistically significant difference in experiences of social stressors based on self-on NSSI engagement, $F(1, 112) = 3.039$, $p = <.05$, Wilk's $\lambda = .900$. Within these subcategories, those who engaged in NSSI (*M*= 55.49, *SD*= 10.25) were significantly more likely to experience instances of abuse (physical and emotional) from their family, compared to those who did not engage in NSSI (*M*= 48.63, *SD*= 9.54), $F(1, 112) = 9.518$, $p = <.05$. So, the hypothesis that predicted those who use NSSI were more

likely to have social stressors was partially supported, as they were more likely to experience abuse in comparison to those who did not engage in NSSI. However, no other forms of social stressors were significantly different from one another.

Table 6.
Lack of Social Support and NSSI Engagement

Social Stressors:	Means:	Analysis
Lack of Social Support	NSSI: *M*= 53.23 No NSSI: *M*= 49.15	*F*(1, 118)= 3.333, *p*= .070, η^2 = .027
Subgroups:		
Abuse	NSSI: *M*= 55.49 No NSSI: *M*= 48.63	*F*(1, 112)= 9.518, *p*= .003, η^2 = .078*
Lack of Family Support	NSSI: *M*= 53.41 No NSSI: *M*= 49.099	*F*(1, 112)= 3.626, *p*= .059, η^2 = .031
Difficulty Socializing	NSSI: *M*= 51.96 No NSSI: *M*= 49.21	*F*(1, 112)= 1.543, *p*= .217, η^2 = .014
Victimization/ Discrimination	NSSI: *M*= 51.90 No NSSI: *M*= 49.19	*F*(1, 112)= 1.421, *p*= .234, η^2 = .013

Note. Asterisk (*) indicates a statistically significant finding at the .05 level.

The second hypothesis was that those who engage in NSSI would be more likely to report a higher engagement in other risky/ risk-taking behaviours. This hypothesis was supported, as those who engaged in NSSI (*M*= 62.30, *SD*= 8.14) reported significantly higher risk-taking behaviours compared to those who did not engage in NSSI (*M*= 46.78, *SD*= 7.75), *F*(1, 118) =77.734, *p*= <.05. MANOVA analyses were run on the individual items that fell into the risky behaviours/ risk-taking group. Results indicated that there was a significant difference in the amount of risky behaviours SGM youth were engaging in, depending on whether they self-injured or not, *F*(1, 94) =12.966, *p*= <.05, Wilk's λ =.424. Among all of the individual risky behaviours, the following risk-taking items were more commonly reported among those who engage in NSSI: 'attempted suicide' (*p*= <.05), 'cut myself' (*p*= <.05), 'skip eating' (*p*= <.05), 'over eat' (*p*= <.05), 'use alcohol to

cope' (p= <.05), and 'use drugs other than alcohol to cope' (p= <.05). However, it is important to note that several analyses revealed significant Levene's tests: 'cut myself', 'use of drugs other than alcohol to cope', 'use alcohol to cope', 'risky/ unsafe sex', and 'bullied others'. Furthermore the Box's M Test for the MANOVA analysis was also significant, which suggests that these results should be interpreted with caution.

Table 7.
Risky Behaviours and NSSI

Risky Behaviours	Means	Analysis
Attempt Suicide	NSSI: M= 58.71 No NSSI: M= 47.10	F(1, 94) =27.582, p= .000, η^2 =.227*
Cut Myself	*NSSI: M= 62.17* *No NSSI: M= 45.91*	*F(1, 94) =88.421, p= .000, η^2 = .485**
Skip Eating	NSSI: M= 58.86 No NSSI: M= 48.06	F(1, 94) =22.257, p= .000, η^2 = .191*
Drugs other than alcohol to cope	*NSSI: M= 58.20* *No NSSI: M= 48.10*	*F(1, 94) =19.106, p= .000, η^2 = .169**
Alcohol to cope	*NSSI: M= 55.15* *No NSSI: M= 47.68*	*F(1, 94) =10.567, p= .002, η^2 = .101**
Over Eat	NSSI: M= 54.87 No NSSI: M= 48.81	F(1, 94) =6.153, p= .015, η^2 = .061*
Risky/ Unsafe Sex	*NSSI: M= 53.79* *No NSSI: M= 48.95*	*F(1, 94) =3.828, p= .053, η^2 = .039*
Run away from home	NSSI: M= 51.16 No NSSI: M= 49.56	F(1, 94) =.389, p= .535, η^2 = .004
Bullied Others	*NSSI: M= 50.75* *No NSSI: M= 49.48*	*F(1, 94) =.275, p= .601, η^2 = .003*

Note. Italicized print indicates that homogeneity of variance or equality of covariances assumption was violated.

The third hypothesis was that those who engage in NSSI would have more negative perceptions of themselves, including reporting more mental health issues. This hypothesis was supported, as those who engaged in NSSI (M= 60.02, SD= 6.11) endorsed significantly more negative perceptions of themselves, in comparison to those who do not self-injure (M= 47.36, SD= 9.19), F(1, 118) =42.446, p= <.05. The MANOVA results for

the subgroups suggest that those who self-injure had significantly higher scores on their at-risk self-perceptions of themselves, compared to those who did not self-injure, $F(1, 116) = 18.727$, $p = <.05$, Wilk's $\lambda = .545$. In particular, youth who engaged in NSSI reported to experience significantly more school problems ($p = <.05$), mental health issues ($p = <.05$), physical health issues (related to mental health issues) ($p = <.05$), and risky behaviours ($p = <.05$) (see hypothesis 2) compared to those who do not self-injure. The assumption of homogeneity of variances was violated for the following areas: 'risk self-perceptions', and for the subgroup 'mental health', which suggests caution when interpreting these results.

Table 8.
Risk Self-Perceptions and NSSI

Risk Self-Perceptions	Means	Analysis
Risk Self-Perceptions	*NSSI: M= 60.02* *No NSSI: M= 47.36*	*F(1, 118) =42.446, p= .000,* $\eta^2 = .265$
Subgroups:		
School Problems	NSSI: *M*= 55.82 No NSSI: *M*= 48.15	*F*(1, 116) =13.330, *p*= .000, η^2 =.103*
Mental Health	*NSSI: M= 59.53* *No NSSI: M= 47.46*	*F(1, 116) =36.620, p= .000,* $\eta^2 = .240$*
Physical Health	NSSI: *M*= 57.18 No NSSI: *M*= 47.68	*F*(1, 116) =21.365, *p*= .000, η^2 = .156*
Risky Behaviours	NSSI: *M*= 62.30 No NSSI: *M*= 46.76	*F*(1, 116) =76.377), *p*= .000, η^2 = .397*
Shame	NSSI: *M*= 53.30 No NSSI: *M*= 49.01	*F*(1, 116) =3.701, *p*= .057, η^2 = .031

Objective 3: NSSI engagement and its relationship to resilient factors

The third objective was to explore the relationship between NSSI engagement and resilient factors, including (1) having a higher self-perception of themselves, (2) ability to build and maintain relationships, and (3) more likely to feel well supported by the

community that surrounds them. Higher scores within this category suggest that the youth possess more resilient traits and beliefs.

The first hypothesis was that those who do not self-injure would possess a higher/ stronger perception of themselves, which includes having stronger mental health, good coping abilities, and show more positive outcomes. This hypothesis was supported, as overall, those who refrain from self-injury (M= 51.86, SD= 8.52) had significantly higher self-perceptions of themselves, in comparison to those who self-injure (M= 42.82, SD= 12.17), $F(1, 118)= 18.371$, $p= <.05$. Further analyses into the subgroups (e.g., good physical and mental health, positive coping skills, and positive outcomes) that amalgamate the resilient self-perceptions group suggested that there were significant differences on youth's self-perceptions of themselves, depending on whether or not they engaged in NSSI, $F(1, 118)= 7.097$, $p= <.05$, Wilk's $\lambda = .845$. Analyses on the subgroups indicated that there were significant differences for self-perceptions regarding good health ($p= <.05$), adaptive coping skills ($p= <.05$), and positive outcomes ($p= <.05$); in which, those who refrained from self-injury reported higher values in these areas. The Levene's test of homogeneity of variance assumption was not met for the 'positive outcomes' subgroup, which suggests this should be interpreted with caution.

Table 9.
Resilient Self-Perceptions and NSSI Engagement

Resilient Self-Perceptions	Means	Analysis
Self-Perceptions	NSSI: M= 42.82 No NSSI: 51.86	$F(1, 118)= 18.371$, $p= .000$, $\eta^2 = .135$*
Subgroups		
Good Health	NSSI: 42.92 No NSSI: 51.78	$F(1, 118)= 17.627$, $p= .000$, $\eta^2 = .130$*
Adaptive Coping Skills	NSSI: 42.93 No NSSI: 51.87	$F(1, 118)= 17.933$, $p= .000$, $\eta^2 = .132$*
Positive Outcomes	*NSSI: 46.39*	*F(1, 118)= 4.221, p= .042,*

	No NSSI: 50.97	$\eta^2 = .035$*

The second hypothesis was that those who refrained from NSSI would report more resilient traits in the social domain, in which they could build and initiate relationships, and use these relationships as a form of social support, in comparison to those who self-injure. This hypothesis was supported, as those who did not engage in NSSI (*M*= 51.60, *SD*= 8.97) had significantly higher scores of social resilience compared to those who did self-injure (*M*= 43.54, *SD*= 11.29), *F*(1, 118)= 14.287, *p*= <.05. MANOVA analysis on the subgroups revealed that there were significant differences in social resilience depending on whether or not youth engaged in NSSI, *F*(1, 118)= 5.135, *p*= <.05, Wilk's λ = .883. In particular, youth who refrained from engaging in NSSI were significantly more likely to endorse statements that they were able to build and maintain positive relationships with friends (*p*= <.05), family (*p*= <.05), and use these relationships as a form of social support (*p*= <.05).

Table 10.
Social Resilience and NSSI

Social Resilience	Means	Analysis
Social Resilience	NSSI: *M*= 43.54 No NSSI: *M*= 51.60	*F*(1, 118)= 14.287, *p*= .000, $\eta^2 = .108$*
<u>Subgroups:</u>		
Social Support	NSSI: *M*= 44.06 No NSSI: *M*= 51.49	*F*(1, 118)= 11.870, *p*= .001, $\eta^2 = .091$*
Family	NSSI: *M*= 44.79 No NSSI: *M*= 51.30	*F*(1, 118)= 8.900, *p*= .003, $\eta^2 = .070$*
Friends	NSSI: *M*= 45.87 No NSSI: *M*= 51.01	*F*(1, 118)= 5.383, *p*= .022, $\eta^2 = .044$*

The final hypothesis predicted that those who refrain from self-injury engagement would more likely report that they feel well-supported from the community and its services (e.g., medical, legal, educational, etc.), and were able to be leaders in their

community. This hypothesis was not supported, as there were no significant differences in community support/ leadership between those who engaged in NSSI and those who did not, $F(1, 118)= .011$, $p= >.05$. There were three subgroups within this category: support from community services, access to resources, and ability to be leaders/ activists in the community. There were no significant differences between the two self-injury conditions on any aspect of community support or leadership roles, $F(1, 111)= .892$, $p= >.05$, Wilk's $\lambda = .883$.

Table 11.
Community Support and NSSI

Community Support	Means	Analysis
Community Support	NSSI: *M*= 49.81 No NSSI: *M*= 50.05	$F(1, 118)= .011$, $p= .916$, $\eta^2 = .000$
Subgroups:		
Resources	NSSI: *M*= 52.01 No NSSI: *M*= 49.38	$F(1, 111)= 1.265$, $p= .263$, $\eta^2 = .011$
Leader/ activist in community	NSSI: *M*= 51.38 No NSSI: *M*= 49.56	$F(1, 111)= .599$, $p= .441$, $\eta^2 = .005$
Community Services	NSSI: *M*= 49.13 No NSSI: *M*= 50.28	$F(1, 111)= .233$, $p= .630$, $\eta^2 = .002$

Overall, the results revealed that SGM youth are likely to engage in NSSI, with 20% of the SGM youth reporting engagement of NSSI. From looking at the demographics within SGM youth, it was found that those who identify as female, and/ or bisexual, and/ or Caucasian, and/ or between the ages of 15-17 years of age are the most likely to engage in NSSI. In terms of stressors that are associated with engagement of NSSI, only previous history of familial abuse was reported to be more likely in those who self-injure. However, these results revealed that those who engage in NSSI were significantly more likely to be engaging in other risk-behaviours, and have lower self-perceptions of their overall health and thoughts regarding themselves. In contrast, those

who were able to refrain from self-injury, were more likely to possess higher perceptions of themselves, have a stronger social network and social support.

Chapter 5: Discussion

Research on NSSI in SGM youth has been significantly under researched, despite the fact that research continues to reveal that SGM youth have higher prevalence rates of NSSI (Klonsky et al., 2014; Sornberger et al., 2013; Muehlenkamp et al., 2011). Furthermore, almost all studies that include SGM populations in research for NSSI tend to place all SGM youth into one category (vs. their heterosexual/ cisgender peers). Although this is a useful preliminary step for identifying target populations that may be at-risk for engaging in NSSI, it is also problematic because SGM youth are diverse in terms of sexual orientation and gender identity, and these individual differences are not being adequately captured and investigated by research with SGM youth in terms of NSSI engagement.

In addition, research on NSSI predominantly seeks to understand associated risks and traits that are commonly found in those who self-injure. However, it is also important to understand the various stressors that may be influencing youth to engage in risky behaviours (such as NSSI), and the resilience factors/ protective factors that help youth refrain from engaging in NSSI. Thus, the purpose of this research is to investigate NSSI among SGM youth. Specifically, this study assessed the demographics of those who self-injure among SGM youth, the various stressors and risk-taking behaviours associated with NSSI, and the resilience factors in those who were able to refrain from engaging in NSSI. A summary of findings, strengths, limitations and future directions is discussed below.

Objective 1: NSSI Demographics

The prevalence rate among SGM youth in this sample was 20.66% (*n*= 25). Interestingly, the prevalence rate of 20.66% falls more into the prevalence rate of the general population, rather than what research suggests the prevalence rate is for SGM youth who self-injure (33%-63%; Deliberto & Nock, 2009; Muehlenkamp et al., 2015; Reisner et al., 2014). Thus, the prevalence rate of NSSI in SGM youth was still evident at 20.66%, but not as high as typically expected among SGM youth. This is likely due to the high prevalence of variously resilient youth that took part in this survey. As part of the recruiting process, the GSA conference was a major recruitment piece, where many proactive, resilient SGM youth came from all across the province of Alberta. Consequently, the NSSI prevalence rate among SGM youth for this sample may be underrepresented.

The first hypothesis that predicted youth who identified as bisexual or questioning would be more likely to engage in NSSI was somewhat supported. The results revealed that bisexual youth were the most likely to engage in NSSI (28% of those who self-injure). This is consistent with the literature, which suggests that bisexual youth tend to experience additional and unique minority stressors (Brewster et al., 2013; Galupo, 2006; Sornberger et al., 2013). For example, those who identify as bisexual are more likely to experience prejudice, discrimination, and harassment, also known as biphobia. Biphobia includes a variety of unfounded stereotypes and negative ideas about bisexual individuals; these may include perceiving bisexuals to be immature, indecisive, unstable, hypersexual among other alleged characteristics; Brewster et al., 2013). However, in addition to experiencing prejudice and biphobia from their heterosexual/

cisgender peers, they are also likely to experience biphobia from other SGM peers as well, which creates unique and difficult circumstances for bisexual youth (Brewster et al., 2013; Sornberger et al., 2013). Through the experience of numerous stressors, it may make youth more inclined to engage in risk-taking and risky behaviours (e.g., NSSI) to help cope with these stressors, which may provide a rationale for why research is consistently categorizing bisexual youth as having higher prevalence rates for self-injury (Sornberger et al., 2013; Whitlock, Eckenrode, & Silverman, 2006).

However, although research suggested that NSSI would also be more prevalent in youth who were questioning (Sornberger et al., 2013; Whitlock et al., 2006), these results were not found in this study. Considering questioning youth are also susceptible to experiencing prejudice and stereotypes from the heterosexual/ cisgender population and the SGM community (similar to bisexual youth), it would be conceivable that questioning youth would have higher NSSI prevalence rates as well. However, there were not enough questioning youth in this sample to provide more realistic results, and therefore it is likely that the percentage of questioning youth who self-injure was under-represented in this sample.

Interestingly, the second most prevalent sexual orientation identity was not a particular identity, rather it was 'did not specify preference' where 16% of those who self-injured fell into this category. Given that SGM youth were able to select more than one identity, it was common for youth to select more than one. Although they were asked to select the one identity they most preferred/ identified with, 8.1% of the sample did not specify their sexual orientation identify category. For individuals who did not specify their category, this suggests that these SGM youth selected two or more identities, or

perhaps they were unsure which identify they most identified with. Drawing from the literature on bisexual and questioning youth, the common theme from the stigma typically experienced is that SGM youth are 'unsure' or 'indecisive' of regarding their identities (Brewster et al., 2013; Sornberger et al., 2013). It is plausible that this same rationale may be applied to those who identify with more than one identity. These experienced stressors of prejudice and discrimination may contribute to feelings of stress and risk-taking behaviours, such as NSSI. Future research analyzing the impacts of two or more identities would be beneficial to understanding the unique challenges that these youth experience.

The second hypothesis that predicted transgender youth would be more inclined to engage in NSSI was somewhat supported. Previous research on NSSI and gender identity has been mixed, with some research suggesting females are more likely to engage in NSSI (Bresin & Schoenleber, 2015; Laye-Gindhu & Schonert-Reichl, 2005; Ross & Heath, 2002; Whitlock et al., 2011) and others that suggest there are no differences in gender and NSSI behaviours (Andover, Pepper, & Gibb, 2007; Gollust, Eisenberg, & Golberstein, 2008; Heath et al., 2008; Klonsky et al., 2014; Muehlenkamp & Gutierrez, 2004). However, Whitlock and colleagues (2011) found that SGM females were significantly more likely to report NSSI compared to their male peers, regardless of their sexual orientation. This would suggest that SGM youth who identify as females may be more at-risk to engaging in NSSI. The results from this study indicated that the majority of SGM youth who engaged in NSSI identified as female, as 68% of those who self-injure identified as female. Another potential rationale for why NSSI is more common in females is due to the socialization process Western cultures have adopted:

females tend to direct their emotions internally versus boys who can direct their emotions externally. NSSI can be conceptualized as an internalized direction of negative emotions, and therefore, this may explain why girls may be more likely to engage in NSSI (Laye-Gindhu & Schonert-Reichl, 2005; Ross & Heath, 2002).

There has also been some research that indicates transgender youth are more likely to self-injure (Arcelus et al., 2016; Claes et al., 2015; Walls et al., 2010). A study conducted by Claes and colleagues (2015), which investigated the relationship between trans youth and NSSI, reported that trans male (FTM) youth were the most at-risk for engaging in NSSI. The results of this study support these findings, as they showed that among those who self-injure, 12% identified as female to male trans (FTM) youth, and 8% identified as transgender.

Applying minority stress theory (Meyer, 2003) to trans youth, they commonly experience stigma and prejudice for their gender nonconformity (Claes et al., 2015). As such, trans youth are therefore more likely to experience a variety of stressors that stem from discrimination and prejudice. To help cope with these stressors, trans youth may sometimes turn to NSSI. Research that sought to understand the functions of NSSI for trans youth found emotional release to be the most salient reason for NSSI behaviours (Claes et al., 2015; Walls et al., 2010). This function was followed by stimulation and self-hate, which may result from internalized transphobia. In sum, trans youth are an at-risk population for engaging in NSSI.

The third hypothesis predicted SGM youth who also belonged to an ethnic minority would be more likely to engage in NSSI. This hypothesis was not supported, as the majority who engaged in NSSI (76%) were of White ethnicity. The existing literature

supports this finding, as studies often reveal that NSSI occurs most often among Caucasian (white) youth (Klonsky, 2011; Klonsky & Muehlenkamp, 2007; Klonsky et al., 2014). This hypothesis was formed on the basis of minority stress theory, which suggests that the more stress and adversity one experiences, the more risk-taking and negative health and mental health effects are likely to occur (Meyer, 2003). Although this hypothesis was not supported, SGM youth who were multi-racial were the second highest prevalent ethnic group, with 16% of those who self-injure being multi-racial.

There are two different hypotheses that provide rationale for how ethnic minority youth may experience having a SGM identity (Meyer, 2010). The first is the risk hypothesis, which suggests that SGM youth who also belong to an ethnic minority will experience greater stress, as they would be exposed to two different types of discrimination: (1) rejection from their ethnic minority community (homo/bi/transphobia), and (2) rejection from the SGM community (racism or ethnocentrism; Craig & Keane, 2014; Meyer, 2010). Consequently, these circumstances can cause a significant amount of stress and psychological distress, potentially leading youth to engage in risk-taking behaviours, such as NSSI.

Contrary, the second hypothesis is the resilience hypothesis, which suggests that because ethnic minority youth already had to overcome adversity and potential trauma in their experiences with prejudice and discrimination based on race, it is likely they have already developed the resilience and ability to cope with stressors (Meyer, 2010). In fact, this hypothesis predicts that ethnic minority SGM youth would actually fare better than their Caucasian SGM peers (Moradi et al., 2010). Considering ethnic minority youth tend to experience more stressors, yet tend to receive less support and resources in comparison

to their Caucasian SGM peers, future research should investigate how ethnic SGM youth are able to navigate through their stressors, and show indicators of thriving regardless of the adversity and traumatic experiences they have been through.

It is important to note that the prevalence rates for NSSI among ethnic minorities is likely an underestimate. Upon looking at the demographics in the sample, the sample was predominantly Caucasian (white), with 69.1% of the sample describing themselves as white; furthermore, there were several important ethnicities that there was no data for (e.g., Canadian-African/ Black, East-Indian, etc.), which is not representative of Canada as a whole. Thus, there should be future research that specifically focuses on multiple ethnicities, aiming to gain a more reliable and valid estimate of ethnic SGM prevalence rates of NSSI, and to better understand the relationship between ethnic SGM youth and NSSI engagement.

The last hypothesis was that SGM youth who were in the adolescent/ high school age (15 to 17 years of age) would be the most likely to be engaging in NSSI. The results supported this hypothesis, as 64% who self-injured were between 15-17 years of age. The second highest age category was emerging adults, aged 18-22 years of age, with 20% of NSSI youth falling in this age bracket. Research consistently reports of highest NSSI engagement between adolescents and young adulthood (Klonsky & Muehlenkamp, 2007; Klonsky et al., 2014; Laye-Gindhu & Schonert-Reichl, 2005; Nock et al., 2006), with onset typically occurring around 13 or 14. Research on SGM coming-out experiences has found that SGM individuals are becoming increasingly likely to come-out earlier than before, many of whom explore and reveal their identities during adolescence (Riley, 2010). Considering the potential stressors that are associated with coming out (e.g., loss

of family/ friend support, acts of discrimination/ prejudice, etc.), it is likely that SGM youth are engaging in NSSI to help cope with these stressors. Overall, SGM adolescents (15-17; high school ages) represent a key at-risk group for NSSI engagement.

Objective 2: NSSI and its Relationship to Stressors/ Risk-Taking Thoughts and Behaviours

The second objective was to understand how NSSI engagement was related to the experience of a variety of stressors, risk-taking behaviours, and at-risk thoughts (e.g., low perceptions of themselves). As minority stress theory suggests, SGM youth are likely to experience a variety of stressors that stem from discrimination and prejudice, unfortunately leading many SGM youth to live through adversity and trauma (Meyer, 2003). Based on this theory, it was hypothesized that SGM youth would experience a lack of community support (e.g., lack of/ inadequate support via medical, legal, counselling services, lack of access to services, lack of support from religious institutions) as well as a lack of support from their schools. However, this hypothesis was rejected, as there were no significant differences between those who engage in NSSI and those who do not in their experiences of a lack of community support. However, there were trends in the data that suggest that although there were no significant differences, SGM youth who engaged in NSSI were more likely to perceive the community to be less supportive of their needs, in comparison to those who did not engage in NSSI. The subgroup which contained items regarding a lack of / inadequate support for its services, and a lack of support from religious institutions was approaching significance (p= .079), which suggests that SGM youth who self-injure may not be receiving enough support or inadequate support from the services and institutions that exist in the community.

Multiple studies suggest that this often tends to be the case, as many SGM youth experience stressors within the community, with limited access to healthy and supportive services and resources (Kelleher, 2009; Page, Lindahl & Malik, 2013; Saewyc, 2011).

Another stressor that SGM youth commonly experience is direct victimization (e.g., bullying) and a lack of social support from friends and/ or family. Although it was predicted that SGM youth who engage in NSSI would report a higher score in victimization and a lack of social support (family and friends), there was no support for this hypothesis as there were no significant differences for social stressors as a whole. However, there were significant differences in abuse (physical and emotional abuse from a family member), where SGM youth who engage in NSSI were significantly more likely to report experiences of abuse, compared to those who did not engage in NSSI. For SGM youth, familial abuse sometimes perpetuates due to prejudice and negative biases against SGM identities, which make the home an unsafe place (Grace, 2015). As previous research suggests, those with a history of childhood abuse are more likely to engage in NSSI (Glassman et al., 2007; Martin et al., 2016; Whitlock et al., 2006). This, unfortunately, can negatively affect one's ability to develop healthy and adaptive emotion regulation skills that are needed to overcome obstacles and adversity, resulting in an individual being more likely to engage in maladaptive coping mechanisms, such as NSSI (Martin et al., 2016).

Though there were no significant findings for the remaining social stressors, there were trends that suggest SGM youth who self-injure experience more social stressors compared to those who do not engage in self-injury. In particular, those who engaged in NSSI had a higher likelihood of reporting the following social stressors: lack of family

support, experiences of victimization/ discrimination, and difficulty socializing with peers.

Often times, these experiences of victimization/ harassment, and a lack of social support are related to the stigma and prejudices that exist toward SGM identities (Huebner, Rebchook & Kegeles, 2004; Kelleher, 2009). Youth who are forced to endure negative environments may consequently turn to NSSI to help them cope with their negative emotions, or cope with feelings of self-hate/ punishment. In fact, research has discovered a link between NSSI and being the victim of bullying/ victimization, whereby those who experience bullying/ victimization are more likely to engage in NSSI (Barker et al., 2008; Jantzer et al., 2015; Hay & Meldrum, 2010; Noble et al., 2011). However, in this case, although there is a trend that suggests NSSI SGM youth may be more likely to experience these social stressors, there is no significant support for this hypothesis.

Secondly, it was hypothesized that those who engaged in NSSI would be more likely to engage in other risky behaviours. The results revealed that engagement of NSSI was significantly related to an increase in several risky behaviours, including attempted suicide, cutting themselves (form of NSSI), skipping eating, over eating, using alcohol to cope, and using drugs other than alcohol to cope. Previous research has also found associations with NSSI and these risky behaviours: attempted suicide (Alfonso & Kaur, 2012; Fox et al., 2015; Grandclerc et al., 2015; Klonsky et al., 2014; Klonsky, May & Glenn, 2013; Muehlenkamp, Walsh & McDade, 2010; Wilkinson, 2011), eating problems/ eating disorder issues (Klonsky et al., 2011; Paul et al., 2014), and alcohol and substance use problems (Goldstein et al., 2009; Whitlock et al., 2006).

Although no other subgroup had significant differences based on NSSI engagement (bullied others, risky/ unsafe sex, run away from home), there was a trend whereby those who engaged in NSSI had higher means (and thus had a higher likelihood of engaging in these behaviours), compared to those who did not engage in NSSI. These results suggest that SGM youth who self-injure are also putting themselves at more risk by engaging in other risky and dangerous behaviours. Considering engagement in any one of these risky behaviours can be dangerous and harmful to youth, engagement in a combination of these risky behaviours is alarming for their mental and physical health. Knowing that SGM youth who self-injure are more likely to engage in other risky behaviours, it is important that intervention and prevention initiatives take into account the level of high-risk behaviours SGM youth can be engaged in, and intervene accordingly.

Lastly, there were significant differences in how youth perceived themselves, with those who self-injured being significantly more likely to have negative perceptions on different aspects of their life altogether (e.g., health, mental health, school, etc.). These results suggest that SGM youth who self-injure are significantly more likely to perceive themselves as having issues in each of these domains, and are likely engaging in NSSI to help cope with these issues.

School issues included problems with academics (difficulty achieving) and absenteeism in school. There have not yet been any studies that have found a link between NSSI engagement and school issues; however, for SGM youth who do not feel adequately supported or safe in their school environments, they are more likely to be at-risk for lower academic performance, absenteeism, and dropping out of school (Walls,

Kane & Wisneski, 2010; Wernick, Kulick, & Inglehart, 2013). This may suggest that SGM youth who engage in NSSI may perceive the school environment to be a form of stress, which was measured by their higher reports of issues in school performance and attendance. Consequently, this added stress might be contributing to the negative emotions; in turn, youth may be engaging in NSSI to deal with their experiences of school stress in addition to their other stressors.

SGM youth who engage in NSSI were also significantly more likely to report that they perceive themselves to have more health issues (physical and mental health). These health issues tended to revolve around mental health issues, as almost all of the physical health items were common psychosomatic symptoms that were related to mental health issues such as headaches, stomach aches, and difficulty sleeping.

These results are not surprising, considering much research has documented that both SGM youth populations and NSSI populations are more likely to experience mental health issues. Minority stress theory (Meyer, 2003) implies that when SGM youth are exposed to stressors and experiences of adversity, these negative and traumatic experiences can lead youth to face poor mental and physical health outcomes, such as depression, anxiety, psychotic symptoms, suicidal ideation, and other forms of psychological distress. (Burgess et al., 2007; Goldbach, Fisher & Dunlap, 2015; Greene & Britton, 2014; Hatzenbuehler, 2009; Kelleher, 2009). In addition to experiencing mental health problems, it is also more likely that SGM youth will engage in maladaptive coping mechanisms (like NSSI) to help cope with these negative experiences (Birkett et al., 2015; Hatzenbuehler, 2009).

Furthermore, those who engage in NSSI are also likely to experience psychological difficulties and mental health issues (Sutherland et al., 2013). These include emotion dysregulation, negative emotionality, emotional distress, anxiety, depression, self-directed negative emotions, self-criticism, and self-hate (Fox et al., 2015; Klonsky et al., 2013; Kress et al., 2012; Nock et al., 2006; Nock & Joiner, 2012; Sutherland et al., 2013). Considering common functions of NSSI are to alleviate negative emotions and for self-punitive reasons, it can be assumed that youth who engage in NSSI experience an overwhelming amount of negative emotions and psychological distress, and are not able to cope adaptively with these issues. So, when combining these two at-risk groups (SGM youth who self-injure), the probability for mental health issues is more likely to increase, which supports the findings of the current study.

Overall, there were no significant differences among SGM youth who self-injure and refrain from self-injury in almost all forms community and social stressors that SGM youth are likely to experience, with the exception of family abuse. However, there were trends that suggest that even though there were no significant differences, SGM youth who engage in NSSI may experience slightly more community and social stressors. However, SGM youth who self-injure were significantly more likely to engage in a variety of risky behaviours (e.g., attempted suicide, cutting, skip eating, over eating, using alcohol to cope, and using drugs other than alcohol to cope), and were also significantly more likely to have lower perceptions of their issues in school, and their overall mental and physical health.

Objective 3: NSSI and Resilient/ Protective Factors

The third objective was to explore the nature of NSSI engagement and resilient/ protective factors. This research is important in identifying protective factors for preventing self-injury among SGM youth. There were three different levels of resilient factors that were assessed: (1) self-perceptions, (2) social resilience, and (3) community support. Although research tends to focus on the stressors and risks commonly experienced by SGM youth, it is important to acknowledge that the majority of SGM youth are able to grow into resilient youth (Grace, 2015; Mustanski, Newcomb & Garofalo, 2011; Wexler, DiFluvio & Burke, 2009). Research has made calls to understand how these youth are able to grow into resilience by identifying protective/ resilient factors, so that this information can be generalized to helping other SGM youth grow into resilience as well (Reisner et al., 2014)

First, it was hypothesized that SGM youth who refrained from engaging in NSSI would be more likely to have healthier perceptions of themselves (including their physical and mental health, their ability to cope, and more positive outcomes). This hypothesis was supported, as youth who refrained from NSSI had significantly higher self-perceptions of themselves, compared to those who engaged in NSSI. These results suggest that those who did not use self-injury were more likely to perceive they had stronger mental health/ physical health, more adaptive coping skills, and more positive outcomes. These results also imply that those who perceive their personal mental health and coping abilities to be stronger are more likely to be protected from engaging in NSSI (e.g., refraining from engaging in the behaviour).

Considering one of the most common functions of NSSI is to help alleviate negative emotions (Klonsky, 2007), it is comprehensible that the results revealed that

those who perceive their mental health status to be strong, *and* are able to use adaptive coping mechanisms to overcome difficult circumstances do not have to resort to using NSSI. Furthermore, those who perceive they experience more positive outcomes are also more likely to refrain from self-injury. There have been a few studies that investigated the reasons why youth halt NSSI behaviours. In sum, it was often reported that NSSI engagement stopped when distress was relieved, treatment for mental health issues was completed (e.g., depression and anxiety) and/ or they found alternative ways to cope with their negative emotions and experiences (Klonsky & Glenn, 2008; Sinclair & Green, 2005; Turner, Chapman & Gratz, 2014). Thus, it is logical that those who already have adaptive coping skills and strong mental health are able to refrain from NSSI because NSSI does not have a purpose for these youth. Although it is more difficult to alter one's mental health without support, it may be helpful for SGM youth who self-injure to undergo intervention initiatives that focus on learning more adaptive coping skills that could be used to replace NSSI behaviours.

Although there have not been any research studies that have looked at positive outcomes as a protective factor against NSSI, it has been found that a strong belief in life's possibilities are protective factor for NSSI engagement (Alfonso & Kaur, 2012). These findings could be generalized to the findings of the current study, whereby youth who believe there is potential in their future, or believe they are on the right path to becoming successful, *may* possess more hope and determination to overcome any obstacles that lie in their paths.

The second hypothesis was that social resilience in SGM youth would be a protective factor for NSSI engagement, in which those who refrained from self-injury

would be more likely to report higher social resilience (e.g., ability to initiate and maintain relationships with friends, family, and use them as a form of social support). The results supported this hypothesis, as those who refrained from NSSI were significantly more likely to report higher social resilience, in their ability to build and maintain relationships with friends and family, and were also more likely to report that they could use their social relationships as a form of social support. This suggests that social resilience and social support may act as a protective factor against NSSI behaviours, where youth with a strong social support network may be less inclined to engage in NSSI. Previous research has found that positive (healthy) relationships can be a protective factor against NSSI behaviours (Klonsky & Glenn, 2008; Kress et al., 2012). Similarly, having social support like a family/ friend support or an adult mentor have also been identified as protective factors for SGM youth to overcome stressors and risk, and decreasing mental health symptoms (Blum, McNeely & Nonnemaker, 2002; Reisner et al., 2014; Ryan et al., 2010). Overall, support from family and friends, and the ability to use these relationships as forms of social support when in distress appears to be a protective factor against the use of NSSI among SGM youth.

The final hypothesis explored the nature of community support and NSSI engagement. It was predicted that SGM youth who refrained from self-injury would report more support from the community, and would be more likely to be a leader/ activist in their community. However, the results did not support this hypothesis, in which those who refrained from NSSI did not have significantly higher community support or involvement in comparison to those who engaged in NSSI. Though there were no significant findings, there were several interesting trends that emerged from the data.

In particular, youth who self-injured were more likely to report they were able to access resources from the community, and that they were more likely to be active in their community (e.g., being leaders and activists, taking issue with images and language disrespectful to SGM youth, and being leaders of their GSA or other support programs). This may suggest that although SGM youth may be involved in community programs and have access to resources, these may not protect youth against engagement of NSSI. This research question was exploratory, as there have not been any previous studies that have looked at the impact of community involvement/ support on NSSI engagement (Reisner et al., 2014; Saewyc, 2011). However, even though these results did not offer any support for the community acting as a protective factor, it is likely that certain programs/ aspects of community (e.g., arts-based outreach programs, SGM-inclusive camps such as Camp fYrefly, Institute for Sexual Minority Studies and Services- iSMSS, and the C.H.E.W. program) can foster resilience. Thus, future research should further explore this area to determine what aspects of community involvement/ community programs can serve as protective factors/ foster resilience among SGM youth.

There have been several protective factors that have been identified that can promote SGM youth to refrain from engaging in NSSI. In particular, youth who had higher perceptions of their health (physical and mental health), had adaptive coping skills, and experienced more positive outcomes, were significantly more likely to refrain from engaging in NSSI. Furthermore, youth who were able to have healthy and positive relationships with friends and family, and rely on these social networks for social support, were also significantly more likely to refrain from engaging in NSSI. However,

the current study also revealed that there were no protective factors identified within the community setting.

Contributions

This study addressed many of the gaps in the literature surrounding NSSI engagement among SGM youth. Even though SGM populations are commonly identified as an at-risk group for NSSI, there is a dearth of research in this domain. Moreover, most research that includes SGM populations tends to aggregate them into one category instead of teasing apart the unique identities (sexual orientation and gender identities). The survey that was used in this study involved research and pilot testing to ensure that the study was inclusive for all identities. This way, unique differences among SGM youth could be captured, and research regarding SGM youth and NSSI could be more representative of the nature of NSSI in SGM youth.

Too often in research, university samples are obtained out of convenience for the researchers. While there are many benefits to this like cost-efficiency and larger sample sizes, there is also a bias that comes with it, as the survey only reaches those who are in post-secondary education. When working with vulnerable youth (like SGM youth), it is crucial to acknowledge that these youth do not always have access to post-secondary education, and researchers are consequently missing valuable and valid data. This survey was created online so that SGM youth anywhere with Internet access would be able to participate in this study.

Furthermore, most research efforts focus on the risks and stressors SGM youth commonly encounter, but fail to recognize and study how SGM youth are also able to grow into resilience. Similarly, there is a lack of research on protective factors against

NSSI, even though research and identification of protection factors have important implications for prevention and intervention efforts. This is one of the first studies to examine the risk and resilience factors that are related to NSSI behaviours.

Limitations and Future Directions

While this study has its strengths, it also has several noteworthy weaknesses that should be addressed. One limitation was the nature of the sample that was obtained for this study. Even though the survey intended to be as inclusive as possible of all SGM identities, not all identities were captured in this study. Furthermore, some identities that were included had very few numbers (e.g., only 1 or 2 people), which does not allow the research to produce an accurate depiction of these youth. Reducing identity variance is a possible solution that could be used in future studies. Similarly, as most recruiting initiatives were held in Alberta, the majority of the participants resided in Alberta. As a result, the demographics (e.g., ethnicity in particular) of the survey were not sufficiently representative, which was its initial intention. Furthermore, the nature of the recruitment methods (e.g., using the GSA conference) likely created a bias due to more resilient research participants, compared to what may be found if SGM youth were randomly selected across Canada. Those who tend to attend the GSA conference were commonly very involved in their school programs, and were often the leaders of their GSA programs. It could therefore be argued that these youth may possess greater resilience, compared to other SGM youth. So, although there were some significant findings, it should be kept in mind that many of the participants demonstrated resilience already.

The sample for this thesis served as the pilot data for the national resilience survey that will continue into 2017. Recruitment efforts from all across the country will

be made to gain a better representation of Canadian demographics and all SGM identities. Efforts have also been made to translate the survey into French so that Francophone SGM youth can also participate. So, although there were some limitations for this particular sample, the next phase of the national survey will likely obtain a more representative sample, with goals of reaching upwards of 1000+ SGM youth.

There were also flaws in the way engagement of self-injury was queried in the survey. Although using the words, "I hurt myself on purpose" implies self-harm, it is unknown whether participants interpreted this to mean NSSI. For example, they could have interpreted this item to mean they hurt themselves on purpose emotionally through their poor choices. Furthermore, more information regarding the frequency of NSSI (e.g., engaged in NSSI once vs. frequently) and the functions of why they self-injured (e.g., reduce negative affect, self-punishment, self-hate, etc.) would be useful to understand the severity and rationale of the behaviour among SGM youth. Future research should dedicate efforts to understanding the nature of self-injury experience among SGM youth for deeper insight. Although research has focused efforts on frequency and functions of NSSI, the results may be different for SGM youth, and thus clarity on these issues are still needed.

It is useful to note that because the survey started with positive questions (e.g., questions on resilience) to help promote completion of the survey, this may have lead to a positive bias, in which it may have prompted individuals to respond more positively to the rest of the survey. This may also have skewed the results to a more positive lens.

Arguably, the biggest limitation of this study was that the survey used did not have any previous reliability or validity studies. While reliability statistics could be

calculated for this study, validity measures were not. Validity is imperative to any developed instrument, as it provides evidence that the survey is well founded in theory and that it measures what it intends to measure. Validity allows inferences to be made based on the results of the test/ survey. Thus, although this study discovered interesting results and novel results, it is important to keep in mind that the findings from this thesis are exploratory. Future research should continue to explore the relationship between SGM youth and NSSI engagement, using the findings of this study as a preliminary guide.

Although most of the assumptions were met for the ANOVA and MANOVA analyses, there were several instances where the Levene's test of homogeneity of variances and/ or the Box's M test for equality of covariance were significant, which suggests these assumptions were not met. (M)ANOVA is quite sensitive to the violation of these assumptions; as such, the results whereby these assumptions were violated should be interpreted with caution. Nonetheless, since these results were exploratory in nature, these results could still be used to inform future directions in furthering the research on NSSI among SGM youth. Alternatively, next steps for this study could include conducting transformations to address violations to theses assumptions.

Other issues also arose from using an on-line survey method. Although there are many benefits of using an online survey method, particularly when working with SGM youth, it also makes it difficult to gauge who is really participating in the survey. One way to monitor the kind of sample that's being obtained would to include a question that asks participants where they found out about the survey. This way, it can better gauge how/ where the sample was created. These issues were addressed by asking multiple

similar questions so that information could be cross-examined if needed (e.g., participant age, school grade, and occupation).

Conclusions

This thesis investigated the risk and resilient factors in NSSI engagement among SGM youth. SGM youth commonly experience numerous stressors that put them at-risk for engaging in risky behaviours (like NSSI) and mental health issues. However, although SGM youth common experience adversity and traumatic experiences, the majority of SGM youth are able to grow into resilience and overcome hardships. Thus, it was important to investigate both the associated risks and resilience traits among SGM youth. This thesis emphasized risk and resilient traits that were related to NSSI engagement, as NSSI behaviours are commonly found in SGM youth. This study identified numerous demographic variables of SGM youth who were more likely to engage in NSSI, namely bisexual youth, females, White/ Caucasian ethnicity, and adolescents aged 15-17 years of age. In terms of risk factors for NSSI engagement (among SGM youth), those with a history of abuse were more likely to self-injure. Furthermore, those who engaged in NSSI were also more likely to engage in other risky behaviours and have poorer perceptions of their school and overall health. On the other hand, those who were able to refrain from NSSI were more likely to have resilient self-perceptions of their health, coping skills, and were more likely to experience positive outcomes. In addition, they were more likely to possess social resilience, in which they had strong relationships with friends and family, and could rely on them for social support. Overall, much of this research was exploratory in nature, and revealed interesting results and trends in the data that would be worthwhile to inform future research in this area, along with prevention and intervention initiatives.

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Appendices

Appendix A

Resilience and Risk surveys, divided into three categories: (1) Self-perception, (2) Social Relationships, and (3) Community Support/ Society Systems and structures

Resilience Survey
Self-Perception (how youth view themselves/ their abilities to cope with stress), *Chronbach's alpha*= .905

1. Good physical health*
2. Good mental health*
3. Happy*
4. Hopeful*
5. I will not stay in an abusive home *
6. I live in a safe environment*
7. I will not stay in an abusive relationship*
8. I am stronger because of what I have been through*
9. I am more compassionate because of what I have been through*
10. I take courage from strong LGBTQ people who came before me*
11. I believe I can be successful*
12. I am comfortable in my own LGBTQ skin*
13. Dealing with an issue like racism or being poor helps me to deal with being LGBTQ*
14. I can deal with a setback when I have one**
15. I believe I can overcome difficulties in life**
16. I am able to make good decisions to be happy and healthy in my life as LGBTQ**
17. I can draw on past experiences and what I've learned to help solve my own problems**
18. I have more than one way to cope when life is hard**
19. I can be kind to myself when I struggle or make mistakes**
20. I am able to set goals that are possible to achieve**
21. I accomplish many things as an LGBTQ person***
22. I have succeeded/ plan to succeed in continuing my education***
23. I am able to help others understand what it's like to be LGBTQ***
24. I try to understand the issues bothering other LGBTQ youth so I can be caring and supportive***

* Good health (physical and mental health), *Chronbach's alpha*= .784
**Coping abilities, *Chronbach's alpha*= .861
***Positive outcomes/ leadership roles, *Chronbach's alpha*= .590

Social Relationships (these relationships pertain to family and friends only, and seek to understand whether they can use these relationships as a form of social support when needed), *Chronbach's alpha*= .778

1. I work to find LGBTQ and straight friends my age*
2. I am able to build friendships and relationships with other LGBTQ youth *
3. I am able to build friendships with straight youth*
4. I am able to build trusting relationships with adults*
5. I am close to those I consider family**
6. My family supports me as an LGBTQ person**
7. I can turn to others for help in solving my problems***
8. I have at least one adult I can count on for basic help and support***
9. I have at least one LGBTQ friend close to my age I can talk to for support***

* Ability to build friendships, *Chronbach's alpha*= .696
** Family relationships, *Chronbach's alpha*= .646
*** Ability to use social relationships as a form of social support, *Chronbach's alpha*= .472

Community/ Society structures support –society structures, institutions, services offered in the community –leader in the community, advocate for LGBTQ youth, community support, *Chronbach's alpha*= .861

1. Being part of GSA has really helped me*
2. Being part of an LGBTQ youth group in the community has really helped me*
3. My faith community accepts and supports me*
4. My family doctor supports me as an LGBTQ person*
5. My therapist/ counselor supports me as an LGBTQ person*
6. I am able to find LGBTQ resources in my school**
7. I am able to find LGBTQ resources in my community**
8. I am able to find LGBTQ resources online**
9. I challenge language and images not respectful of LGBTQ people***
10. I am a leader who helps other LGBTQ youth***
11. I am involved in my GSA***
12. I am involved in another LGBTQ youth outreach group***
13. I am able to be openly LGBTQ in my ethnic or cultural community*

* Support from community/ services, *Chronbach's alpha*= .734
**Resources, *Chronbach's alpha*= .603
***Involved in programs/ leader, *Chronbach's alpha*= .698

Risk Survey
Self-Perceptions (low self-perceptions of their overall health, and abilities), *Chronbach's alpha*= .955

1. I have trouble reading or learning*
2. I have trouble achieving at school*
3. I am often late for school*
4. I skip school*

5. I get suspended from school*
6. I have a physical disability***
7. I have a hard time sleeping***
8. I get sick easily***
9. I get sad or depressed**
10. I have mood swings**
11. I get anxious about things**
12. I get headaches***
13. I have trouble coping with everyday things**
14. I have trouble controlling or expressing my anger**
15. I feel afraid**
16. I get stomach aches***
17. I don't care about things**
18. I hate myself**
19. I don't feel my life will get any better**
20. I feel ashamed of who I am**
21. I like to be alone because it's safer**
22. I can't make my life better**
23. I have thought about committing suicide**
24. I have attempted suicide****
25. I cut myself****
26. I hurt myself****
27. I skip eating****
28. I overeat****
29. I have bullied others ****
30. I have risky/ unsafe sex****
31. I use alcohol to cope****
32. I use drugs other than alcohol to cope****
33. I have run away from home****
34. I keep my sexual orientation to myself*****
35. I keep my gender identity to myself*****
36. I work very hard to make up for being LGBTQ*****
37. I spend a lot of energy hiding who I am *****
38. I have had unwanted sex***
39. I don't get taken seriously when I talk about being LGBTQ because I am young **

*school problems, *Chronbach's alpha*= .676
**mental health issues*, Chronbach's alpha*= .935
*** physical health issues (commonly related to mental health issues), *Chronbach's alpha*= .747
**** risky behaviours, *Chronbach's alpha*= .817
*****shame associated with LGBTQ identity, *Chronbach's alpha*= .749

Social Relationships (lack of) (lack of social support from friends, family, victimization/ bullying experiences, familial abuse), *Chronbach's alpha*= .864

1. I have family members who say negative things about LGBTQ people*
2. I have at least one parent who does not support me as an LGBTQ person*
3. Other youth have bullied me online**
4. Adults have bullied me online**
5. I get picked on because I don't have the right clothes or other nice things**
6. I get picked on because of the colour of my skin**
7. I get picked on because of my culture or ethnic background**
8. I have been gay bashed in public places**
9. I have been called names like faggot, dyke, fence sitter, or tranny**
10. I have been discriminated against by other LGBTQ people**
11. I find it hard to get along with people around my age***
12. I have had adults try to 'cure' my sexual orientation because they think it is wrong or bad**
13. My family has told me not to talk about my sexual orientation or gender identity*
14. My family has kicked me out of the house*
15. I have had trouble meeting and socializing with LGBTQ people***
16. A family member has physically hurt me****
17. A family member has intentionally used words to hurt me****

*Lack of family support, *Chronbach's alpha*= .707
** Victimization/ discrimination, *Chronbach's alpha*= .773
*** Difficult making friends/ socializing with friends, *Chronbach's alpha*= .227
****Abuse (family), *Chronbach's alpha*= .621

Lack of Community/ Society structures support (lack of support from the community and its services), *Chronbach's alpha*= .925

1. My guidance counselor does not support me*
2. I have trouble finding a family doctor who is comfortable and willing to help LGBTQ people*
3. I have trouble finding a counselor or therapist who is comfortable and willing to help LGBTQ people*
4. I have had legal problems as an LGBTQ person (e.g., problems getting my name changed)*
5. I have trouble with youth workers or social workers who do not know how to help LGBTQ youth *
6. My former faith community does not accept and says negative things about LGBTQ people*
7. My current faith community does not accept and says negative things about LGBTQ people*
8. My school principal ignores or avoids dealing with LGBTQ students and issues**
9. My teachers ignore or avoid dealing with LGBTQ students and issues**
10. My school would not let students have a GSA **
11. My school would not let students use the name GSA**

12. My school doesn't talk about LGBTQ students when it talks about student safety**
13. My school has a GSA but we can't be very visible, like meeting in a main area**
14. I have had therapists say my gender identity/ expression should match the sex organs I was born with*
15. I have trouble finding LGBTQ resources *

*Lack of community support, *Chronbach's alpha*= .902
**Lack of school support, *Chronbach's alpha*= .733

Appendix B

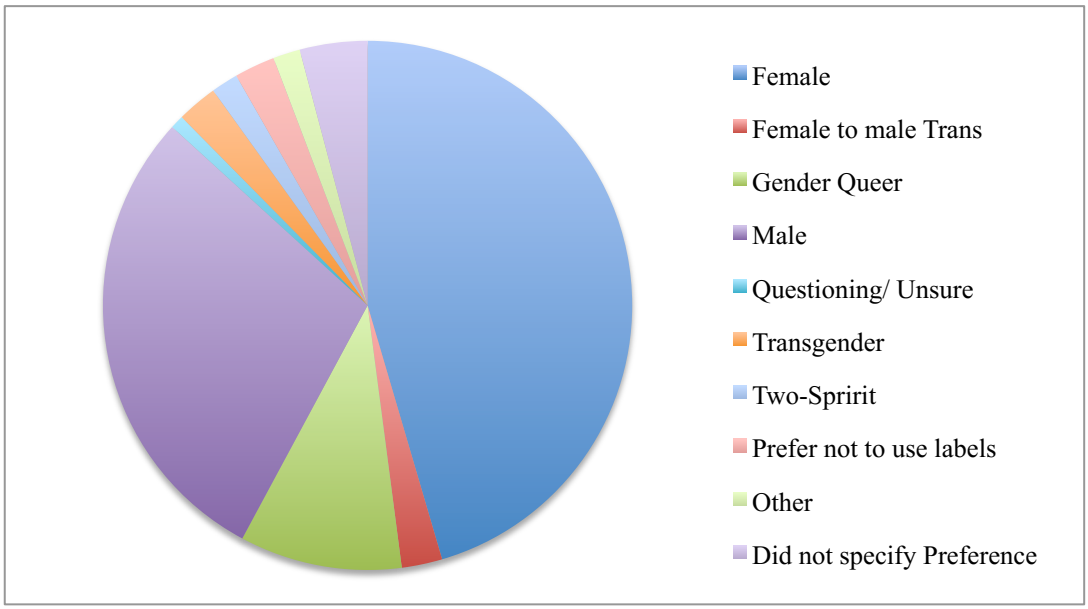

Figure 1. Gender identity distribution for this sample: 44.7% female, 28.5% male, 9.8% gender queer, 4.1% did not specify preference, 2.4% female to male trans (FTM), 2.4% transgender, 2.4% prefer not to use labels, 1.6% two-spirit, 1.6% other, .8% questioning/ unsure.

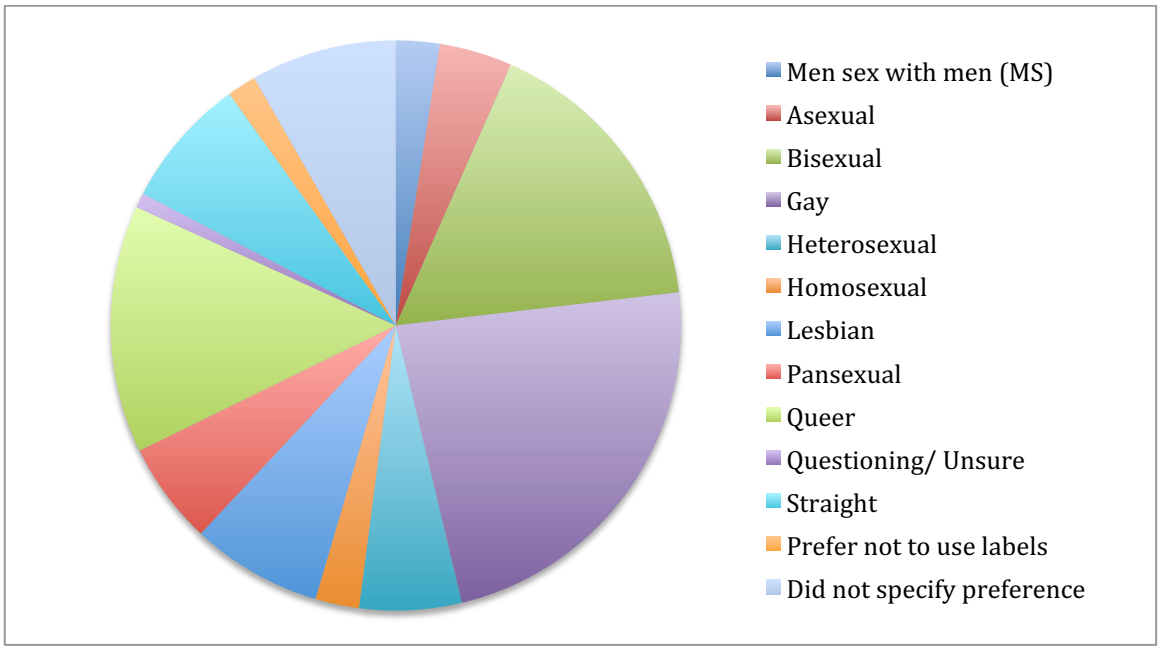

Figure 2. Sexual orientation identity distribution for this sample: 22.8% gay, 16.3% bisexual, 13.8% queer, 8.1% did not specify preference, 7.3% lesbian, 7.3% straight, 5.7% heterosexual, 5.7% pansexual, 4.1% asexual, 2.4% men sex with men (MSM), 2.4% homosexual, 1.6% prefer not to use labels, .8% questioning/ unsure.

Appendix C

Objective 2 Assumptions tests:

Table 12.
Research Objective 2A: Community Support and NSSI Engagement

Community Stressors	Levene's test (ANOVA and MANOVA)	Box's M Test (MANOVA)
Lack of community support	$F(1, 118)= 0.17$, $p= .897$	
Subgroups:		
Lack of Support from Community and its Services	$F(1, 104)= 2.914$, $p= .091$	*Box's M*(3, 26814.529)= 3.891, $p= .288$
Lack of School Support	$F(1, 104)= .577$, $p= .449$	

Table 13.
Research Objective 2A: Social Support and NSSI Engagement

Social Stressors	Levene's Test (ANOVA and MANOVA)	Box's M Test (MANOVA)
Lack of Social Support	$F(1, 118)= .746$, $p= .389$	
Subgroups:		
Abuse	$F(1, 112)= .357$, $p= .552$	
Lack of Family Support	$F(1, 112)= .864$, $p= .355$	*Box's M*(10, 7979.383)= 7.534, $p= .723$
Difficulty Socializing	$F(1, 112)= 3.452$, $p= .066$	
Victimization/ Discrimination	$F(1, 112)= 1.549$, $p= .216$	

Table 14.
Research Objective 2B: Risk Behaviours and NSSI

Risky Behaviours	Levene's Test (ANOVA and MANOVA)	Box's M Test (MANOVA)
Attempt Suicide	$F(1, 94)= 2.565$, $p= .113$	
Cut Myself	**$F(1, 94)= 26.753$, $p= .000$**	
Skip Eating	$F(1, 94)= 3.856$, $p= .053$	
Drugs other than alcohol to cope	**$F(1, 94)= 17.848$, $p= .000$**	***Box's M*(45, 4078.848)= 131.143, $p= .000$**
Alcohol to Cope	**$F(1, 94)= 35.341$, $p= .000$**	
Over Eat	$F(1, 94)= .087$, $p= .769$	
Risky/ Unsafe Sex	**$F(1, 94)= 11.811$, $p= .001$**	
Run away from Home	$F(1, 94)= 1.266$, $p= .263$	
Bullied Others	**$F(1, 94)= 6.513$, $p= .012$**	

Note. Bolded print indicates a statistically significant finding at the .05 level, suggesting that either the homogeneity of variance or the equality of covariance assumptions were violated.

Table 15.
Research Objective 2C: Risk Self-Perceptions and NSSI

Risk Self-Perceptions	Levene's Test (ANOVA and MANOVA)	Box's M Test (MANOVA)
Risk Self-Perceptions	***F*(1, 118)= 4.257, *p*= .041**	
Subgroups		
School Problems	*F*(1, 116)= 1.155, *p*= .285	
Mental Health	***F*(1, 116)= 10.789, *p*= .001**	***Box's M*(15, 7688.313)= 1.708, *p*= .042**
Physical Health	*F*(1, 116)= .360, *p*= .550	
Risky Behaviours	*F*(1, 116)= .162, *p*= .688	
Shame	*F*(1, 116)= .021, *p*= .884	

Objective 3 Assumption Tests:

Table 16.
Research Objective 3A: Resilient Self-perceptions

Resilient Self-Perceptions	Levene's Test (ANOVA and MANOVA)	Box's M Test (MANOVA)
Self- Perceptions	*F*(1, 118)= 2.352, *p*= .128	
Subgroups		
Good Health	*F*(1, 118)= 2.092, *p*= .151	*Box's M*(6, 11302.378)= 11.921, *p*= .078
Adaptive Coping Skills	*F*(1, 118)= .669, *p*= .415	
Positive Outcomes	***F*(1, 118)= 4.295, *p*= .040**	

Table 17.
Research Objective 3B: Social Resilience and NSSI

Social Resilience	Levene's Test (ANOVA and MANOVA)	Box's M Test (MANOVA)
Social Resilience	*F*(1, 118)= 1.795, *p*= .183	
Subgroups		
Social Support	*F*(1, 118)= 3.139, *p*= .079	*Box's M*(6, 11302.378)= 5.239, *p*= .545
Family	*F*(1, 118)= .013, *p*= .909	
Friends	*F*(1, 118)= 3.117, *p*= .080	

Table 18.
Research Objective 3C: Community Support and NSSI

Community Support	Levene's Test (ANOVA and MANOVA)	Box's M Test (MANOVA)
Community Support	$F(1, 118) = .187$, $p = .667$	
Subgroups		
Resources	$F(1, 111) = 2.558$, $p = .113$	*Box's M*(6, 9406.971)= 6.882, $p = .367$
Leader/ activist	$F(1, 111) = 3.426$, $p = .067$	
Community Services	$F(1, 111) = .017$, $p = .897$	