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THE ROLE OF PROTECTIVE FACTORS FOR NONSUICIDAL SELF-INJURY
IN SEXUAL MINORITIES

A Capstone Experience/Thesis Project Presented in Partial Fulfillment
of the Requirements for the Degree Bachelor of Science
with Mahurin Honors College Graduate Distinction
at Western Kentucky University

By

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* * * * *

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2021

ABSTRACT

Sexual minorities have been shown to have increased risk of suicide in comparison to their heterosexual counterparts. This demographic has also been shown to have decreased levels of protective factors, which function as a measure to protect an individual from attempting suicide. The goal of the present study was to examine how individuals with sexual minority status differ from heterosexual individuals on suicide attempts and the protective factors of resilience, life satisfaction, and subjective happiness within a sample who all have NSSI history. A sample of 2,130 undergraduate students completed an online survey assessing nonsuicidal self-injury (NSSI) and suicide behaviors, along with the protective factors of resilience, life satisfaction, and subjective happiness. From this sample, 621 reported lifetime NSSI and were included for analyses. Within the sample of 621, 31% (n=210) identified as a sexual minority. Results partially confirmed the hypothesis that individuals who identified as a sexual minority with NSSI history would be more likely to report suicide attempts compared to their heterosexual counterparts with NSSI history, with greater likelihood of attempts reported for lifetime, but not past year. Results confirmed the hypothesis that individuals who identified as a sexual minority with NSSI history would report lower levels of resilience, life satisfaction, and subjective happiness when compared to their heterosexual counterparts with NSSI history. These results add to the current literature and further emphasize the disproportionate rates of suicide attempts and levels of protective factors within the sexual minority community who have used NSSI.

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INTRODUCTION

Suicide has become a leading cause of death worldwide and the tenth leading cause of death overall in the United States (Centers for Disease Control and Prevention, 2021). The increasing rates of suicide deaths and suicide attempts have signaled a cause for alarm and an interest in research that further understands what may cause suicidal behavior as well as how to prevent such actions. One predictor of suicide that has been identified is the use of nonsuicidal self-injury (NSSI). Nonsuicidal self-injury is defined as the deliberate harm of one's own body without suicidal intent and for purposes not socially sanctioned (Klonsky et al., 2013). The current literature has begun to explore how the use of NSSI is a predictor for suicide attempts and ideation. Within recent literature there also has been an increase in research on individuals who identify as a sexual minority (SM; also discussed as LGBTQ+ or non-heterosexual individuals). Research on this sexual minority population has shown that these individuals have higher rates of suicide and NSSI usage (Taliaferro & Muehlenkamp, 2017). Protective factors, such as resilience, life satisfaction, and subjective happiness, also have been found to be a strong moderating factor against NSSI and suicidal behaviors. With this in mind, it is important to look at the role that protective factors play in sexual minorities' risk for suicide in comparison to their heterosexual counterparts in a sample of college students who all have NSSI history.

Background on NSSI and Suicide

Within the literature, repetitive nonsuicidal self-injury (NSSI) is predominantly shown to be used for intrapersonal needs, such as emotion regulation and tension reduction (Klonsky et al., 2013). Individuals who find NSSI effective for emotion regulation may be inclined to continue use of NSSI and other maladaptive coping mechanisms to deal with negative emotions they face. Continued use puts these individuals at higher risk for attempting suicide as the current research has found that there is a link between NSSI and suicide (Klonsky et al., 2013). The research has shown that individuals who have used NSSI within their lifetime have higher rates of suicide ideation and attempts (Klonsky et al., 2013).

A dominating theory about the link between NSSI and suicide is based on Thomas Joiner's Interpersonal-Psychological Theory of Suicide (IPTS) model (Joiner, 2005). Joiner's model is comprised of three parts: thwarted belongingness, perceived burdensomeness, and acquired capability. Within this model, Joiner (2005) explains that an individual must have both the desire for suicide (comprised of thwarted belongingness and perceived burdensomeness) along with the acquired capability in order for an individual to have a lethal or near-lethal suicide attempt. In relation to this model, NSSI may enhance acquired capability by increasing tolerance to pain and building up an ability to attempt suicide as the individual becomes more and more comfortable with the pain. So, although the intent behind NSSI is not suicide, it may become a risk factor for suicide through the increased acclimation to pain and use as a regulatory system for negative emotions. Along with this factor, those who identify in a minority group also

face greater levels of stress in relation to their identity, which has been linked with higher rates of perceived burdensomeness (Muehlenkamp et al., 2015).

Suicide and NSSI in Sexual Minorities

According to Gallup polls conducted in 2017 and 2020, roughly 4.5 – 5.6% of individuals in the United States identify as a sexual minority (SM), with a majority of this percentage identifying as bisexual (Jones, 2021). Within college students, a 2016 study of 33,000 student concluded that roughly 10% identified as LGBTQ+ (Best Colleges, 2020). This number illustrates an increasing trend through the generations, with Generation Z having the highest numbers of SM identification (15.9%; Jones, 2021).

In recent studies, it has been shown that those who identify as a SM have higher rates of both NSSI usage and suicide when compared with their heterosexual counterparts (Muehlenkamp et al., 2015; Taliaferro & Muehlenkamp, 2017). In a national study conducted in 2020 by The Trevor Project, a national organization providing crisis care and suicide prevention for LGBTQ+ youth, it was found that 48% of SM youth reported that they had used NSSI within the past 12 months (Paley, 2020). In contrast, between 11-20% of heterosexual youth reported using NSSI in the same 12-month time frame (Liu et al., 2019). SM also have been shown to have suicide ideation and attempts rates that are three to five times higher than their heterosexual peers (Paley, 2020).

Muehlenkamp and colleagues (2015) conducted a study comprised of 137 sexual minority college students and found that minority stress was associated with the use of NSSI “via the indirect effect of perceived burdensomeness” (p. 4). Muehlenkamp et al. (2015) looked at the intersection of minority stress theory and the interpersonal theory of suicide (IPTS) to explain why SM have shown higher rates of NSSI. Through this study,

they looked at how perceived burdensomeness from the IPTS model interacts with societal stressors related to homophobia and rejection from peers/family to predict NSSI. The researchers hypothesized that these societal stressors could increase the probability of using NSSI as a coping mechanism to regulate emotions tied to self-hate in relation to SM status (Muehlenkamp et al., 2015). Minority stress theory posits that this increase in NSSI usage can be tied to feelings of shame and stigma about one's sexual orientation status (Muehlenkamp et al., 2015).

Muehlenkamp et al. (2015) also found that the use of NSSI in SM was “associated with suicide behavior via the indirect effect of acquired capability” (p. 5). This finding further emphasizes the tie between minority stress theory and IPTS through acquired capability. As discussed in the previous section, acquired capability can come from the continued usage of NSSI, thereby desensitizing the individual to the inflicted pain. This research can help to further explain the reasons behind SM having increased rates of suicide behavior alongside NSSI usage. With these statistics in mind, it is easier to understand the gravity of the situation and the necessity of further research in this field to develop a better understanding of why this subgroup experiences increased rates for both NSSI and suicidality.

Lack of Protective Factors

Resilience

Resilience is defined as the ability to cope emotionally, psychologically, and physically, with trauma in an effective way, meaning those who are high in resilience are able to properly cope with trauma and adversity (de Lira & de Moraes, 2017). Individuals who are low in resilience may have a higher risk for internalizing the adversity faced or

using other negative stress responses, which can lead to NSSI use and suicide attempts. Resilience is measured most commonly as a trait-based rather state-based construct, meaning the participants are asked to report on how they feel most of the time in comparison to how they feel in that current moment. Research has shown a link between lower resilience levels and increased suicidal behaviors (Roy et al., 2006). Similar findings have been found within the sexual minority population, however, there is still limited research on the impact of resilience on suicide behaviors within this subgroup (Colpitts & Gahagan 2016; de Lira & de Morais, 2017).

Individuals who identify as sexual minorities have been shown to have lower levels of resilience in comparison to their heterosexual counterparts. De Lira and de Morais (2017) performed a literature review on 39 articles on resilience within sexual minorities. The authors divided the articles into three main categories based on the type of resilience: individual, family, and community (de Lira & de Morais, 2017). They found that individual resilience, which they defined as the “dynamic and interactive process resulting in the positive adaptation of LGB individuals, despite the significant adversity associated with a sexual minority status,” was the strongest type linked to suicidal ideation/behaviors and self-harm (de Lira & de Morais, 2017, p. 276). The authors found that sexual minorities who displayed more positive adaptation and indicators of resilience, such as absence of mental illness, were less likely to report suicidal behaviors or self-harm, showing an inverse relationship between resilience and suicide within this population (de Lira & de Morais, 2017).

However, Colpitts and Gahagan (2016) and Scourfield et al. (2008) discussed the possibility that sexual minority resilience may look different than how we are currently

measuring it. Colpitts and Gahagan (2016) conducted a literature review of resilience research as a conceptual framework for understanding sexual minority health. In this paper, the researchers broke down the current definition of resilience and how it is measured based on the current literature to get a deeper understanding of what resilience means (Colpitts & Gahagan 2016). They found that there was not a strong understanding of resilience, especially within sexual minority populations. A primary concern was that most of the definitions and measurements of resilience aligned with a primarily cisgender, white, heterosexual approach (Colpitts & Gahagan 2016). For example, Meyer (2015) states that there is limited research about how identification with a sexual minority status can impact an individual's resilience levels. Identification with one's sexual minority status could impact measurement of resilience that traditional measures do not touch on. Given this information, we can begin to understand that sexual minority individuals may not actually have lower levels of resilience when examined within a culturally competent framework. Scourfield et al. (2008) discussed how those who identified as a sexual minority reported "taking strength from resisting discrimination" and "fighting back" (p. 332) against bullying due to their sexual identity. However, most of the existing measures for resilience focus on general personal strengths, coping capabilities with stress, and acceptance with change. These measures tend to be broad and do not allow minority individuals to truly identify their ability to cope with specific adversity such as homophobia (internal or external) or racism. This information is important for future research as we work toward developing more culturally sensitive measures so that we may accurately measure resilience in minority populations.

Life satisfaction

Life satisfaction is defined as the degree to which a person positively or negatively rates the quality of their life as a whole (Ackerman, 2021). Life satisfaction is comprised of many factors, including social support and feeling safe in your life overall (Ackerman, 2021). Life satisfaction has been found to be a strong protective factor against NSSI and suicidal actions (Kress et al., 2012). Those who report higher levels of life satisfaction typically report a lower likelihood of lifetime suicidal ideation and NSSI (Kress et al., 2012). Although there is limited research on life satisfaction in sexual minorities, the current research has shown that these individuals do show lower levels of life satisfaction in comparison to their heterosexual counterparts (Pachankis & Bränström, 2018; Patrick et al., 2013).

In a cross-sectional study conducted on bullying in high school students in Washington State, those who were bullied for identifying or being perceived to identify as a sexual minority reported lower quality of life than those who were bullied for any other reason (Patrick et al., 2013). Quality of life in this study was analyzed based on confidence about oneself and future life, parental support, social support, and being asked to compare one's life to others (Patrick et al., 2013). The measure used in Patrick et al.'s study assessed many of the small, detailed aspects of life satisfaction. Although the measure used was only six questions, it allowed for a general overview of how individuals felt about their lives and how they viewed their lives in comparison with others. Patrick and colleagues (2013) also found that those who were bullied for their (perceived or real) sexual orientation were at an increased risk for suicidal ideation. This finding supports previous work that indicated sexual minorities show higher rates of

suicidal behaviors compared to their heterosexual peers (Muehlenkamp et al., 2015; Paley, 2020).

Sexual minorities have been reported often to feel that they have lower levels of support from peers, family, and their community (Muehlenkamp et al., 2015). Sexual minorities often report these lower levels of social support are due to the stigmatization they face surrounding their sexual orientation as well as mistreatment they may experience from peers, friends, family, or community members (Patrick et al., 2013). Therefore, lack of social support could help explain why sexual minorities have been found to have lower levels of life satisfaction. The perceived or real lack of support can impact how much individuals feel that they are valued and their perceived level of burdensomeness. Sexual minorities have been found to show higher rates of perceived burdensomeness, so life satisfaction could be a strong contributor to their increased risk of suicide or suicidal behaviors (Joiner, 2005; Muehlenkamp et al., 2015). With this in mind, lack of support could help to explain why sexual minorities are at higher risk for suicide and have shown lower levels of life satisfaction.

Subjective Happiness

Subjective happiness (also called subjective well-being) is defined as a person's view of their own life happiness (Ackerman, 2021). This construct is different from life satisfaction in that it is a more short-term or in-the-moment type of measurement. Life satisfaction asks individuals to think about their lives overall and how ideal they believe their lives are, whereas subjective happiness is timelier and asks about the individual's current emotions (Ackerman, 2021). Subjective happiness has been shown to function as

a protective factor against suicidal behavior, with higher reported levels of happiness correlating with lower levels of suicidal ideation (Koivumaa-Honkanen et al., 2001).

Studies have shown that sexual minorities often indicate lower levels of subjective happiness or well-being compared to their heterosexual counterparts (Nouvilas-Pallejá et al., 2017; Thomeer & Reczek, 2016). Thomeer and Reczek (2016) found that, in relation to sexual identity, those who identified as gay or lesbian were “80% more likely to report that they were not too happy” (p. 1752) in comparison with their heterosexual-identified peers. Bisexual individuals were 92% more likely to identify that they were not too happy within the same comparison (Thomeer & Reczek, 2016).

Nouvilas-Pallejá and colleagues (2017) found in a study of 481 individuals identifying as lesbian and gay that those who reported high levels of stigma consciousness, defined as “the degree to which people belonging to a certain group expect to be treated by others according to the stereotypes existing in society towards that group,” (p. 1117) showed lower levels of subjective well-being. These findings show that when an individual is aware of the stigma surrounding their sexual orientation, they are put under more distress as they are often overwhelmed with the constant pressure they feel from society. These findings emphasize the role that stigmatization plays within a community on happiness and general well-being of sexual minorities. Nouvilas-Pallejá and colleagues (2017) also found that those who showed low levels of stigma consciousness, referred to as stigma concealment, reported higher levels of happiness, suggesting that those who were unaware of the stigma surrounding their sexuality had higher levels of subjective well-being. This finding further comments on the role that the social environment and social support plays in helping sexual minorities live a happy life.

However, Thomeer and Reczek (2016) also found that differing subgroups within sexual minorities may not all show decreased levels of subjective happiness. They found that when considering sexual behavior instead of sexual identity, those who had only been with same-sex partners had similar levels of happiness to individuals who had only been with different-sex partners since they were 18 years old or in the past five years (Thomeer & Reczek, 2016). When looking at individuals who reported having varying sex partners, they found the expected decreased level of happiness that is commonly reported for this subgroup (Thomeer & Reczek, 2016). These findings suggest that there are other factors in relation to sexual identity that are impacting happiness, such as outness and stigma. Those who have come to be more accepting of who they are and have chosen to stay with same-sex partners (if that is what they prefer) may indicate that they have become comfortable within their lives. The findings also could be indicative of the battle individuals who identify as bisexual face with their sexuality, because these individuals often are more at risk for suicidal behaviors compared to gay or lesbian identified individuals (Johnson, 2016). This increase in suicidal behaviors among bisexual individuals often comes from the ostracization from both the sexual minority community and the more general community, as this group is commonly looked at in a negative manner and told to “pick a side” (Johnson, 2016).

The Current Study

The goal of the present study was to examine the role of sexual minority status in suicide attempts along with the protective factors of resilience, life satisfaction, and subjective happiness. While there is literature available about the three protective factors in sexual minorities discussed independently, there is currently no literature available

involving all three in a sample with NSSI history. The goal of the study was to provide novel information about the impact these protective factors have on both sexual minorities and non-sexual minorities with a history of NSSI. The current study also provided information about both past-year and lifetime suicide attempts within a sexual minority sample with NSSI, another area of the field where research is lacking.

It was hypothesized that within a sample of individuals with NSSI history, those identifying as sexual minorities would report lower levels of protective factors (resilience, life-satisfaction, and subjective happiness) than heterosexual individuals. It was also hypothesized that individuals identifying as sexual minorities would be more likely to have made past-year and lifetime suicide attempts compared to their heterosexual counterparts.

METHODS

Participants

Participants in this study were drawn from a larger sample of 2,130 undergraduate students at Western Kentucky University. Within this larger sample, 670 participants (31%) reported ever engaging in NSSI. Participants were asked to report their sexual orientation within the demographics section. Forty-nine participants were removed from the final analysis due to incomplete data regarding sexual orientation. This final subsample of participants with lifetime NSSI was the focus of the current study ($n = 621$). Within the NSSI subsample, 31% of the individuals identified as non-heterosexual ($n = 210$). The remaining 69% of participants identified as heterosexual and was used as the comparison group ($n = 411$).

Procedures

The current study used archival data collected through a research project conducted from 2016 - 2020. Participants for the original study were recruited through a mass email sent to all university students. The email consisted of a brief explanation of the study and a link to a brief online survey. The survey consisted of self-report measures and was available for any WKU student to complete.

Participants completed an online informed consent before completing the study and were provided with an online debriefing page upon completion of the study. This document included contact information for the on-campus counseling center, Texting Crisis Support Line, the National Suicide Prevention Lifeline, and with direct contact

information (email address and office phone number) for the professor overseeing the study.

The survey also included skip logic if a participant identified that they had attempted suicide in the past year. This skip logic would prompt a pop-up window to appear that provided the phone number for the National Suicide Prevention Lifeline and the phone number for the Texting Crisis Support Line. Participants were required to acknowledge this message in order to continue with the remainder of the survey.

Measures

Non-Suicidal Self Injury Item

The survey included one item to assess for lifetime NSSI usage. The participants were asked: *Have you ever purposely hurt yourself without wanting to die? (for example, cutting or burning)*. Respondents were asked to answer by either self-reporting *yes* or *no*. Only those who answered *yes* were included in this study.

Suicidal Behavior Questionnaire – Revised (SBQ-R)

The SBQ-R is a four-item scale designed to measure lifetime suicide ideation and/or suicide attempt, past year suicidal ideation, threat of suicide attempt, and likelihood of suicidal behavior in the future (Osman et al., 2001). For the purposes of this study, only the first item of this measure was used to assess lifetime suicide attempt history. The item assessing suicide attempt history was as follows: *Have you ever (in your lifetime) seriously thought about, or attempted to kill yourself (suicide)?* The possible responses to this question were: (1) *Never*; (2) *It was just a brief passing thought*; (3a) *I have had a plan at least once to kill myself but did not try to do it*; (3b) *I have had a plan at least once to kill myself and really wanted to die*; (4a) *I have*

attempted to kill myself, but did not really want to die; or (4b) *I have attempted to kill myself, and really hoped to die*. Participants were coded as never having made a suicide attempt if they selected responses 1-3b, and they were coded as having suicide attempt history if they selected responses 4a or 4b. The SBQ-R was found to have strong validity and reliability in comparison with similar measures (Osman et al., 2001).

Past-Year Suicide Attempt

Following this item, participants were then asked if they had attempted suicide in the past year and selected from four response options: *No*; *Yes, once*; *Yes, twice*; *Yes, three or more times*. For the purpose of the study, participants with any yes response to this item were coded as having a past-year suicide attempt.

Subjective Happiness Scale

Subjective happiness is defined as the overall happiness in one's life status and well-being. This was measured using the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999). The SHS includes four items measured on a 5-point Likert scale, ranging from 1 (Not a very happy person) to 5 (A very happy person) on the first statement; ranging from 1 (Less happy) to 5 (More happy) on the second statement; and ranging from 1 (Not at all) to 5 (A great deal) on the final two statements. Item four is reverse coded, and items are summed for a total score, with higher numbers indicating greater happiness. Sample items include: "Compared to most of my peers, I consider myself..." This measure has demonstrated high internal consistency (Cronbach's alpha = .86), strong test-retest reliability (Pearson $r = 0.72$, $p < .0001$), and moderate to strong convergent validity ($r = .62$, $p < .0001$; Lyubomirsky & Lepper, 1999). In the current study, internal consistency was 0.76.

Connor-Davidson Resilience Scale-10

The Connor-Davidson Resilience Scale-10 (CD-RISC-10) assessed the participants ability to cope with individual stress or trauma, emotionally and/or psychologically, quickly and effectively (Campbell-Sills & Stein, 2007). The CD-RISC-10 is a 10-item scale derived from the original 25 item measure. Items are responded to on a 7-point Likert scale ranging from (1) *strongly disagree* to (7) *strongly agree*. Sample items include: “Coping with stress can strengthen me” and “I’m not easily discouraged by failure” (Connor & Davidson, 2003). The scores from this measure are summed for a total score, with higher scores indicating higher levels of resilience (Connor & Davidson, 2003). The CD-RISC-10 measure showed strong convergent validity with the original CD-RISC-25 measure (Pearson $r = 0.92$; Campbell-Sills & Stein, 2007). This measure also showed good reliability (Cronbach’s alpha = .85; Campbell-Sills & Stein, 2007). In the current study, internal consistency was 0.87.

Satisfaction with Life Scale

The Satisfaction with Life Scale (SWLS) was used to measure the positive or negative evaluation a person places on their own life overall (Diener et al., 1985). The SWLS is a five-item scale, measured on a 7-point Likert scale ranging from (1) *strongly disagree* to (7) *strongly agree*, with higher scores indicating greater satisfaction with life (Diener et al., 1985). Items are summed for a total score. Sample items included: “The conditions of my life are excellent” and “I am satisfied with my life” (Diener et al., 1985). The measure represented strong test-retest reliability ($r = .82$, coefficient alpha = .87), strong interrater reliability (Cohen’s kappa = .73), moderate level of internal

consistency ($r = .69$), and moderate convergent validity with other similar measures ($r = .47$; Diener et al., 1985). In the current sample, internal consistency was 0.82.

RESULTS

Protective Factors

It was hypothesized that within a sample of individuals with NSSI history, those identifying as sexual minorities would report lower levels of protective factors (resilience, life-satisfaction, and subjective happiness) than heterosexual individuals. ANOVA results revealed that sexual minorities showed significantly lower levels of resilience ($F(1,608) = 13.438, p < .001$), life satisfaction ($F(1,609) = 22.619, p < .001$), and subjective happiness ($F(1,619) = 22.795, p < .001$) in comparison to their heterosexual counterparts (see Table 1).

Lifetime and Past Year Suicide Attempts

It was also hypothesized that individuals identifying as sexual minorities would be more likely to have made past-year and lifetime suicide attempts compared to their heterosexual counterparts. Chi-square analysis results showed that sexual minorities were equally as likely to report past year suicide attempts (12.5%) compared to their heterosexual counterparts (9.8%), which was not significant ($\chi^2(1) = 1.068, p = .301$). However, sexual minorities were more likely to report lifetime suicide attempts (54.5%) than their heterosexual counterparts (36.4%), which was significant ($\chi^2(1) = 18.568, p < .001$; see Table 2).

Table 1. ANOVA and Descriptive Statistics for Resilience, Life Satisfaction, and Subjective Happiness for Sexual Minority and Non-Sexual Minority Groups

Variables	Groups	N	Mean	SD	F	<i>p</i>	Cohen's <i>d</i>
Resilience	Non-Sexual Minority	406	42.87	10.91	13.438	< .001	0.32
	Sexual Minority	203	39.48	10.48			
	Total	609	41.74	10.88			
Life Satisfaction	Non-Sexual Minority	407	18.65	6.34	22.619	< .001	0.42
	Sexual Minority	203	16.11	5.89			
	Total	610	17.80	6.31			
Subjective Happiness	Non-Sexual Minority	411	2.84	0.79	22.795	< .001	0.42
	Sexual Minority	209	2.53	0.67			
	Total	620	2.74	0.76			

Table 2. Past-Year and Lifetime Suicide Attempt in Sexual Minority and Non-Sexual Minority Groups

Group	Reported Past-Year SA (%)		Reported Lifetime SA (%)	
	Yes (n)	No (n)	Yes (n)	No (n)
Non-Sexual Minority	9.8 (40)	90.2 (369)	36.4 (149)	63.6 (260)
Sexual Minority	12.5 (26)	87.5 (182)	54.5 (114)	45.5 (95)

Note: SA is Suicide Attempt.

DISCUSSION

The primary focus of this research was to examine the association of suicide attempts and resilience, life satisfaction, and subjective happiness in a college population of sexual minorities and their heterosexual counterparts, all of whom had NSSI history. Results partially supported the hypothesis that sexual minorities would have a greater likelihood of suicide attempt(s) in their lifetime, but not in the past year. Results supported the hypothesis that sexual minorities report lower levels of protective factors such as resilience, life satisfaction, and subjective happiness than those who identified as heterosexual. These results add to the current literature surrounding sexual minorities and the limited research about protective factors within this demographic.

The findings of our study show that lifetime suicide attempts were higher in sexual minorities in comparison to their heterosexual counterparts, even when using a sample comprised of individuals who had NSSI history. These findings further expand on the knowledge about suicide attempts within sexual minorities and further emphasizes the increased risk they face (Muehlenkamp et al., 2015; Paley, 2020; Taliaferro & Muehlenkamp, 2017). NSSI has been shown to be a risk factor for suicide attempts, as previously discussed, so finding significant differences between sexual minority and heterosexual individuals in a sample of college students with NSSI history is concerning. This finding upholds current literature, as previously discussed, and provides novel information about sexual minorities experience with suicide attempts in comparison to

heterosexual groups with NSSI history (Muehlenkamp et al., 2015; Paley, 2020; Taliaferro & Muehlenkamp, 2017). This information tells us that even when the field has been leveled, even a small amount, sexual minorities still experience higher likelihood of lifetime suicide attempts.

One possible explanation for this increase in suicide risk is provided by Williams and Chapman (2012) who found that SM youth had 31% increased odds of having unmet mental health needs, even when SM youth were more likely than their peers to use these services. These findings suggest that those individuals either do not have access at all to a mental health service provider or the one(s) which they do have access are not adequately trained to treat SM patients. Even if a person who identifies as a SM is able to seek treatment, they may not receive treatment that is beneficial to them. With less access to proper mental health care, these individuals are more likely to develop more negative coping mechanisms, as Sornberger and colleagues (2013) discuss in their article. They found that SM individuals do not necessarily lack in the number of coping mechanisms available to them, but they are more likely to use a larger variety of skills and maladaptive coping strategies such as NSSI or substance use more often than their heterosexual peers.

While our results did show differences in lifetime suicide attempts between sexual minorities and their heterosexual counterparts, there were no significant differences found between the groups when looking at past-year attempts. One possible reason for this is the development of new social supports once they arrived at college. Social supports have shown to be a large protective factor against suicide, so it is possible that once these students arrived at a college campus, they may have been able to find more

open and accepting people that they were able to bond with. While the college is in the southcentral region of the United States, college campuses are typically viewed as a more accepting environment for sexual minorities, which also could have been beneficial to these individuals. Western Kentucky University does offer safe spaces such as the Pride Center for sexual minorities to bond with others and have access to resources they may have not otherwise been able to gain. These resources and social supports could have proved crucial in minimizing sexual minority's risk of suicide in the past year.

Sexual minorities were found to report lower levels of all three of the protective factors included in this study. Previous research has not looked at the combination of these protective factors within a sexual minority subgroup with NSSI history. The findings in the current study are consistent with the research base on resilience in the sexual minority subgroup (de Lira & de Morais, 2017). De Lira and de Morais (2017) found that sexual minorities reported lower levels of individual resilience when conducting a literary analysis. While Colpitts and Gahagan (2016) found that those who identified as a sexual minority reported lower levels of resilience based on the current measures used in their literature review, they also discussed how resilience within minority groups may look different and therefore impact the way minorities define resilience. Resilience can factor into the Minority Stress Theory, developed by Meyer (2003), when looking at the impact of social stress on NSSI and suicidal behaviors. The Minority Stress Theory describes how minorities often are faced with higher levels of prejudice and social stress due to their sexual minority status. Meyer (2003) suggests three ways in which minorities may deal with these stress responses and emotions: expectations of rejection, concealment, or internalized homophobia. These stress

responses are often harmful to the person's self-identity and perpetuate internal negative thoughts and feeling, such as burdensomeness. With these added stressors, an individual may not have as many opportunities to properly build up their resilience to adversity if they are not given any guiding tools. These findings add to the current literature by expanding the knowledge base of how sexual minorities are impacted by the protective factors of resilience, life satisfaction, and subjective happiness. Furthermore, it is important to continue research into resilience within sexual minorities to learn how we are able to appropriately encourage development.

Life satisfaction also was reported to be lower in sexual minorities with NSSI history when compared to non-sexual minorities with NSSI history. This finding is consistent with the current literature on life satisfaction within the sexual minority subgroup (Patrick et al., 2013). Patrick and colleagues (2013) found in a sample of high school students, those who were bullied for the sexual identity were more likely to report a lower quality of life. Life satisfaction often involves perceived social support from family and peers as well as an overall acceptance of one's status. In a study conducted by Taliaferro and Muehlenkamp (2017), parental connectedness was found to be a large protective factor against self-harm behaviors in SM in a sample of 77,758 high school students (6.5% identifying as a SM). The value of parental relationships and support was shown to buffer negative experiences youth may face due to their SM status, as explained within the minority stress theory (Taliaferro & Muehlenkamp, 2017). Taliaferro and Muehlenkamp (2017) also found that for some SM groups feeling connected to a nonparental figure, such as a teacher or coach, and having a safe school environment also acted as protective factors against NSSI and suicidality.

Subjective happiness also was found to be lower in individuals who identified as a sexual minority within our study, similar to other findings in the current literature (Nouvilas-Pallejá et al., 2017; Thomeer & Raczek, 2016). Nouvilas-Pallejá and colleagues (2017) and Thomeer and Raczek (2016) found that sexual minorities reported lower levels of subjective happiness or well-being when compared to their heterosexual counterparts. However, Thomeer and Raczek (2016) reported that when looking at sexual behaviors, as opposed to sexual identity, those who reported only same-sex partners had similar levels of happiness to those who reported only different-sex partners. This could indicate a different level of self-acceptance among individuals who have only same-sex partners, which has been shown to function as a protective factor. Given this information, it is important to encourage research in this area to further expand our knowledge on what impacts happiness within sexual minorities and what we can do to foster development of this protective factor.

The current study echoes previous findings in relation to increase in suicide attempts and lack of protective factors within the sexual minority subgroup (de Lira & de Morais, 2017; Nouvilas-Pallejá et al., 2017; Paley, 2020; Patrick et al., 2013; Taliaferro & Muehlenkamp, 2017). Findings from the current study add to the current literature since similar results were found between SM and heterosexual students, even when all of them reported lifetime NSSI. This preliminary research gives a deeper understanding into the extent of the increased risk for suicide sexual minorities face. Previous research has not compared these groups on protective factors within an NSSI sample, so this novel information provides preliminary data concerning their true lack of protective factors.

One limitation within this study is that the measures used were solely self-report measures administered through an online survey. The use of an online study could have limited our reach of participants and impacted our general sample size within the survey data. Another limitation of this study was the lack of diversity within the sample size. While the sample of the study was not small and we had an adequate number of sexual minorities, the sexual minority sample was not large enough to allow us to differentiate the participants based on their identified sexual orientation to provide further analysis. This provides a limitation on the generalizability of the study, as it only provides general information. This sample also limited in its diversity on gender and ethnicity since the sample was predominantly white and cis-gendered female. A third limitation of the study is the CD-RISC-10 is not able to look at resilience in a culturally competent manner. The measure is commonly used to measure resilience for a general population, however as previously discussed, it may not be able to fully encompass the ways in which minority individual's express resilience. Therefore, this provides a limit to the full understanding of resilience within this sample. A final limitation of the study is that it was a cross-sectional design, therefore it is not possible to determine directionality of the relationships between the variables studied.

Future research should look more into the breakdown of the sexual orientations (e.g. gay/lesbian, bisexual, pansexual, etc.) and the impact of protective factors on each of those identified subgroups. Looking at this research could give more conclusive information about what protective factors each subgroup may be particularly challenged with. This knowledge could allow future care to be more specific to each subgroup and hopefully allow for more effective preventative care and treatment involved in NSSI and

suicide attempts. Future research should also look at this research using a longitudinal approach to get a deeper understanding of the direction and relationship of the protective factors and suicidal behavior in sexual minorities.

The sexual minority population is a group that is still underrepresented in the current literature surrounding information about suicidal behavior, especially when exploring protective factors. This lack of research prevents a more complete understanding of what these individuals experience. As more individuals feel safe to come out and accept their sexuality, it is important that researchers continue to work to understand how this group is differentially impacted in our society today. With this growing knowledge, more work can be done by researchers and clinicians to understand the specific protective and risk factors in sexual minorities and develop more comprehensive preventative care and treatment against the use of NSSI and suicide.

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