Spring 5-2023

The Effect of Minority Stress on Sexual Minority College Students' Mental Health: The Role of General Social Support and Sexuality-Specific Social Support

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THE EFFECT OF MINORITY STRESS ON SEXUAL MINORITY COLLEGE STUDENTS' MENTAL HEALTH: THE ROLE OF GENERAL SOCIAL SUPPORT AND SEXUALITY-SPECIFIC SOCIAL SUPPORT

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A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

PSYCHOLOGY

OLD DOMINION UNIVERSITY
May 2023

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ABSTRACT

THE EFFECT OF MINORITY STRESS ON SEXUAL MINORITY COLLEGE STUDENTS' MENTAL HEALTH: THE ROLE OF GENERAL SOCIAL SUPPORT AND SEXUALITY-SPECIFIC SOCIAL SUPPORT

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Sexual minority (SM) college students continue to face greater mental health problems relative to their heterosexual peers (Woodford et al., 2014; Wilson & Liss, 2022). According to minority stress theory, SM individuals face distal (e.g., heterosexist discrimination) and proximal (e.g., expectations of rejection, internalized homophobia, and concealment) stressors related to their SM identity which can have negative effects on their mental health (Douglass & Conlin, 2020; Meyer, 2003). However, social support has been hypothesized to help protect against the effects of minority stress experienced by SM individuals (Cohen & Wills, 1985; Moody & Smith, 2013). Most of the existing research with SM college students has examined social support more broadly, and less empirical attention has been given to sexuality-specific support, which attends to the specific range of stressors related to one's sexual identity (Doty et al., 2010; Sheets & Mohr, 2009).

Thus, the current study had three aims: 1) to examine if distal stress (i.e., heterosexist discrimination) and proximal stress (i.e., internalized homophobia) were associated with mental health symptoms among SM college students, 2) to examine if general social support moderated the associations between distal minority stress (i.e., heterosexist discrimination) and proximal minority stress (i.e., internalized homophobia) and mental health symptoms among SM college students, and 3) to examine if sexuality-specific social support moderated the associations

between distal minority stress (i.e., heterosexist discrimination) and proximal minority stress (i.e., internalized homophobia) and mental health symptoms, among SM college students. A total of 268 undergraduate college students who self-identified as a sexual minority individual completed a survey assessing minority stress, social support, and mental health symptoms. Distal minority stress (i.e., heterosexist discrimination) was directly associated with mental health symptoms. General social support moderated the link between proximal minority stress (i.e., internalized homophobia) and mental health symptoms, and this association was strongest for individuals with more general social support. Clinicians should consider utilizing interventions to increase social support to address the psychological impact of minority stress and universities should adopt anti-discrimination policies and curricula to promote LGBTQ+ acceptance. Suggestions for improving social support, reducing discrimination, and creating an inclusive campus environment are discussed.

To no surprise, this dissertation is dedicated to my mother, Dr. Gae Anderson-Miller who is my biggest supporter and best friend. She has always been by my side and encouraged me to pursue my dreams. She is the epitome of strength, intelligence, and compassion. I am fully convinced that her heart only continues to grow with time and I am honored to be her son.

ACKNOWLEDGEMENTS

I would like to acknowledge my mentor and committee chair, Dr. Michelle Kelley for her endless commitment and guidance during this project. I would also like to acknowledge my committee members, Dr. Sarah Ehlke and Dr. Tony Perez, for their expertise and feedback. I would like to acknowledge Andrew Garber and the ODU Office of Intercultural Relations' LGBTQIA+ Initiatives for supporting and promoting my research. Lastly, I would like to thank my colleagues for the late-night emails, Zoom meetings, and for encouraging me both professionally and personally.

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CHAPTER I

INTRODUCTION

Although college can be an exciting opportunity for students, it also represents a major life transition and a unique period of vulnerability to mental illness (Smith, 2015). Globally, one in three first-year college students meet the clinical criteria for at least one diagnosable mental health disorder, most commonly, major depressive disorder or generalized anxiety disorder (Auerbach et al., 2018). According to the National College Assessment survey, 15.4% of students reported being diagnosed with depression and 28.4% of all students reported that they felt so depressed that it was difficult to function (Castillo & Schwartz, 2013). Rates of suicide are also prevalent among the college student population, with studies indicating that 10% of students with depression have experienced suicidal thoughts (Woodhead et al., 2020). Among the college student population, there is evidence to suggest that sexual minority (SM) individuals are at an even greater risk for poor mental health than their heterosexual peers (Dunbar et al., 2017; Woodford et al., 2014; Wilson & Liss, 2022). SM college students are a diverse population inclusive of lesbian, gay, bi+ (e.g., bisexual, pansexual, queer, fluid), and asexual sexual orientations (American Psychological Association, 2021a), although this is not an exhaustive list. According to the Sexual and Gender Minority Research Office (SGMRO), the abbreviation LGBTQ+ may also be used to refer to multiple sexual and/or gender minority groups (American Psychological Association, 2021b).

During young adulthood (i.e., 18–35), individuals often start to disclose their sexual orientation to others (Martos et al., 2015), and college has historically been a time in which many SM individuals start to explore their sexual identity (Vaccaro, 2006). Although many college campuses provide unique opportunities for emerging adults to explore, define, and learn about sex, sexuality, and sexual identity, many SM students experience discrimination, stigma, and

rejection (Kulik et al., 2017; Seelman et al., 2017), which may contribute to long-term mental health problems (Mustanski, 2015; Woodford et al., 2018). For example, prior research has demonstrated that SM college students experience significantly higher levels of stress, depression, and hopelessness than heterosexual students (Burns et al., 2015; Hatzenbuehler et al., 2012; Oswalt & Wyatt, 2011). SM individuals are also at a disproportionately higher risk for suicidality (Perez-Brumer et al., 2017) with rates of suicide attempts approximately two to seven times higher in SM populations (Haas et al., 2010). In addition, relative to their peers, SM college students experience elevated levels of alienation and a lesser sense of belonging (Christie, 2021; Grella et al., 2011; McDonald, 2018). Despite intervention efforts, SM college students continue to experience more mental health challenges compared to their heterosexual peers (Wolff et al., 2016).

SEXUAL MINORITY STRESS

One theory that may help illustrate why SM individuals may experience poor mental health compared to heterosexual students is minority stress theory (Meyer, 2003). According to minority stress theory (Meyer, 2003), SM individuals face hostile stressors related to their SM identity; consequently, these stressors have negative effects on their mental health (Meyer, 2003). Minority stressors may include experiences of prejudice, discrimination, expectations of rejection, identity concealment, and internalized homophobia (Lewis et al., 2012; Meyer, 2003). The minority stress framework also recognizes the influence of stigma pertaining to one's sexual identity, known as *sexual stigma* (Dohrenwend et al., 1992; Herek, 2007).

Erving Goffman first defined stigma as "an attribute that is deeply discrediting which reduces an individual from a whole person to a tainted, discounted one" (Goffman 1963, p. 3). Thus, stigma is a devaluing mark or label that emphasizes differences between people or groups

and associates them with negative characteristics (Link & Phelan, 2001). Sexual stigma is defined as the negative regard, inferior status, and relative powerlessness that society collectively accords to any nonheterosexual behavior, identity, relationship, or community (Herek, 2007). Like other forms of stigma, sexual stigma creates social roles and expectations for conduct that are understood and shared by the members of society, regardless of their own sexual orientation, sexual identity, or personal attitudes (Herek, 2007). As a result of sexual stigma, there are damaging stereotypes that are routinely attached to individuals whose personal identities are based on same-sex attractions, behaviors, relationships, or membership in a SM community (Herek, 2009).

There is evidence to suggest that SM individuals experience and process stigma differently due to differences between marginalized groups and the majority population (Williams & Frederick, 2015). For example, internalized sexual stigma, commonly referred to as self-stigma or *internalized homophobia*, can be directed both inward and outward among SM individuals (Herek et al., 2015). In most cases, this type of stigma refers to a self-directed prejudice based on the individual's acceptance of and agreement with society's negative evaluation of homosexuality. According to the minority stress framework, sexual stigma or homophobia may arise from the environment and may cause significant stress when internalized, which ultimately may affect physical and mental health outcomes (Dohrenwend et al., 1992).

PROXIMAL AND DISTAL STRESSORS

The minority stress model is a comprehensive framework and has the capacity to describe multiple minority stressors and the interactions between them (Meyer, 2003). In previous research, it has been a useful tool for describing mental and physical health disparities experienced among SM populations (Balsam et al., 2013; Bränström, 2017). However, there may

be differences in how SM individuals interpret and process minority stressors, which may have enduring effects on individual mental health. For example, Meyer (2003) uses the distal-proximal distinction to characterize different processes of minority stress unique to the individual. This distal-proximal continuum of minority stressors has been helpful in differentiating between the impact of various types of stressors related to sexual stigma (Pitoňák, 2016). According to Meyer, distal minority stressors are objective events that do not necessarily depend on a person's appraisal which may include prejudiced events such as harassment, sexual prejudice, and discrimination (Meyer, 2003). The second type of stressors discussed by Meyer are proximal, which are subjective and depend on a person's own "individual perceptions and appraisals" (Meyer, 2003, p. 5).

Distal and proximal stressors have been associated with many negative physical and mental health outcomes among SM populations, which demonstrates the impact of chronic minority stress (Dyar et al. 2019; Mohr & Sarno 2016; Pachankis et al. 2018). However, previous research is unclear as to whether distal or proximal stressors are stronger predictors of SM college students' mental health symptoms (Walch et al., 2016). The psychological mediation framework (Hatzenbuehler, 2009) expanded Meyer's minority stress theory, and places distal stressors as predictors of proximal stressors, which in turn predict greater risk of negative mental health outcomes. However, other researchers suggest there is a proximal-distal pathway or bidirectional association (Ragins et al. 2007; Swank et al. 2013) and have examined distal and proximal stressors as interdependent and equal predictors of mental health outcomes (Velez et al., 2013). Thus, there is a need for further examination to clarify the strength and direction of these types of stressors, and to discuss how the relationship between these two types of minority stressors contribute to overall mental health outcomes.

Heterosexist Discrimination

Institutionalized heterosexism and discrimination directed toward sexual minorities fall on the distal end of Meyer's continuum, because they are objective and stem directly from the social environments in which SM individuals live their lives (Swank et al., 2013). Heterosexist individuals may generate negative reactions to SM populations and display prejudice by endorsing stereotypes, which often leads to discrimination (Amodio & Devine, 2006). As a result of heterosexist discrimination, SM individuals may choose to conceal their sexual identity and remain "in the closet" or portray a heterosexual persona to the public world (Balsam & Mohr, 2007).

There is a robust body of research to suggest that distal minority stress, such as heterosexist discrimination, may be the most detrimental to SM individuals' physical and mental health outcomes. Unlike heterosexual college students, when SM students face identity-based forms of stigma and discrimination, they are at a greater risk for harassment and violence on campus (Dunbar et al., 2017; Rankin, 2005). For example, SM students have reported experiencing harassment, violence, and blatant heterosexism based on sexual and gender identities while attending college (Kulick et al., 2017; Nadal et al., 2011). In addition, SM students have reported high levels of verbal and physical harassment and assault (Bontempo & D'Augelli 2002; D'Augelli et al. 2002), social exclusion and isolation (Ueno, 2005), and interpersonal problems with peers (Russell & Fish 2016). In fact, the Gay, Lesbian and Straight Education Network (GLSEN) reported in its National School Climate Survey, "schools nationwide are unsafe environments for a distressing majority of LGBTQ students" (Kosciw et al., 2009, p. 2).

In additional studies among SM young adult samples, experiences such as bullying and general peer victimization have significantly accounted for the association between SM status and negative mental health outcomes, including higher rates of suicidality, depressive symptoms, risky sexual-behavior, and substance use (Fedewa & Ahn, 2011; Klomek et al., 2007; Marshal et al., 2011). Consequently, experiences of stigma and discrimination can accumulate, increasing the risk among SM populations for poor mental health outcomes including depression, anxiety, excessive alcohol consumption, intimate partner violence, and sexual risk-taking (Blosnich & Bossarte, 2012; Edwards & Sylaska, 2013; Oswalt & Wyatt, 2011; Reed et al., 2010).

Some research has indicated that subtle forms of heterosexism, such as feeling left out or being deliberately ignored due to one's minority sexuality, occur more frequently on college campuses than physical violence (Rankin et al. 2010). For example, microaggressions are a type of subtle discrimination often experienced by members of marginalized groups, including sexual minorities (Nadal et al. 2011; Sue 2010). Microaggressions are described as: "the constant and continuing everyday reality of slights, insults, invalidations, and indignities visited upon marginalized groups" (Sue, 2010, p. xv). Generally, they involve everyday insults and indignations that communicate hostile, derogatory, and negative messages against an individual due to their membership in a marginalized group (Sue et al., 2007). Microaggressions can be expressed interpersonally, such as through behaviors or comments that insult SM individuals or invalidate their experiences, and in the larger social environment, for example, through policies that are not responsive to SM students' needs (Sue et al., 2007). Research suggests that microaggressions, both interpersonal and environmental, occur on college campuses at considerably higher rates than blatant heterosexism (Woodford et al. 2014, 2018).

Internalized Homophobia

While distal stressors are external prejudice events which provide raw social material or content, proximal stressors are the psychological response to such events processed by the individual (Weeks et al., 2021). According to Meyer (2003), proximal stressors are subjective and depend on a person's own appraisal. Proximal stressors may include an awareness or expectation of rejection, concealment of one's sexual orientation, and notably, internalized homophobia (Puckett et al., 2017). Psychologist George Weinberg first introduced the term homophobia in 1972 to describe a phobia or fear of homosexual individuals (Herek, 2004). Internalized homophobia occurs when a SM person has negative feelings and homophobic attitudes towards *themselves* and others who are SM (Shidlo 1994). Internalized homophobia has been described as "the gay person's direction of negative social attitudes toward the self" (Meyer & Dean, 1998, p. 161) and may lead to the rejection of one's own sexual identity (Frost & Meyer, 2009). Internalized homophobia is characterized by an internal conflict based on experiences of same-sex affection or desire, often resulting in feeling a need to be heterosexual (Herek, 2004).

Previous research has demonstrated that internalized homophobia has a negative impact on SM individuals' mental health and well-being (Frost & Meyer, 2009; Meyer & Dean, 1998; Rowen & Malcolm, 2003). For example, internalized homophobia has been correlated with lower self-regard, lower self-esteem, and self-deprecating attitudes (Meyer & Dean, 1998; Newcomb & Mustanski, 2010; Szymanski et al., 2008). In addition, internalized homophobia has been associated with lower self-acceptance, less established identity development, and an inability to disclose sexual orientation to others (Peterson & Gerrity, 2006; Rowen & Malcolm, 2003). SM individuals with high levels of internalized homophobia have reported more

depression, anxiety, substance use, suicidal ideation, risky sexual behavior, and psychological maladjustment (Gibbs & Goldbach, 2015; Moody et al., 2018; Newcomb & Mustanski, 2010, 2011; Pepper & Sand, 2015; Puckett et al., 2015). Higher internalized homophobia has also been associated with more negative attitudes about physical appearance, emotional instability, and higher levels of sex guilt (Rowen & Malcom, 2003). Even though internalized homophobia stems from heterosexist attitudes among society, it has been considered most detrimental when heterosexist beliefs become self-generating and continue even when an individual is not experiencing direct devaluation from the public (Meyer & Dean, 1998).

There is an abundance of research on internalized homophobia, however, it is still unclear how exactly this form of minority stress, compared to other stressors, predicts mental health outcomes among SM individuals (Walch et al., 2016; Weeks et al., 2021). For example, early minority stress research suggested that internalized homophobia may be the component of minority stress that is most predictive of negative mental health outcomes (Meyer & Dean, 1998). According to Meyer (2003), internalized homophobia would likely lead to specific stress responses including mechanisms like rumination and minority identity salience. Internalized homophobia has been documented as distinct form of minority stress by uniquely predicting specific components of mental health-related distress including demoralization, guilt, sex difficulties, and suicidality ideation and/or behavior (Newcomb & Mustanski, 2010). In addition, internalized homophobia has been strongly associated with depression and has been used to explain elevated suicidal ideation and behavior among SM samples (Lee et al., 2019; McLaren, 2016). Research on additional forms of proximal stress such as internalized transphobia has also been conducted. For example, Pellicane and Ciesla (2022), found effect sizes to be larger for expectations of rejection and internalized transphobia associated with depression when compared

to distal stressors among a sample of transgender and gender diverse (TGD) individuals. Evidently, there may be differences in how proximal and distal minority stressors are manifested, how they are likely to influence mental health outcomes, however, less research has examined proximal and distal stressors among SM college students. Therefore, additional research is needed not only with this unique population, but to determine whether proximal or distal stressors are more predictive of SM college students' mental health outcomes.

SOCIAL SUPPORT

Given the influence of both proximal and distal stressors on the mental health of SM individuals, it is important to consider potential protective factors that may help alleviate minority stress. According to the buffering hypothesis, social support may serve as a protective mechanism against negative outcomes when a person experiences stress (Cohen & Wills, 1985). Social support refers to "a social network's provision of psychological and material resources intended to benefit an individual's ability to cope with stress" (Cohen, 2004, p. 676). Most researchers assert that social support is best understood as a multidimensional construct. For example, perceived social support, which is also sometimes referred to as "emotional support," is the subjective belief or appraisal that one belongs to a communicative and caring social network (Cobb, 1976; Lakey & Scoboria, 2005). Research has demonstrated that compared to other forms of social support (e.g., structural support and received support) measures of perceived social support have the strongest correlations with measures of psychological well-being (Turner & Brown, 2010). More specifically, perceived social support has been strongly associated with successful coping in the face of stressors (Cohen, 2004; Cohen & Wills, 1985), and may be beneficial by altering and minimizing how a stressor is interpreted (Graham & Barnow, 2013).

Research on social support may be particularly important for people with stigmatized identities, specifically those with concealable stigmas (Allen et al., 2012; McConnell et al., 2015; McLaren et al., 2015). A concealable stigmatized identity is an identity, such as an SM identity, that can be kept hidden from others but carries significant social devaluation (Crocker et al., 1998). Individuals with concealable stigmas have fewer opportunities to identify sources of validation (Allen et al., 2012; Major, 2006; McCallum & McLaren, 2011; McConnell at al., 2015; Miller & Major, 2000) and may benefit from social support. For instance, social support is theorized to help counteract the harmful effects of psychological distress resulting from stigma, prejudice, discrimination, and violence (Meyer, 2003; Moody & Smith, 2013), and is a common form of coping among SM individuals (Doan Van et al., 2019; Ehlke et al., 2020). Further, the availability of friends or family to talk to after experiences of discrimination may help to rebuild an individual's feelings of self-worth, potentially preventing depression and other mental health problems (Pascoe & Smart Richman, 2009).

The influence of social support on stigma, discrimination, and mental health outcomes among SM individuals has been well documented (McDonald, 2018). For example, Doan Van et al., (2019) found that social support was helpful to SM individuals in coping with the negative emotional impact of discrimination, as well as in providing them with knowledge regarding discrimination, ways to manage experiences of discrimination, and ways to cope in potentially discriminatory settings. In addition, Perrin et al. (2020) found that greater social support was associated with better mental health through identity pride, resilience, and self-esteem among SM individuals. Social support allows stigmatized individuals to evaluate themselves and their experiences in comparison to others (Christie, 2021; Frable et al., 1998), and respond to

prejudice or discrimination through increased identification with members of their ingroup (Major & O'Brien, 2005; Miller & Major, 2000).

Source of Social Support

Previous research has identified distinctions within the social support construct based on relationship-specific domains (Sheets & Mohr, 2009). For instance, social support is frequently broken down into support from family and support from friends (Brannan et al., 2013). Although young adults tend to be less dependent on their parents than adolescents (Arnett, 2000), research suggests that parents remain a key source of social support during emerging adulthood, including the transition to college (Needham & Austin, 2010). For example, previous research among SM college students has demonstrated a positive association between family support and psychological well-being (Sheets & Mohr, 2009). Further, family support has been negatively associated with hopelessness, depressive symptoms, and suicidality among SM youth and young adults (Mustanski & Liu, 2013; Ryan et al., 2010). Similarly, McConnell et al. (2015) identified clusters of support from family, peers, and significant others and found that family support was an especially relevant and important source of support to target for SM young adults. In fact, Ryan et al., (2010) found that family acceptance predicts greater self-esteem, social support, and general health status among SM adolescents and young adults.

On the other hand, low levels of family support or family rejection can have devastating consequences for SM individuals. SM individuals report lower levels of parental support during young adulthood, which may explain why they have worse health-related outcomes (Needham & Austin, 2010). For example, family rejection has been associated with higher rates of substance abuse among SM youth (Rosario et al., 2009). Ryan et al. (2009) found that SM young adults who recalled high levels of parental rejection during adolescence were more likely to report

attempted suicide, high levels of depressive symptoms, illegal drug use, and unprotected sex, compared to SM young adults who recalled no or low levels of parental rejection during adolescence. In one qualitative study, the fear of parental rejection was found to prevent SM youth from disclosing their sexual orientation to family members, which in turn, led these youth to become especially reliant on peers for support pertaining to their sexual identity (Munoz-Plaza et al., 2002). It has been hypothesized that SM youth who are rejected by parents may be especially reliant on peers for support and motivated to develop a "family of choice" as a substitute for their family of origin (Goldfried & Goldfried, 2001). In a study among SM emerging adults (ages 17-27) peer social support moderated the link between negative family attitudes and anxiety and moderated the link between family victimization and depression (Parra et al., 2018). Further, peer support, but not family and campus support, provided a buffer against depression for SM college students (Moran et al., 2018). These results suggest that having a supportive peer group may protect against mental health problems, particularly among SM individuals who are rejected by their family of origin (Weeks et al., 2001).

However, the impact of peer support may be dependent on the source and is further broken down into support from heterosexual friends and support from other SM individuals (Frost et al., 2016). Although peer support provides general emotional support, anticipated discomfort may lead SM individuals to avoid discussion of sexuality-related topics with heterosexual friends (Munoz-Plaza et al., 2002). In previous research, SM participants have expressed a need to find support through other individuals who had similar experiences, such as social support from SM individuals or communities (Doan Van et al., 2019). In fact, participation within one's local SM community, and even a sense of psychological connectedness to the community, can lessen the negative impact of minority stress on mental health and well-being

(Frost & Meyer, 2012; Kertzner et al., 2009; Ramirez-Valles et al., 2005). For example, Some studies also suggest that living in a "gay neighborhood" indicates a greater feeling of connectedness to a community of similar others (Mills et al., 2001). These results suggest that peer support from other SM friends may be particularly important for SM individuals when levels of support from heterosexual friends are low (Sheets & Mohr, 2009).

Although, less is known about the degree to which SM individuals seek social support, and if they are more likely to seek support from members within the SM community. In one study, both heterosexual individuals and SM individuals relied less on family and more on non-family members for everyday social support, and providers of support were most often of the same sexual orientation (Frost et al., 2016). However, there has also been research to suggest that there may be differences in discrimination and support-seeking within the broader SM population. For example, Frost et al. (2016) found that gay and bisexual men were more likely than heterosexual men and women to rely specifically on other LGBTQ individuals for support, which highlights how the composition of social support networks may function differently for SM individuals and heterosexual individuals. Further, research comparing sources of social support has received less attention in quantitative studies of SM college students. Thus, it is important to examine how sources of social support differ among SM college students, and if different sources of social support serve as a buffer against minority stress.

Type of Social Support

Literature on social support has also differentiated between types, typically comparing general social support to other forms. In previous research, general social support has demonstrated positive associations with personal self-esteem, collective self-esteem, and overall psychosocial adjustment in addition to negative associations with hopelessness, loneliness,

depression, anxiety, somatization, and suicidality among SM populations (Grossman et al., 2000; McConnell et al. 2015; Waller, 2001; Williams et al., 2005). Among studies with SM students, general social support within schools, from peers, and from family have all been associated with better health and educational outcomes for SM students (Doty et al., 2010; Goodenow et al., 2006; Watson et al., 2019). Further, Bissonette and Szymanski (2019) found that positive peer group relations moderated the relation between internalized heterosexism and depression among SM college students, such that internalized heterosexism predicted depression for students with low levels of positive peer group relations, but not for those with moderate or high levels.

In addition to the benefits of general social support and interpersonal relations, it is hypothesized that sexuality-specific social support may provide further mental health benefits to SM young adults (Sheets & Mohr, 2009). According to the matching theory of social support, support is most beneficial when it specifically addresses the stressors at hand (Cohen & Wills, 1985). Thus, SM individuals may benefit more from sexuality-specific support, which attends to the specific range of stressors related to one's stigmatized sexual identity (Doty et al., 2010). One component of sexuality-specific social support includes others' acceptance of one's sexual orientation and identity, which has been conceptualized as a core protective feature of support in studies of SM youths (Anhalt & Morris, 2003). For example, Elizur and Ziv (2001) discovered that perceived sexuality acceptance from family members predicted well-being, even after accounting for general support from family among a sample of gay men. Gaining acceptance from friends and family of one's sexuality may have unique implications for sexual identity formation and tasks of stigma management (Sheets & Mohr, 2009).

While most previous studies have focused exclusively on general social support, research comparing general support and sexual identity-specific support has slowly gained empirical

attention. For example, higher levels of sexual identity-specific support have been associated with lower emotional distress among SM youth when compared to general social support (Doty et al., 2010). A similar study that examined well-being among sexual minority young adults found that concurrent SM-related support from families and friends during adolescence was associated with higher life satisfaction and self-esteem (Snapp et al., 2015a). Research has also demonstrated that, when compared to heterosexual friends and family, other SM friends provide the highest levels of sexuality-related support to SM individuals (Doty et al., 2010; Munoz-Plaza et al., 2002). In fact, social support from a sexuality-specific campus group was found to be the strongest predictor of sexual identity development among SM college students (Brandon-Friedman & Kim, 2016).

Although there is certainly evidence to propose that social support is related to positive mental health outcomes among SM individuals and may serve as a buffer against minority stress (Doty et al., 2010; Ramirez-Valles et al., 2005; Sheets & Mohr, 2009; Snap et al., 2015), findings have been less robust. For example, Szymanski (2009) found ratings of available support did not moderate the link between experiences of sexuality stress and psychological distress among a sample of gay and bisexual men (Szymanski 2009). Kaysen et al., (2014) found that greater use of maladaptive coping and less use of SM-specific coping (i.e., accessing support from the SM community), were associated with higher psychological distress among young adult lesbian and bisexual women. However, no statistically significant association was observed between SM-specific coping and psychological distress. Most recently, Kaufman et al., (2017) did not find a moderating effect of sexuality-specific support on the relationship between microaggression experiences and depressive symptoms, either directly or indirectly among SM youth. Similar findings have also been demonstrated among gender minority populations. For example, family

and hetero-cisgender friend supports were significantly related to gender minority stress and suicidal ideation among transgender and gender diverse individuals. However, neither LGBT-social support nor significant other support were found to moderate this relationship (Rimmer et al., 2021). improved social environment had limited impact on stress processes and mental health for SM individuals (Meyer et al., 2021). These discrepancies have presented challenges for researchers who aim to better understand the relationship between social support and mental health outcomes among SM individuals and those who question the role of sexuality-specific social support as a protective factor (Kaufman et al. 2017; Szymanski 2009).

SUMMARY

There is an abundance of research documenting minority stress and its influence on SM individuals' mental health outcomes (Bissonette & Szymanski, 2019; Mongelli et al., 2019). However, most of these studies have focused on broad (global) or narrow (specific) minority stress or tested either proximal or distal stressors independently (e.g., Huebner et al., 2004; Mays & Cochran, 2001; McCabe et al., 2010; Weeks et al., 2021). Further, within existing minority stress research, social support has been identified as an important factor, and may serve as a protective mechanism against minority stress among SM individuals (Doty et el., 2010; Kwon, 2013; Meyer, 2003; McConnell et al., 2015; McLaren et al., 2015. However, there have been conflicting findings concerning the moderating role of social support, particularly sexuality-specific social support, as buffer against the negative outcomes associated with minority stress (Kaufman et al., 2017; Szymanski, 2009). Therefore, it is important that future research examine models which recognize proximal and distal forms of minority stress (i.e., heterosexist discrimination, internalized homophobia) with the capacity to examine multiple forms of social

support (i.e., sexuality-specific, general) associated with SM college students' mental health outcomes.

STUDY PURPOSE

The primary purpose of this research study was to examine the role of general social support and sexuality-specific social support on the relationship between proximal and distal minority stress and SM college students' mental health symptoms. SM college students completed an online survey assessing: (1) individual levels of distal minority stress (i.e., heterosexist discrimination); (2) individual levels of proximal minority stress (i.e., internalized homophobia); (3) perceived general social support from friends and family; (4) perceived sexuality-specific support from friends and family; and (5) mental health symptoms. First, by integrating minority stress theory, this study examined the association between (1) proximal minority stress and (2) distal minority stress on mental health symptoms among SM college students. A secondary goal of this study was to investigate variables (i.e., general social support and sexuality-specific social support) that may weaken the association between distal and proximal minority stress and poor mental health symptoms among SM college students.

This study is significant for many reasons by building upon previous findings in minority stress research. This study replicated prior research findings that minority stress is associated with poor mental health outcomes among SM individuals (Dyar et al. 2019; Meyer; 2003; Mohr & Sarno 2016; Pachankis et al. 2018; Weeks et al., 2021). This study addresses gaps in the literature regarding sources of perceived social support. Although previous research has documented general social support and sexuality-specific social support as independent predictors of mental health outcomes (i.e., depression, life satisfaction, and internalized binegativity; Sheets & Mohr, 2009), this study is the first to examine general social support and

sexuality-specific social support as moderators on the link between minority stress and mental health symptoms (i.e., depression, anxiety, and stress). Findings from this study provide valuable information about the importance of including social support programs within college prevention and intervention efforts to counter the effects of minority stress among SM college students and promote positive mental health.

SPECIFIC AIMS

Aim 1. Aim 1 was to examine if distal stress (i.e., heterosexist discrimination) is associated with mental health symptoms, and if proximal stress (i.e., internalized homophobia) is associated with mental health symptoms among SM college students. Coinciding with minority stress theory, SM students have reported experiencing heterosexist discrimination while attending college (Kulick et al., 2017; Nadal et al., 2011), which has been linked to higher rates of suicidality, depressive symptoms, substance use, and many other negative mental health outcomes (Fedewa & Ahn, 2011; Klomek et al., 2007; Marshal et al., 2011). Also, SM individuals have reported high levels of internalized homophobia which has been associated with depression, anxiety, substance use, suicidal ideation, risky sexual behavior, and psychological maladjustment (Gibbs & Goldbach, 2015; Moody et al., 2018; Newcomb & Mustanski, 2010, 2011; Pepper & Sand, 2015; Puckett et al., 2015). However, many of the existing studies have examined either proximal or distal stressors alone, or have highlighted the distal-proximal link, by suggesting that heterosexist discrimination may be influenced by internalized homophobia (Dunn & Szymanski, 2018; Walch et al., 2016). Studies that have compared proximal stressors and distal stressors as predictors of mental health outcomes are mixed, and it is unclear which component of Meyer's minority stress theory is more predictive of SM college students' mental health symptoms (Walch et al., 2016). For example, among SM adolescents, Weeks et al. (2021)

found that distal stressors significantly predicted more negative mental health outcomes (i.e., substance abuse, suicidality, psychological inflexibility) compared to proximal stressors. In contrast, Ramirez and Galupo (2019) found that compared to distal stressors, proximal stressors predicted more reported mental health symptoms (i.e., depression, anxiety, psychological well-being) among sexual minorities. To better understand these complex relationships, the proposed study examined distal stressors (i.e., heterosexist discrimination) and proximal stressors (i.e., internalized homophobia) simultaneously to investigate their associations with mental health symptoms among SM college students. See Figure 1.

Hypothesis 1a. It was hypothesized that SM college students who experienced more distal minority stress (i.e., heterosexist discrimination) would experience more mental health symptoms.

Hypothesis 1b. It was hypothesized SM college students who experienced more proximal minority stress (i.e., internalized homophobia) would experience more mental health symptoms.

Aim 2. Aim 2 was to examine if general social support moderates the association between (1) distal minority stress (i.e., heterosexist discrimination) and (2) proximal minority stress (i.e., internalized homophobia) and mental health symptoms among SM college students (see Figure 2). In previous research, general social support has demonstrated positive associations with personal self-esteem, collective self-esteem, and overall psychosocial adjustment and negative associations with hopelessness, loneliness, depression, anxiety, somatization, and suicidality among SM populations (Grossman et al., 2000; McConnell et al. 2015; Waller, 2001; Williams et al., 2005). Further, Bissonette and Szymanski (2019) found that general social support (i.e., positive peer group relations) moderated the relationship between

internalized heterosexism and depression among SM college students. However, in other research, social support demonstrated no moderating effects on the link between stress processes and mental health, and an improved social environment did not alleviate minority stressors (Meyer et al., 2021; Szymanski, 2009). Therefore, the proposed study examined if general social support serves as a significant moderator, by weakening associations between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms, and proximal minority stress (i.e., internalized homophobia) and mental health symptoms among SM college students. See Figure 2.

***Hypothesis 2a*.** It was hypothesized that distal minority stress (i.e., heterosexist discrimination) would have a weaker association with mental health symptoms among SM college students with greater general social support than those with less general social support.

***Hypothesis 2b*.** It was hypothesized that proximal minority stress (i.e., internalized homophobia) would have a weaker association with mental health symptoms among SM college students with greater general social support than those with less general social support.

Aim 3. Aim 3 was to examine if sexuality-specific social support moderates the associations between (1) distal minority stress (i.e., heterosexist discrimination) and (2) proximal minority stress (i.e., internalized homophobia) and mental health symptoms, among SM college students. Corresponding with the matching theory of social support, SM individuals may benefit more from sexuality-specific support, which attends to the specific range of stressors related to one's stigmatized sexual identity (Doty et al., 2010). In previous research, SM-related support from families and friends was associated with higher life satisfaction and self-esteem (Snapp et al., 2015a), and social support from a sexuality-specific campus group was found to be the strongest predictor of sexual identity development among SM college students (Brandon-

Friedman & Kim, 2016). Further, perceived sexuality acceptance (hypothesized to be a component of sexuality-specific social support; Anhalt & Morris, 2003) predicted well-being among sexual minorities, even after accounting for general social support from family (Elizur & Ziv, 2001). However, sexuality-specific social support is a relatively new concept, and few studies have examined the influence of sexuality-specific social support on mental health outcomes. Further, only a handful of these studies have compared sexuality-specific social support with general social support. Therefore, the proposed study examined if sexuality-specific social support serves as a significant moderator, by weakening the associations between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms, and proximal minority stress (i.e., internalized homophobia) and mental health symptoms among SM college students. See Figure 3.

***Hypothesis 3a*.** It was hypothesized that distal minority stress (i.e., heterosexist discrimination) would have a weaker association with mental health symptoms among SM college students with greater sexuality-specific social support than those with less sexuality-specific social support.

***Hypothesis 3b*.** It was hypothesized that proximal minority stress (i.e., internalized homophobia) would have a weaker association with mental health symptoms among SM college students with greater sexuality-specific social support than those with less sexuality-specific social support.

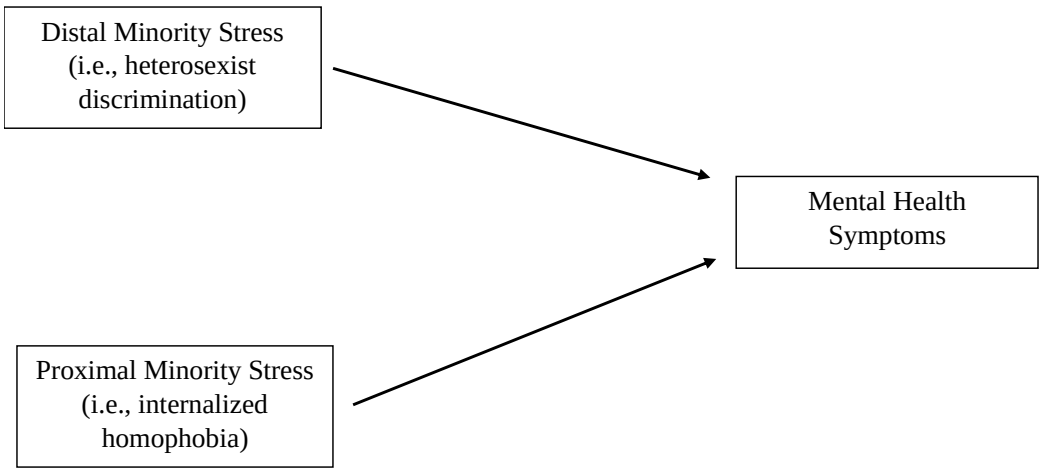

Figure 1. Associations Between Distal Minority Stress (i.e., heterosexist discrimination) and Proximal Minority Stress (i.e., internalized homophobia) and Mental Health Symptoms (i.e., depression, anxiety, and stress).

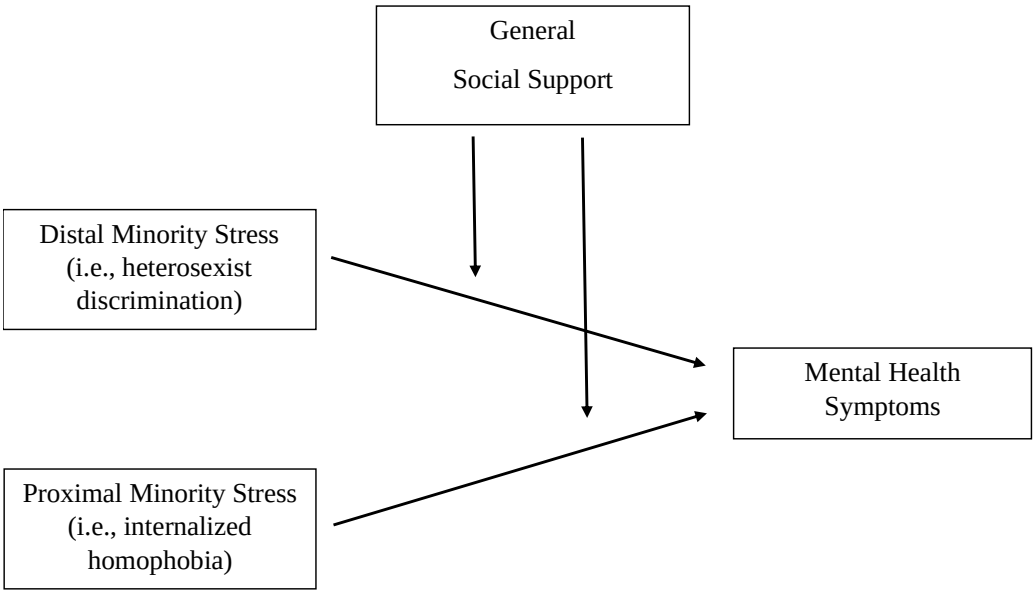

Figure 2. Associations Between Distal Minority Stress (i.e., heterosexist discrimination) and Proximal Minority Stress (i.e., internalized homophobia) and Mental Health Symptoms (i.e., depression, anxiety, and stress) Buffered by General Social Support.

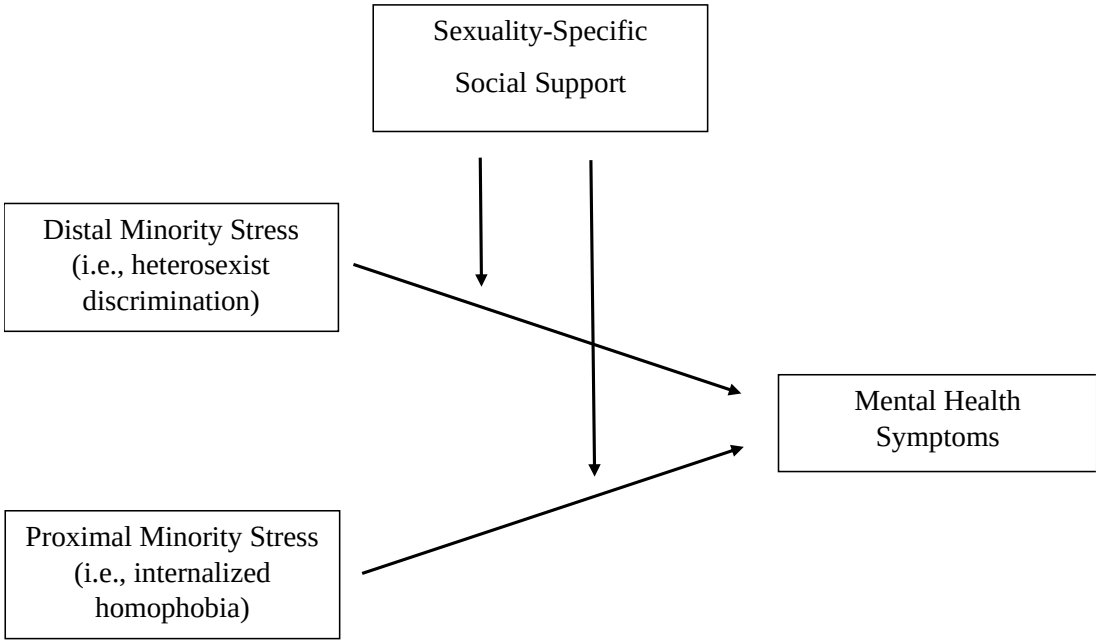

Figure 3. Associations Between Distal Minority Stress (i.e., heterosexist discrimination) and Proximal Minority Stress (i.e., internalized homophobia) and Mental Health Symptoms (i.e., depression, anxiety, and stress) Buffered by Sexuality-Specific Social Support.

CHAPTER II

METHOD

PARTICIPANTS

Participants were recruited online (e.g., Facebook and listservs), through the Old Dominion University psychology participant research pool, student announcements, and email invitations sent by the Office of Intercultural Relations, which is an organization that provides LGBTQIA+ initiatives and serves SM students on campus. Recruitment materials included a brief description of the study (i.e., that the study is interested in examining minority stress, social support, and mental health among SM college students). The advertisements indicated that the study consists of an online survey that takes approximately 30 minutes to complete. To be eligible for the study, participants must have been: 1) 18 to 26 years old, 2) enrolled as an undergraduate college student, and 3) self-identified as a SM individual (i.e., Lesbian, Gay, Bisexual, Pansexual, Queer, Something Not Listed).

A total of 292 individuals completed the screening questionnaire. Of those, 9 duplicates were removed, resulting in 283 participants. Four attention checks using instructed response items (IRIs) were utilized in the study. There were 8 participants who failed all four IRIs and were removed. There were 7 participants who failed three out of the four IRIs. Responses from these 7 participants were straight-lined (i.e., when survey respondents give identical answers to items in a battery of questions) which is likely to reduce data quality (Kim et al., 2019). Therefore, these participants were removed. Based on recent findings from (Gummer et al., 2021) excluding inattentive respondents does not alter the results of substantive analyses or negatively or positively affect response behavior within a survey. Therefore, participants who failed 1 or 2 attention checks were retained. As a result, data from 268 participants were utilized in analyses for the study.

Participant descriptive information is presented in Table 1. Participants were on average 19.80 years old (*SD* = 2.11), and the majority were Old Dominion University students (*n* = 202; 75.4%), Freshmen (*n* = 107; 39.9%), White (*n* = 101; 37.7%), cisgender female (*n* = 145; 54.1%), self-identified as bisexual (*n* = 90; 33.6%) and living on-campus in a dormitory (*n* = 99; 36.9%). There were 35 participants with missing demographic information.

An independent samples t-test was run to determine if there were differences between participants from Old Dominion University and those who attend a different institution. The p-value of Levene's test was greater than .05 (*p* = .10) indicating that the variances were equal across the two groups. The independent samples t-test was non-significant (*p* = .658) indicating that there were no significant differences between the two groups.

Table 1

Participant Demographic Information

Demographic Variables	**Completed Survey** *N* = 268 **Completed Demographics** n = 233
Age *M* (*SD*)	19.80 (2.11)
School *n (%)*	
Old Dominion University	202 (75.4)
Other	31 (11.6)
Class standing	
Freshman	107 (39.9)
Sophomore	39 (14.6)
Junior	49 (18.3)
Senior	34 (12.7)
Other	4 (1.5)
Race/Ethnicity	
White	101 (37.7)
Black	65 (24.3)
Hispanic/Latino	7 (2.6)
American Indian or Alaskan Native	1 (0.4)
Asian	9 (3.4)
Native Hawaiian or Pacific Islander	1 (0.4)
Two or more races	47 (17.5)
Something not listed	2 (0.7)
Gender	
Cisgender female	145 (54.1)
Cisgender male	17 (16.3)
Genderqueer/non-binary/fluid	47 (17.5)
Transgender male	11 (4.1)
Transgender female	7 (2.6)
Something not listed	6 (2.2)
Sexual identity	
Lesbian or gay	58 (21.6)
Bisexual	90 (33.6)
Pansexual	30 (11.2)
Queer	18 (6.7)
Asexual	17 (6.3)
Two-spirit	1 (0.4)
Something not listed	9 (3.4)
Don’t know/not sure	10 (3.7)
Residence	
On-campus dormitory	99 (36.9)
On-campus living learning community	9 (3.4)
On-campus themed community	3 (1.1)
Off-campus with roommates	28 (10.4)

Table 1 Continued

Off-campus on your own	10 (3.7)
With partner	13 (4.9)
With family	68 (25.4)
Something not listed	3 (1.1)

PROCEDURE

Overview. Data collection began in September 2022 and was completed in December 2022. In the initial correspondence (recruitment email, posted announcement, etc.), a link was provided for interested participants to complete an eligibility screening assessment (see Appendix B). Once eligibility was determined, participants were presented with an informed consent form (see Appendix C) which informed them that the purpose of the study was to understand minority stress, social support, and mental health among SM college students, and that participation in this study would involve completing a 30-minute online survey. Participants had to select "I read the notification statement" and "Yes, I wish to participate" prior to starting the survey. After providing consent, participants were redirected to the survey which included empirical measures to identify distal minority stressors (i.e., heterosexist discrimination), proximal minority stressors (i.e., internalized homophobia), general social support, sexuality-specific social support, and mental health symptoms, in addition to a demographics section.

MEASURES

Heterosexist Discrimination

The Daily Heterosexist Experiences Questionnaire (DHEQ; Balsam et al., 2013) was used to assess heterosexist discrimination (i.e., distal stressors). The DHEQ includes items representing blatant forms of discrimination (e.g., "being rejected by your mother for being LGBT" and "being verbally harassed by strangers because you are LGBT") as well as subtle heterosexist experiences (e.g., "hearing someone make jokes about LGBT people" and "people staring at you when you are out in public because you are LGBT"). In the present study, for certain items, the acronym LGBT was modified to "LGBTQ+" and the word "heterosexual" was modified to "non-LGBTQ+" to be inclusive of other sexual orientations that may exist within the

spectrum of sexual identity. For one item, the term "opposite-sex partner" was modified to "other-sex partner" to include individuals who may identify outside of a gender binary. The measure included 38 items across 7 subscales including: gender expression, vigilance, harassment and discrimination, vicarious trauma, family of origin, victimization, and isolation. For the present study, the parenting and HIV/AIDS subscales were not utilized. Participants responded by reporting how often they have experienced each stressor on a 5-point Likert scale ranging from 0 (*Did not happen/not applicable to me*) to 5 (*It happened, and it bothered me extremely*). For each participant, a total score was computed from the sum of the subscales and higher scores indicated greater experiences of heterosexist discrimination. The DHEQ has demonstrated strong validity among previous SM samples with higher scores correlating with greater emotional distress and discrimination (Balsam et al., 2013). In a recent sample of SM emerging adults, the DHEQ demonstrated acceptable internal consistency ($\alpha = .76$; Villarreal et al., 2021). Cronbach alpha for the DHEQ in the present study was $\alpha = .91$.

Internalized Homophobia

The Internalized Homophobia Scale (IHS; Wagner et al., 1994, see Appendix E) was used to assess internalized homophobia (i.e., proximal stressors). The IHS is a 20-item scale that was originally designed to measure internalized and applied heterosexist cultural ideas in gay men and has been adapted and employed recently in a sample of SM college students (Smetana, 2022). In the present study, for certain items, words such as "homosexual" or "gay" were modified to "LGBTQ+" and the word "heterosexual" was modified to "non-LGBTQ+" to be more inclusive of other sexual orientations that may exist within the spectrum of sexual identity. For one item regarding sexual attraction, the term "opposite sex" was modified to "another sex" to include the sexual attraction of individuals who may identify outside of the traditional gender

binary. Participants responded on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Ten of the items are negatively keyed so reverse coding was applied. For each participant, a total score was computed, and greater scores indicated higher internalized homophobia. Sample items from this scale include "I wish I were heterosexual," and "Whenever I think a lot about being an LGBTQ+ individual, I feel critical of myself." Validity for the HIS was supported by positive correlations with mental health measures including demoralization, global psychological distress, and depression (Wagner et al., 1994, 1997). Internal consistency was high among samples of gay men (α = .91), lesbians (α = .88), and bisexual women (α = .91) in previous research (McLaren, 2016). Cronbach alpha for the IHS in the present study was α = .87.

General Social Support

General social support was assessed using the Perceived Social Support Friends (PSS-Fr) and Perceived Social Support Family (PSS-Fa) subscales (Procidano & Heller, 1983, see Appendix F and G). These 20-item subscales are identical except for the reference (friends vs. family). Sample items include "My friends give me the moral support I need" and "My family is sensitive to my personal needs." Participants responded on a 7-point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). Negatively keyed items were reverse-coded. Items from each subscale were summed for a total score and higher scores indicated more general social support. Each scale demonstrated high internal consistency in a recent sample of SM emerging adults: PSS-Fa (Cronbach's α= .92), and PSS-Fr (Cronbach's α= .92; Terry, 2020). The subscales have also demonstrated validity as both were both inversely related to symptoms of distress and psychopathology (Procidano & Heller, 1983) and were strongly associated with perceived sexual orientation acceptance from friends and family and with current romantic

relationship satisfaction in a sample of gay men (Elizur & Mintzer, 2003). Cronbach alpha in the present study was α = .88.

Sexuality-Specific Social Support

Sexuality-specific social support was assessed using portions of a scale that was constructed to address actual and anticipated reactions to one's homosexuality from a variety of figures (Ross, 1985; see Appendix H). The selective use of this scale in the present study is modeled after the approach of Elizur and Mintzer (2003), which focuses on anticipated reactions from friends and family only. In a previous study, it has been used to assess sexuality-specific social support from family and friends among a sample of bisexual college students (Sheets & Mohr, 2009). Participants rated the degree to which they believed their sexuality was accepted by family members and friends using a 9-point scale, ranging from 1 (*acceptance*) to 9 (*rejection*). All items were reverse scored with higher scores indicating more perceived support. In the present study, the term "heterosexual" was modified to "non-LGBTQ+" to be more inclusive of other sexual orientations that may exist within the spectrum of gender identity. The four-item family subscale consists of the following family members: mother, father, brother, and sister. The eight-item friend subscale consists of the following types of friends: best non-LGBTQ+ friend (same gender), best non-LGBTQ+ friend (other gender), most other non-LGBTQ+ friends (same gender), most other non-LGBTQ+ friends (other gender), best LGBTQ+ friend (same gender, best LGBTQ+ friend (other gender), most other LGBTQ+ friends (same gender), most other LGBTQ+ friends (other gender). A total score for each participant was derived from a sum of the items. Among a sample of gay men, Elizur and Mintzer (2003) reported acceptable reliability estimates for the SSS-Fr and SSS-Fam (α =.86 and .91). The subscales have demonstrated acceptable convergent validity as both were with positively correlated with scales

assessing general social support (Elizur & Mentzer, 2003). Cronbach alpha in the present study was $\alpha = .82$.

Mental Health Symptoms

Mental health symptoms was assessed using the Depression, Anxiety, and Stress Scales (DASS-21; Lovibond & Lovibond, 1995, see Appendix I). The DASS-21 is a shortened version of the DASS-42 (Lovibond & Lovibond, 1995) that assesses 21 self-administered negative emotional symptoms (e.g., depression, 7 items; stress, 7 items; and anxiety, 7 items). The depression subscale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest or involvement, anhedonia, and inertia. Sample items are “I felt life was meaningless” and “I couldn’t seem to experience any positive feeling at all”. The anxiety subscale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. Sample items are “I felt I was close to panic” and “I felt scared without any good reason”. The stress subscale is sensitive to levels of chronic non-specific arousal. This subscale also measures difficulty relaxing, nervous arousal, being easily agitated, irritable, and inpatient. Sample items are “I was worried about situations in which I might panic and make a fool of myself” and “I found it difficult to relax.” Using the recommended cut-off values for the depression subscale, participant scores between 0-9 were classified as normal, between 10-13 were classified as mild, between 14-20 were classified as moderate, between 21-27 were classified as severe, and between 28-42 were classified as extremely severe. For the anxiety subscale, participant scores between 0-7 were classified as normal, between 8-9 were classified as mild, between 10-14 were classified as moderate, between 15-19 were classified as severe, and between 20-42 were classified as extremely severe. For the stress subscale, participant scores between 0-14 were classified as normal, between 15-18 were classified as mild, between 19-25

were classified as moderate, between 27-33 were classified as severe and between 34-42 were classified as extremely severe. Because the DASS-21 is a shorter version of the 42-item original DASS, the score for each subscale was multiplied by 2 to calculate the final score. Each participant was assigned a total DASS-21 score and higher scores indicated more mental health symptoms. Among a previous sample of LGB individuals, the DASS-21 has demonstrated acceptable internal consistency reliability (Cronbach's α = .90 for depression, .83 for anxiety, .86 for stress; Walch et al., 2016) and the composite DASS-21 score has been used capture the totality of college students' mental health experience (Cronbach's α= .92; Moeller et al., 2020). Among a recent sample of transgender and nonbinary participants (TGNB), the total scale showed high internal consistency (Cronbach's α= .94; Lindley & Bauerband, 2022). Lastly, the DASS-21 has demonstrated acceptable validity by exhibiting a positive correlation (.69) with the negative affect domain score (NA) and a negative correlation (-.40) with the positive affect domain score, derived from the Positive and Negative Affect Scale (PANAS; Watson et al., 1988). Cronbach alpha for the DASS-21 in the present study was α = .91.

Demographics

A general background questionnaire assessed basic demographic information (e.g., race, gender, ethnicity, class standing, current residence) and additional information pertaining to SM status (e.g., outness, disclosure to friends/family/others). See Appendix J.

DATA ANALYSIS

Power Analysis

A power analysis was conducted in G*Power 3.1.9.2. (Faul et al., 2009) to estimate power for a traditional regression model. To observe a medium effect size (f^2 =.10) and achieve power of .80 with an alpha level of .05 for seven predictors (3 main effect terms, 2 interaction

terms, 2 covariates), it was estimated that a sample of 151 participants were needed. This estimate was based on standardized effect sizes from previous research examining mental health outcomes among SM samples. For example, medium effect sizes were observed from regression analyses examining the relationship between discrimination and depressive symptoms (β = 0.46-0.48), internalized homonegativity and depressive symptoms (β = 0.25-0.32), and parental acceptance and depressive symptoms (β = 0.16-0.20; Feinstein et al., 2014) among SM samples. Also, in previous research with bisexual college students, medium effect sizes were found with negative associations between sexuality-specific support from heterosexual friends and internalized binegativity (β = 0.17-0.34), and negative associations between general social support from friends and family and depression (β = 0.25-0.28; Sheets & Mohr, 2009).

Data Cleaning

All data cleaning was conducted using IBM SPSS Statistics Version 26 and Mplus version 8 (Muthén & Muthén, 1998-2017). First, potential outliers for each variable were examined using boxplots and no outliers were identified. Next, normality was checked. Histograms were created and each variable demonstrated a normal distribution. Skewness and kurtosis were examined for each variable based on recommended cutoff values (i.e., skewness levels of +/-2 and kurtosis greater than 10; Kline, 2015). Distal minority stress (i.e., heterosexist discrimination) demonstrated acceptable levels of skewness (.766) and kurtosis (.513). Proximal minority stress (i.e., internalized homophobia) demonstrated acceptable levels of skewness (.441) and kurtosis (-.645). General social support demonstrated acceptable levels of skewness (-.467) and kurtosis (.082). Sexuality-specific social support demonstrated acceptable levels of skewness (-.423) and kurtosis (-.897). Lastly, mental health symptoms demonstrated acceptable levels of skewness (.412) and kurtosis (-.286). To assess for multicollinearity, Tolerance and VIF values

were analyzed according to the standard cut-off value of .10 for Tolerance and 10 for VIF (George & Mallery, 2010). Distal minority stress (i.e., heterosexist discrimination) demonstrated acceptable Tolerance (.89) and VIF (1.12) values. Proximal minority stress (i.e., internalized homophobia) demonstrated acceptable Tolerance (.94) and VIF (1.07) values. General social support demonstrated acceptable Tolerance (.91) and VIF (1.10) values. Sexuality-specific social support demonstrated acceptable Tolerance (.97) and VIF (1.04) values. A scatterplot of the unstandardized residuals was created to test for linearity. There were no unusual patterns, and the plot met the linear model assumption. Another scatterplot of the standardized residuals was created to check for homoscedasticity. The points were randomly distributed and the plot satisfied the assumption. Lastly, independence was assessed using the Durbin-Watson using the range of 1.5-2.5, and an acceptable value (2.18) was observed.

Missing Data

Once the data set was cleaned, missing data were addressed. Full information maximum likelihood (FIML) estimation is the default method to account for missingness in Mplus. Thus, FIML was used to account for missingness for our dataset. FIML omits cases and obtains parameter estimates in the presence of missing data (Enders, 2013). There were no missing data in the first model for Aim 1. In the second model for Aim 2, there were 18 cases with missing data on the x-variables (i.e., heterosexist discrimination, internalized homophobia, and general social support) and 16 cases with missing data on the outcome variable resulting in 234 observations. In the third model for Aim 3, there were 37 cases with missing data on the x-variables (i.e., heterosexist discrimination, internalized homophobia, and sexuality-specific social support) and 2 cases with missing data on the outcome variable resulting in 229 observations.

To determine if data were missing completely at random (MCAR) I used Little's test statistic. A p-value of less than 0.05 interpreted as being MAR (missing at random or non-ignorable; Little, 1988). In this case, a p-value of greater than 0.05 was observed (p= .890), indicating that the missing data was MCAR. Next, I created variables for missingness for the outcome variable (i.e., mental health symptoms) by recording the variable into 1= missing and 0 = not missing. I used the missingness variable as the grouping variable and ran independent samples *t*-tests to see if missingness was associated with any other variables in the dataset (Braitman, 2016). After examining each *t*-test, one variable, general social support, was significant (p < .001). This variable was hypothesized as a moderator, so it was controlled for and included in the model. After examining each *t*-test, one variable, general social support, was significant (p < .001). This variable was hypothesized as a moderator and was subsequently controlled for and included in the model.

Covariates

A one-way analysis of variance (ANOVA) was conducted to determine if there were any significant differences in mental health symptoms based on potential confounding variables. Based on associations documented by prior research, race and ethnicity, gender identity, sexual identity, and outness were examined as potential covariates (Crenshaw, 1991; Horne et al., 2022; Moradi et al., 2010; Pachankis et al., 2020). After reviewing the results of the ANOVA to determine if there was a significant difference between group means, none of the potential covariates demonstrated a significant p-value (i.e., > .05) and were not included in the model.

Aim 1

Mplus version 8 (Muthén & Muthén, 1998-2017) was used to examine the study aims. All variables were standardized to reduce multicollinearity (Aiken & West, 1991). For Aim 1

and to test hypothesis 1a and 1b, a linear regression was run to examine the association between distal minority stress (i.e., heterosexist discrimination) and proximal minority stress (i.e., internalized homophobia) on mental health symptoms among SM college students.

Aim 2

One model was used to test hypothesis 2a and 2b. The predictor variables (i.e., heterosexist discrimination and internalized homophobia) and the moderator (i.e., general social support) were mean-centered and added to the model. Then, two interaction terms were created (heterosexist discrimination X general social support) and (internalized homophobia X general social support) and added to the model. A linear regression was run to examine if general social support weakens the associations between distal minority stress (i.e., heterosexist discrimination), proximal minority stress (i.e., internalized homophobia), and mental health symptoms among SM college students. In total, three direct effects (i.e., heterosexist discrimination, internalized homophobia, and general social support) and two interaction effects (heterosexist discrimination X general social support and internalized homophobia X general social support) were examined for Aim 2. Following the recommendations of Aiken and West (1991), significant interactions between the interaction terms were decomposed by examining the association at 1 *SD* above, at the mean, and 1 *SD* below the mean of the moderator variable (i.e., general social support). Two interaction plots were created, and general social support was examined at low and high levels for the associations of both predictor variables (heterosexist discrimination and internalized homophobia) to the outcome variable (mental health symptoms).

Aim 3

A similar process was conducted for Aim 3. One model was used to test hypothesis 3a and 3b. The predictor variables (i.e., heterosexist discrimination and internalized homophobia)

and the moderator (i.e., sexuality-specific social support) were mean-centered and added to the model. Then, two interaction terms were created (heterosexist discrimination X sexuality-specific social support) and (internalized homophobia X sexuality-specific social support) and added to the model. A linear regression was run to examine if sexuality-specific social support weakens the associations between distal minority stress (i.e., heterosexist discrimination), proximal minority stress (i.e., internalized homophobia) and mental health symptoms among SM college students. In total, three direct effects (heterosexist discrimination, internalized homophobia, and sexuality-specific social support) and two interaction effects (heterosexist discrimination X sexuality-specific social support and internalized homophobia X sexuality-specific social support) were examined for Aim 3.

CHAPTER III

RESULTS

Descriptive statistics for study variables are shown in Table 2. On measures of minority stress, participants reported an average sum score of 55.81 (*SD* = 28.98, range 0-153) for distal minority stress (i.e., heterosexist discrimination) and an average sum of 39.65 (*SD* = 11.66, range 20-73) for proximal minority stress (i.e., internalized homophobia). For social support measures, participants reported an average sum of 114.72 (*SD* = 30.42, range 43-184) for general social support and an average sum of 61.39 (*SD* = 24.77, range 5-100) for sexuality-specific social support. For the mental health measure, participants reported an average sum of 38.13 (*SD* = 22.83, range 0-108). For descriptive purposes, participant subscale scores for the mental health measure were categorized based on the recommended clinical cut-off values. For symptoms of depression, 100 participants (44%) met the cut-off for normal, 36 participants (16%) met the cut-off for mild, 51 participants (22%) met the cut-off for moderate, 24 participants (11%) of the sample met the cut-off for severe, and 17 participants (7%) met the cut-off for extremely severe. For symptoms of anxiety, 89 participants (38%) met the cut-off for normal, 22 participants (9%) met the cut-off for mild, 46 participants (20%) met the cut-off for moderate, 31 participants (13%) met the cut-off for severe, and 45 participants (19%) met the cut-off for extremely severe. For symptoms of stress, 81 participants (35%) met the cut-off for normal, 81 participants (35%) met the cut-off for mild, 48 participants (21%) met the cut-off for stress, 17 participants (7%) met the cut-off for severe, and 6 participants (3%) met the cut-off for extremely severe.

Correlations for study variables are also shown in Table 2. Distal minority stress (i.e., heterosexist discrimination) was significantly and positively associated with mental health symptoms ($r = .21$, $p < .01$) and negatively associated with general social support ($r = -.20$, $p <$

.01). Proximal minority stress (i.e., internalized homophobia) was significantly and negatively associated with sexuality-specific social support (r = -.18, p < .01).

Table 2

Bivariate correlations and descriptive statistics among study variables

	1.	2.	3.	4.	5.
1. Distal minority stress	--				
2. Proximal minority stress	.12	--			
3. General social support	-.20**	.01	--		
4. Sexuality specific-social support	.01	-.18**	.05	--	
5. Mental health symptoms	.21**	.12	-.12	.01	--
Sum	55.81	39.65	110.54	61.39	38.13
Standard deviation	28.98	11.66	34.94	24.77	22.83

Note. **$p < .01$. Scores for proximal minority stress reflect the sum of the subscale scores. Scores for proximal minority stress reflect the sum of the items. Scores for general social support reflect the sum of the subscale scores. Scores for sexuality-specific social support reflect the sum of the items. Scores for mental health symptoms reflect the sum of the items multiplied by 2.

AIM 1: MAIN EFFECTS OF MINORITY STRESS

Aim 1 was to identify if distal minority stress (i.e., heterosexist discrimination) and proximal minority stress (i.e., internalized homophobia) were associated with mental health symptoms (i.e., depression, anxiety, and stress). It was hypothesized that distal minority stress (i.e., heterosexist discrimination) and proximal minority stress (i.e., internalized homophobia) would be positively associated with mental health symptoms among SM college students. Results showed that distal minority stress (i.e., heterosexist discrimination) was positively associated with mental health symptoms ($\beta = 0.20$, $p = .002$), controlling for proximal minority stress. Thus, participants who experienced more distal minority stress (i.e., heterosexist discrimination), reported more mental health symptoms. However, contrary to predictions, proximal minority stress (i.e., internalized homophobia) was not significantly associated with mental health symptoms ($\beta = 0.09$, $p = .143$), controlling for distal minority stress.

AIM 2: GENERAL SOCIAL SUPPORT AS A MODERATOR

Aim 2 was to identify if general social support moderates the association between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms, and in addition, if general social support moderates the association between proximal minority stress (i.e., internalized homophobia), and mental health symptoms. It was hypothesized that distal minority stress (i.e., heterosexist discrimination) would have a weaker association with mental health symptoms among SM college students with greater general social support, controlling for proximal minority stress. Additionally, it was hypothesized that proximal minority stress (i.e., internalized homophobia) would have a weaker association with mental health symptoms among SM college students with greater general social support, controlling for distal minority stress. Results indicate that general social support did not moderate the association between distal

minority stress (i.e., heterosexist discrimination) and mental health symptoms (β = 0.09, *p* = .176). However, general social support did moderate the relationship between proximal minority stress (i.e., internalized homophobia) and mental health symptoms (β = 0.13, *p* = .048). There was no significant association (i.e., no main effect) between proximal minority stress (i.e., internalized homophobia) and mental health symptoms (β = 0.06, *p* = .375), nor was there a significant association between general social support and mental health symptoms (β = -0.08, *p* = .205). As found previously, there was a significant main effect of distal minority stress (i.e., heterosexist discrimination) on mental health symptoms (β = 0.17, *p* = .008), after controlling for proximal minority stress.

Simple Slope Analysis

Following the recommendations of Aiken and West (1991), the significant interaction between proximal minority stress (i.e., internalized homophobia) and general social support was decomposed by examining the association at 1 *SD* above the mean, at the mean, and 1 *SD* below the mean of the moderator variable (i.e., general social support). For those who reported more general social support, proximal minority stress (i.e., internalized homophobia) was significantly associated with more mental health symptoms (β = 0.19, *p* = .016), but this association was not significant for those who reported low general social support (β = -0.08, *p* = .483), or average levels of general social support (β = 0.06, *p* = .375). See Figure 4.

AIM 3: SEXUALITY-SPECIFIC SOCIAL SUPPORT AS A MODERATOR

Aim 3 was to identify if sexuality-specific social support moderates the association between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms, and in addition, if sexuality-specific social support moderates the association between proximal minority stress (i.e., internalized homophobia), and mental health symptoms. It was hypothesized

that distal minority stress (i.e., heterosexist discrimination) would have a weaker association with mental health symptoms among SM college students with greater sexuality-specific social support, controlling for proximal minority stress. Additionally, it was hypothesized that proximal minority stress (i.e., internalized homophobia) would have a weaker association with mental health symptoms among SM college students with greater sexuality-specific social support, controlling for distal minority stress. Contrary to expectations, sexuality-specific social support did not moderate the relationship between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms ($\beta = 0.04$, $p = .564$), nor did it moderate the relationship between proximal minority stress (i.e., internalized homophobia) and mental health symptoms ($\beta = 0.04$, $p = .601$). There was no significant association (i.e., no main effect) between proximal minority stress (i.e., internalized homophobia) and mental health symptoms ($\beta = 0.09$, $p = .160$). Additionally, there was no significant association between sexuality-specific social support and mental health symptoms ($\beta = 0.04$, $p = .604$). Lastly, as previously observed, there was a significant main effect of distal minority stress (i.e., heterosexist discrimination) on mental health symptoms, after controlling for proximal minority stress ($\beta = 0.20$, $p = .002$). Therefore, hypothesis 3a and 3b were not supported by the results.

Table 3

Regression Analyses Predicting Mental Health Symptoms

	β	***SE***	***p***
Analysis 1: Main effects of minority stress			
Distal minority stress	**0.20**	**0.063**	**.002**
Proximal minority stress	0.09	0.064	.143
Analysis 2: General social support moderation			
Distal minority stress	**0.17**	**0.066**	**.008**
Proximal minority stress	0.06	0.066	.375
General social support	-0.08	0.066	.205
Distal minority stress X general social support	0.09	0.063	.176
Proximal minority stress X general social support	**0.13**	**0.065**	**.048**
Analysis 3: Sexuality-specific social support moderation			
Distal minority stress	**0.20**	**0.064**	**.002**
Proximal minority stress	0.09	0.066	.160
General social support	0.04	0.068	.604
Distal minority stress X sexuality-specific social support	0.04	0.066	.564
Proximal minority stress X sexuality-specific social support	0.04	0.067	.601

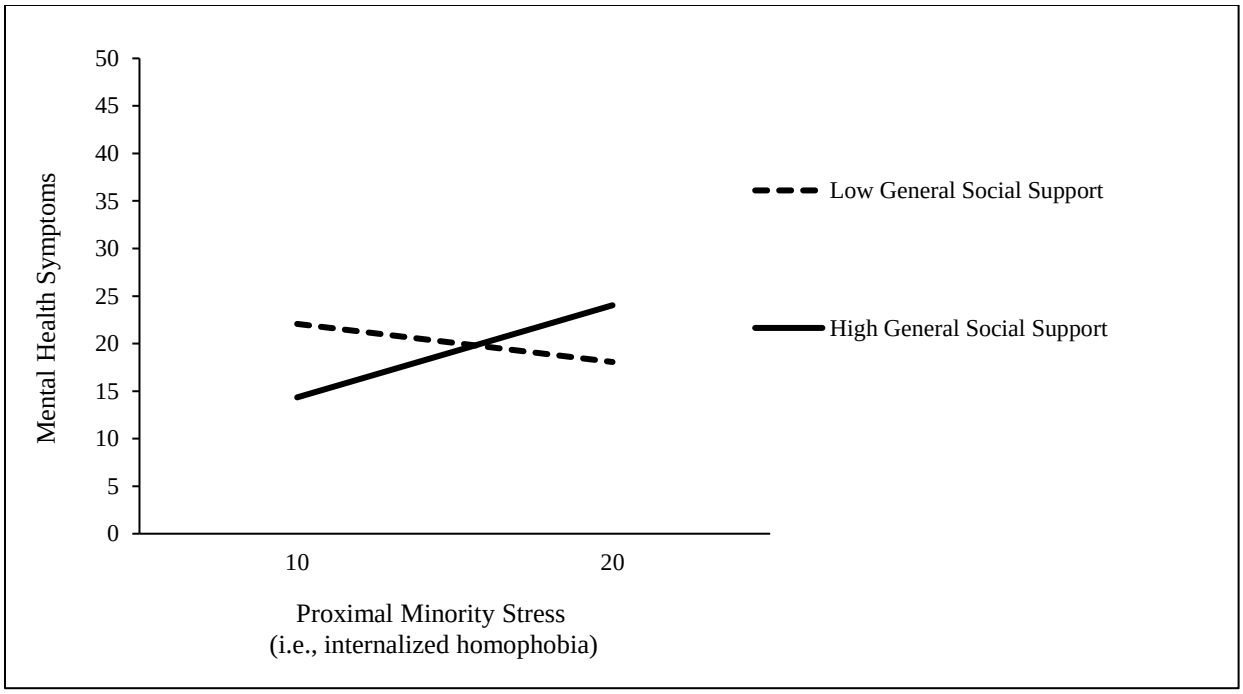

Figure 4. General Social Support Moderates the Association between Proximal Minority Stress (i.e., internalized homophobia) and Mental Health Symptoms

CHAPTER IV

DISCUSSION

Previous studies have demonstrated that SM college students are at an even greater risk for poor mental health compared to their heterosexual peers (Dunbar et al., 2017; Woodford et al., 2014; Wilson & Liss, 2022). Minority stress posits that SM individuals face hostile stressors related to their identity, resulting in negative mental health outcomes (Feinstein et al., 2012; Meyer, 2003; Newcomb & Mustanski, 2010; Pachankis et al. 2018). Social support is conceptualized as a protective factor that can be employed in response to minority stress, and there is much evidence of its positive association with psychological well-being (Cohen & Wills, 1985; Jaspal, 2019; Moody & Smith, 2013). However, most of the existing social support research, specifically with SM college students, has defined social support more broadly and less consideration has been given to sexuality-specific support (Doty et al., 2010; Sheets & Mohr, 2009). Additionally, discrepancies in the literature have presented challenges for researchers who aim to better understand social support and how it may affect the mental health outcomes among SM individuals (Kaufman et al., 2017; Szymanski 2009). The present study addressed gaps in the literature by examining the role of general social support and sexuality-specific social support on the relationship between proximal and distal minority stress and SM college students' mental health symptoms.

CORRELATION RESULTS

In the present study, distal minority stress (i.e., heterosexist discrimination) was significantly and positively associated with mental health symptoms. This finding is consistent with longstanding research that SM populations who experience discrimination are also likely to experience more negative mental health issues including increased symptoms of depression and

anxiety, mood disorders, and higher rates of suicidal behavior (Blosnich & Bossarte, 2012; Lee et al., 2016; Woodford et al., 2014). Subtle forms of discrimination, including microaggressions, occur more frequently on college campuses and increase the risk for poor mental health among SM individuals (Blosnich & Bossarte, 2012; Reed et al., 2010; Woodford et al., 2014, 2018). Also in the present study, distal minority stress (i.e., heterosexist discrimination) was significantly and negatively associated with general social support. This finding corresponds with previous literature with samples of SM young adults that shows greater discrimination is associated with lower perceived social support, including lower peer and family support (Austin & Craig, 2013; Chang et al., 2021).

Degree of outness may also be an important factor to consider related to the relationship between heterosexist discrimination and social support. For example, greater outness has been associated with greater discrimination, which in turn has been associated with greater mental health symptoms (Chang et al., 2021; Riggle et al., 2017). SM individuals who disclose their sexual identity may be susceptible to experiences of heterosexist discrimination and negative reactions from family and friends. In contrast, greater outness may provide access to support and resources, thus improving mental health. For example, Tabaac et al. (2015) found that outness to one's family was positively associated with social support, and social support from one's family and friends was positively associated with mental health. Chang et al. (2021) also found that social support explained the association between outness and depressive symptoms, such that outness did not significantly predict depressive symptoms when controlling for social support. In the present study, participants who were “out” may have reported more social support, which may have allowed them to cope with stress and served as a protective factor against the negative effects of heterosexist discrimination. Therefore, contextual factors such as outness may

influence both heterosexist discrimination and social support through multiple different mechanisms, and future research should investigate these associations further.

Also in the present study, proximal minority stress (i.e., internalized homophobia) was significantly and negatively correlated with sexuality-specific social support. Although there are fewer studies examining associations with sexuality-specific social support compared to general social support, previous research has found that sexuality-specific social support from both friends and family was negatively associated with internalized binegativity among a sample of bisexual college students (Sheets & Mohr, 2009). In the present study, it is important to note that levels of internalized homophobia were higher among participants (average score of 39.65) compared to previous studies utilizing the same scale. For example, Ramos (2020) found that SM college students reported an average sum score of 36.42 (SD = 10.43), and Kalb et al. (2018) found that SM young adults reported an average sum score of 37.94 (SD = 13.99) on the IHS (Wagner, 1998). Given that levels of internalized homophobia were particularly higher in the present sample and given the negative association with sexuality-specific social support, it may be important to consider strategies to improve social support to address the needs of this population. Participants may be less likely to experience support specifically related to their sexual identity, which calls for further research to employ interventions which may address internalized stereotypes about sexual identity and increase social support which may impact SM college students' and mental health.

ASSOCIATIONS BETWEEN MINORITY STRESS AND MENTAL HEALTH SYMPTOMS

Aim 1 sought to examine the association between distal stress (i.e., heterosexist discrimination) and mental health symptoms, and, to examine the association between proximal

stress (i.e., internalized homophobia) and mental health symptoms, among SM college students. Hypothesis 1a was supported such that participants who experienced more distal minority stress (i.e., heterosexist discrimination), reported more mental health symptoms. Thus, there was a main effect of distal minority stress on mental health symptoms among SM college students.

These results are consistent with previous research documenting the detrimental compact of distal minority stress (i.e., heterosexist discrimination) on college campuses. For example, SM college students experience stigma and discrimination at higher rates compared to their heterosexual peers (Dunbar et al., 2017; Kulick et al., 2017; Nadal et al., 2011; Rankin, 2005), consequently, experiences of discrimination on campus can have lasting psychological effects (Newcomb & Mustanski, 2010). For instance, Woodford et al. (2015) found that heterosexist harassment consistently predicted depression, anxiety, and alcohol abuse among a sample of SM college students. In a similar study with SM college students, both discrimination and victimization had significant main effects on depression, and these effects were more pronounced for those with low levels of LGBTQ identity affirmation (Busby et al., 2020). The findings from the present study further emphasize the direct relationship between distal minority stress (i.e., heterosexist discrimination) and mental health. More specifically, these findings suggest that experiences of discrimination are a significant risk factor for SM college students' mental health.

Contrary to predictions for Aim 1, Hypothesis 1b was not supported and proximal minority stress (i.e., internalized homophobia) was not significantly associated with mental health symptoms. A possible explanation for this lack of significant findings may be due to empirical challenges surrounding the construct of internalized homophobia. The term "internalized homophobia" originated as the internalization of anti-gay and lesbian prejudice and

was first examined to understand the development of exclusively lesbian and gay identities (Shildo, 1994). A meta-analytic study demonstrated that the association between internalized homophobia and psychological distress in lesbian, gay, and bisexual individuals is consistent (Newcomb & Mustanski, 2010) and these associations are as strong for lesbian and bisexual women as they are for gay and bisexual men. However, most of the research examining internalized homophobia has not included individuals with other forms of non-heterosexual identification (Lozano-Verduzco et al., 2017). In the present study, most of the participants identified as bisexual (33.6%) and cisgender female (54.1%), however, the present study also included participants from various sexual identities and gender identities. For example, roughly 85 participants (31.7%) identified as something other than lesbian, gay, or bisexual (i.e., pansexual, queer, asexual, two-spirit, etc.) and 71 participants (26.4%) identified as something other than cisgender (i.e., genderqueer, non-binary, genderfluid, transgender male, and transgender female). Researchers have called for more empirical research to understand the internalization of negative social messages in transgender and gender nonconforming (TGNC) individuals, or "internalized transphobia" (Hendricks & Testa, 2012), which is distinctly different from internalized homophobia, referring to discomfort with one's own transgenderism and internalizing society's normative gender expectations (Bockting, 2015). Therefore, participants from non-heterosexual identities or gender-diverse groups may not directly relate to the construct of internalized homophobia, or may experience additional forms of psychological distress, such as internalized transphobia, that were not recognized within the scope of this study.

GENERAL SOCIAL SUPPORT MODERATES MENTAL HEALTH SYMPTOMS

Aim 2 was to identify if general social support moderates the association between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms, and in addition, if

general social support moderates the association between proximal minority stress (i.e., internalized homophobia), and mental health symptoms. Contrary to what was expected for Hypothesis 2a, general social support did not moderate the association between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms. These results are interesting given the mixed results in previous research examining the impact of general social support among SM populations (Barnes & Lightsey, 2005; Szymanski, 2009). For example, Feinstein et al. (2014) found that general family support did not moderate the association between discrimination (i.e., heterosexist harassment, rejection, and discrimination) and depressive symptoms among SM individuals. In a similar fashion, social support was not found to buffer associations of discrimination with internalizing symptoms among a recent sample of Asian-Pacific Islander (API) lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ) individuals (Takeda, 2017).

Evidently, social support is a difficult construct to examine among SM populations and reducing distal minority stress (i.e., heterosexist discrimination) may be difficult to do, even with the influence of social support. The non-significant findings from the study align with previous research arguing that, although social support may be beneficial for those who experience discrimination, it does not offset the impact of acute stress caused by frequent experiences of discrimination (Ajrouch et al., 2010; Feinstein et al., 2014). Like other forms of oppression, heterosexism experiences may be encountered at the individual, collective, or institutional levels of society. Heterosexism may also be reflected in attitudes and feelings, behaviors and practices, cognitions, and policies and laws. Further, in the last few years, many U.S. states have advanced a record number of bills that attack LGBTQ+ rights (Jackson et al., 2023). As a result, social support alone may not be sufficient to reverse the cumulative negative effect of experiences of

heterosexist discrimination. Thus, it is important to examine more structured forms of social support (i.e., individual therapy, LGBTQ+ support groups, comprehensive counseling programs) to reduce the impact of heterosexist discrimination and provide more comprehensive support to o LGBTQ+ college students.

On the other hand, general social support moderated the relationship between proximal minority stress (i.e., internalized homophobia) and mental health symptoms in the present study. Previous research has demonstrated that proximal stress (i.e., internalized homophobia) is associated with increased depression, anxiety, substance use, suicidal ideation, risky sexual behavior, and psychological maladjustment (Gibbs & Goldbach, 2015; Moody et al., 2018; Newcomb & Mustanski, 2010, 2011; Pepper & Sand, 2015; Puckett et al., 2015), but that social support may serve as a buffer. That is, social support allows stigmatized individuals to rebuild feelings of self-worth, potentially preventing depression and other mental health problems (Pascoe & Smart Richman, 2009). Further, social support and has been associated with positive mental health outcomes including identity pride, resilience, and higher self-esteem among SM individuals (Perrin et al., 2020). Thus, the positive effect of social support may be essential to reducing the impact of proximal minority stress (i.e. internalized homophobia) among SM individuals and promoting positive mental health outcomes.

Further, for Aim 2, there was a significant interaction between proximal minority stress (i.e., internalized homophobia) and general social support in the present study. When examined by level, the associations were not significant for low and average levels of general social support. However, for individuals with high levels of general social support, experiencing more proximal minority stress (i.e., internalized homophobia) was associated with more mental health symptoms. For example, Takeda et al. (2021) found that among sexual and gender minority

adults, social support moderated associations between discrimination and internalizing symptoms in the opposite direction than expected, with stronger positive associations of discrimination with symptoms being stronger at higher levels of support (Takeda et al., 2021). However, it should be noted that Takeda et al., (2021) examined distal minority stress (i.e., discrimination) exclusively and did not include forms of proximal minority stress, such as internalized homophobia, in their study.

There are a few potential explanations for why the significant interaction effect was observed in the opposite direction than expected. First, it could be that SM individuals experiencing greater mental health symptoms may seek more social support to cope. Previous research has documented that SM college students are more likely to use mental health services than their heterosexual peers (Dunbar et al., 2017), In addition, college students who are more mentally distressed are significantly more likely to know about and use mental health services (Yorgason et al., 2008). However, it may be that SM individuals who report higher levels of social support are experiencing negative or unsupportive social interactions. For example, a growing body of research suggests that unsupportive social interactions may be a distinct dimension of social support, which may have a detrimental impact on mental health (Lincoln, 2000). In the literature, unsupportive social interactions are defined as upsetting or hurtful responses from social network members in reaction to a specific stressor (Ingram et al., 2001). Unsupportive social interactions may be particularly problematic for SM individuals who experience minority stress. For instance, those who provide support (i.e., family, friends, counselors) may hold heterosexist beliefs, even if unintentional, due to the societal stigma surrounding sexual minorities. It has been theorized that chronic negative interactions in significant relationships (e.g., parent-child relationships) are presumably the most distressful

interactions and are better predictors of negative mental health symptoms (Lee et al., 2010). As a result, it is possible that SM individuals may be further distressed by the responses they receive from significant members of their social networks (Smith & Ingram, 2004). For example, SM individuals may internalize heterosexist beliefs expressed through negative or unsupportive social interactions, which may further increase levels of internalized homophobia. If this is the case, this may explain why the relationship between proximal minority stress (i.e., internalized homophobia) and mental health symptoms was stronger for those with more general social support in the present study.

Additionally, previous research has demonstrated the influence of unsupportive social interactions on SM individuals' overall mental health outcomes. Smith and Ingram (2004) found that minority stress (i.e., heterosexism in the workplace) and unsupportive social interactions were each associated with negative psychological health outcomes (e.g., depression, anxiety, hostility). Further, Ingram et al. (2001) found that unsupportive social interactions accounted for a significant amount of the variance in depression and psychological distress, after controlling for the variance explained by the stressor itself. In the context of minority stress, researchers have identified two main forms of unsupportive social interactions that may be experienced: minimizing responses and blaming responses, which may cause the SM individual to feel invisible or personally responsible for experiencing minority stress (Smith & Ingram, 2004). Thus, it is possible that unsupportive social interactions have a stress-amplifying effect, which would increase mental health symptoms among those who report higher levels of social support.

There are additional ways that poorly enacted social support may increase both psychological stress (Byrd-Craven, Granger, & Auer, 2011). For example, some individuals may engage in negative and excessive amounts of discussion about their problems in a dyadic setting,

a behavior known as co-rumination (Rose, 2002). Most research on co-rumination has focused on close friendships, which has been associated with emotional distress and internalizing symptoms (Calmes & Roberts, 2008; Hankin et al., 2010; Rose et al., 2014). Further, if these associations are bidirectional, the impact of co-rumination may snowball over time (Rose, 2021). For instance, co-rumination may predict greater internalizing symptoms among close friendships, which in turn increases co-rumination. In the present study, it may be that SM individuals who are experiencing mental health symptoms seek social support from individuals who are also experiencing mental health issues. As a result, conversations between two distressed individuals may involve co-rumination, which may escalate mental health symptoms. This may explain why the association between proximal minority stress and mental health symptoms was strongest for individuals with more general social support. Therefore, future research on social support and mental health should address the complexity of social support and consider the nature of social support relationships. For instance, it would be beneficial to examine the type of support that friends, family, and others provide, and the interactions that occur between the support provider and recipient. Evidently, increasing general social support may not benefit SM individuals who experience proximal minority stress (i.e., internalized homophobia), therefore, alternative methods of providing support to SM individuals should be explored in future research.

FINDINGS REGARDING SEXUALITY-SPECIFIC SOCIAL SUPPORT AND MENTAL HEALTH SYMPTOMS

Aim 3 was to identify if sexuality-specific social support moderates the associations between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms, and, if sexuality-specific social support moderates the association between proximal minority stress (i.e., internalized homophobia) and mental health symptoms. Contrary to expectations,

sexuality-specific social support did not moderate the relationship between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms. In addition, sexuality-specific social support did not moderate the relationship between proximal minority stress (i.e., internalized homophobia) and mental health symptoms. In other words, the interaction terms between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms, and proximal minority stress (i.e., internalized homophobia) and mental health symptoms were not significant.

A possible reason for the non-significant findings for Aim 3 may be due to the difficulty of measuring the construct of sexuality-specific social support. For example, the sexuality-specific social support measure used in this study was derived from a previous scale to address actual and anticipated reactions to one's homosexuality from a variety of figures (Ross, 1985). The scale used to assess sexual-specific social support focuses more on the construct of acceptance and asks participants to rate the degree to which they believed their sexuality was accepted by family members and friends using a 9-point scale. In previous studies, the scale included four items to gauge acceptance from an individual's mother, father, brother, and sister. Research with SM youth and young adults has focused heavily on parental acceptance associated with mental health outcomes. For example, (Feinstein et al., 2014) found that proximal minority stress (i.e., internalized homonegativity) was positively associated with depressive symptoms for those reporting less accepting parental attitudes, not for individuals who reported more accepting parental attitudes, suggesting that parental acceptance toward their child's sexual orientation may be more important than the extent to which parents provide general support. In other research with SM youth, a specific form of parental acceptance (i.e., a positive reaction from the

individual's mother) served as a significant protective factor against substance use (Padilla et al., 2010).

However, in the present study, the sexuality-specific social support scale was modified, and items were added to identify sexuality-specific support from LGBTQ+ friends of the same and other genders (see Appendix H). It is likely that participants responded with more acceptance from LGBTQ+ friends, based on previous research documenting that other SM friends provide the highest levels of sexuality-related support (Doty et al., 2010; Munoz-Plaza et al., 2002). As a result, the scale modification may have impacted the results in the present study, and responses may have indicated more sexuality-specific social support due to the inclusion of those items.

In addition, the sexuality-specific support scale used in the present study was not as thorough as the general social support measure (i.e., the Perceived Social Support Friends (PSS-Fr) and Perceived Social Support Family (PSS-Fa) subscales; Procidano & Heller, 1983). Further, general social support and sexuality-specific social support were not correlated, which may indicate that they are measuring different constructs. As described previously, the PSS-Fr and PSS-Fa include 40 total detailed items to adequately measure levels of social support from both friends and family. On the other hand, the sexuality-specific social support measure does not include similar items and asks participants to report how various individuals (i.e., mother, brother, LGBTQ+ friend, etc.) perceive or would perceive their sexuality. Thus, the non-significant findings may have been due to the sexuality-specific social support measure, potentially resulting in issues with face validity. In the future, it may be beneficial to develop a sexuality-specific social support measure that is comparable to other support measures or one

that asks more direct questions regarding support pertaining to one's sexuality (e.g., I am supported in my sexuality, I feel comfortable talking to my family about my sexuality, etc.).

CLINICAL AND PUBLIC HEALTH IMPLICATIONS

Results demonstrated that distal minority stress (i.e., heterosexist discrimination) was directly related to mental health outcomes such that SM college students who experienced heterosexist discrimination reported more mental health symptoms. Based on this finding, clinicians and mental health professionals should prevent heterosexist discrimination in practice and strive to cultivate an inclusive college environment. Professional psychologists recommended that college campuses implement a trained ally program like Safe Zones to enable faculty, administration, staff, and students to learn about LGBTQ+ identities, gender, sexuality, prejudice, and examine their own assumptions and privilege (Finkel et al., 2003). Safe Zone trainings offer resources such as basic knowledge of the LGBTQ+ community, vocabulary for participant use, and emphasize the importance of practicing allyship to the LGBTQ+ community (Mack, 2014). Individuals who complete Safe Zone programs often receive signs, stickers, or certificates to display on campus, which provides visual representation of ally-ship and communicates to others that they are supportive of LGBTQ+ individuals and identities (Ballard et al., 2008). Previous research has demonstrated that the implementation of Safe Zone programming has raised awareness about LGBTQ+ people and issues, positively increased general attitudes towards LGBTQ+ individuals, and encouraged positive behavioral changes (Finkel et al., 2003; Scher, 2008). However, many ally training programs like Safe Zones, focus on awareness of how heterosexism operates, but are not equipped with strategies to address and eradicate discrimination (Woodford et al., 2014). Therefore, it is recommended that Safe Zone programming also include a bystander intervention component for participants which would

allow students and faculty to learn about how to intervene in response to instances of discrimination (Woodford & Kulick, 2015). Lastly, studies which have examined Safe Zone training indicate that ally training cannot reasonably occur within one 4-hour training session (Woodford et al., 2014). Therefore, it is recommended that Safe Zone training programs include multiple sessions broken into segments designed for each Safe Zone topic (e.g., LGBTQ+ terminology, history, allyship, etc.). Participants should be given time following the first session to implement the training, and it would be beneficial to provide follow-up Safe Zone training sessions spread out across multiple semesters to reinforce anti-discrimination protocol and bystander intervention practices. Ultimately, a comprehensive and longitudinal Safe Zone training schedule for staff and students with clear objectives to eradicate discrimination on campus would yield the best results.

In addition to Safe Zone training, it is imperative that practitioners and clinicians seek to promote social integration and interactions between students from all sexual and gender identities, to diminish the prevalence of heterosexist discrimination and focus on issues related to overall college climate. For example, strategies that bring together SM and heterosexual students to engage in structured conversations about sexual identity, gender, allyship, and other LGBTQ+ topics can be used to increase awareness about campus climate (Dessel et al. 2013, 2011). It may be beneficial to implement a mentorship or “buddy program” for students to connect with each other, and learn more about individuals from different backgrounds, including those with diverse gender or sexual identities. A mentorship program may be particularly important for first-year college students who experience significant mental health challenges during emerging adulthood and the transition to college (Arnett, 2000; Woodhead et al., 2020). In recent research, a buddy program was implemented that paired first-year college students with third-year students, and the

first-year students demonstrated gains in academic and social outcomes including adjustment, engagement, and social support (Alharthi, 2020).

There are additional strategies that would bring students together to engage in structured conversations about sexual identity, gender, allyship, and other LGBTQ+ topics, which can be used to increase awareness about campus climate (Dessel et al. 2013, 2011). For example, well-organized student activities or other college events would be beneficial to bridge the gap and encourage positive interactions between LGBTQ+ students and non-LGBTQ+ students. It would be important to cater these events to the students, by providing enjoyable activities and incentives (i.e., food, games, prizes, t-shirts, etc.) which would also increase attendance and participation. Most importantly, these events would allow students to voice concerns and discuss experiences of microaggressions and other discriminatory actions, in a safe and constructive manner (Woodford & Kulick, 2015). Providing discussion opportunities among SM students and their peers, while simultaneously connecting students through engaging activities, may decrease heterosexist language and other forms of discrimination (Woodford et al., 2013). Structured conversations and activities to enhance social integration are simple and cost-effective intervention techniques that can promote inclusivity and improve campus climate for all students (Dessel et al. 2013, 2011).

The results from the present study underscore the importance of establishing a LGBTQ+ campus resource center to provide counseling and forms of continued social support, education, and advocacy for SM college students. In previous research, Pitcher et al. (2018) found that LGBTQ+ resource centers are essential for three main reasons: providing physical spaces, providing community and professional support, and serving as symbols of LGBTQ+ support and inclusion. As a result of these initiatives, SM students have demonstrated increased feelings of

belonging and improved mental health outcomes (Fink, 2014; Strayhorn, 2019). However, in the present study, the link between proximal minority stress (i.e., internalized homophobia) and mental health symptoms was strongest for individuals with *more* general social support. As previously mentioned, this finding suggests that SM students who experience proximal minority stress (i.e., internalized homophobia) are either not receiving adequate support or need additional mental health services. Further, SM students may have encountered negative social interactions or experienced co-rumination while seeking support, which may have exacerbated perceptions of internalized homophobia and mental health symptoms.

Although SM college students are more likely to utilize mental health services than heterosexual students, they also report higher rates of unmet treatment need (Dunbar et al., 2017). Therefore, the mere establishment of an LGBTQ+ resource center is not enough, and these locations should be equipped with a certified mental health professional to meet the treatment needs of SM students. Further, trained mental health professionals at the LGBTQ+ resource center should be knowledgeable about topics related to sexuality, gender, discrimination, and minority stress (e.g., internalized homophobia). In addition, the mental health professional should facilitate support groups specifically designed for SM college students. This would help ensure that SM students are able to interact positively with one another and would reduce negative social interactions and the potential for co-rumination. The mental health professional should also be able to connect students with mental health providers off-campus or telehealth services. Providing multiple opportunities for SM students to seek support would reduce unmet treatment needs and promote positive social support transactions between students and support providers. In addition, offering more specialized mental health treatment opportunities for SM individuals may reduce proximal minority stress by allowing SM

individuals to discuss and process feelings of internalized homophobia with a trained MH professional. As demonstrated by the findings, SM college students continue to experience significant proximal minority stress, despite reporting higher levels of social support, which is related to mental health symptoms. Therefore, it is essential to equip LGBTQ+ resource centers with adequate and comprehensive mental health services to provide psychological support to SM college students on campus.

Lastly, results from this study have implications for clinicians and university professionals who design and oversee student affairs on campus. For example, LGBTQ+ student organizations and extracurricular activities provide opportunities to increase patterns of support and promote community building and empowerment among SM students (Pitcher et al., 2018). Student organizations designed and run by LGBTQ+ individuals increase social network connection, which has been shown to reduce distress among stigmatized sexual minority groups (Wong et al., 2014). As mentioned previously, this form of social interaction is known as LGBTQ+ community connectedness, which refers to a sense of connection to or emotional affiliation with other LGBTQ+ people (Frost & Meyer, 2012). Meyer (2003) suggested that LGBTQ+ community connectedness may be especially important for SM people to find support against heterosexist stigma and make positive social comparisons to others like themselves. Taking pride in one's sexual identity and experiencing community connection has been associated with positive outcomes for LGBTQ+ individuals including such as higher quality of life and lower internalized homophobia (Fredriksen-Goldsen et al., 2015; Masini & Barrett, 2008; Meyer, 2003). LGBTQ+ community connectedness has demonstrated inverse associations with depression severity, suicidal ideation severity, suicide attempt history, and non-suicidal self-injury (NSSI) among SM college students (Busby et al., 2020). In addition to promoting

LGBTQ+ community connectedness, student organizations developed for SM college students creates space for student leadership and activism. For example, many LGBTQ+ student organizations organize protests, petitions, demonstrations, and strikes, all of which have planted the seed for institutional change (Rhoads, 2016). In fact, the first formal LGBTQ+ student service centers were formed with activism as a central objective and SM college students continue to engage in activism across the country (Marine, 2011). As a result of these well-established positive outcomes, it is essential that universities offer opportunities for SM students to engage and organize with peers, in addition to providing inclusive LGBTQ+ resource centers with well-trained mental health providers for support, education, and advocacy.

POLICY IMPLICATIONS

First, findings from this study highlight the need for universities to adopt an anti-discrimination policy regarding sexual orientation and gender identity/expression. More specifically, universities should strictly enforce a "Zero Tolerance Policy" for any form of school environment discrimination, including sexual harassment and bullying. Zero tolerance policies require a set of predetermined consequences and punishments for specific violations (Holloway, 2002). It is important that violations of anti-discrimination policies are treated as severely as violations of other policies including drugs, tobacco, weapons, and school disruption. It is also important that universities establish an Office of Equity & Diversity to be responsible for conducting onsite investigations regarding discrimination and harassment. This office would also be responsible for drafting a university-wide mission statement and implementing a diversity, equity, and inclusion (DEI) strategic plan (Hansen et al., 2021). Lastly, it is recommended that universities hire a Chief Diversity Officer or committee to oversee policy adherence and serve as a liaison between administration, faculty, and students (Suarez et al., 2018).

Anti-discrimination policies and resources can have a significant impact on the mental health outcomes of SM college students (Woodford et al., 2018). For example, previous research demonstrated that exclusionary policies and negative messages directed towards SM college students can contribute to chronic stress (Hatzenbuehler &Pachankis, 2016; Pitcher et al., 2018; Woodford et al., 2016). Even the absence of inclusive language, policies, and practices within campus communities can be detrimental to SM college students (Ottenritter, 2012). On the other hand, inclusive policies, programs, and resources allocated for SM students are associated with positive student outcomes (Garvey et al., 2017; Hall, 2017; Rankin et al., 2010; Woodford et al., 2016). For example, Hong et al. (2016) found that students who reported knowing that their campus had an inclusive anti-discrimination policy reported encountering fewer verbal threats. Further, nondiscrimination policies inclusive of both gender identity and sexual orientation (vs. only sexual orientation), were directly associated with participants reporting lower levels of discrimination, which was associated with less distress and higher self-acceptance (Woodford et al., 2018). Overall, SM students are more likely to feel safe on campus knowing that inclusive policies exist, which can reduce the likelihood of perceiving discrimination (Hong et al., 2016).

Inclusive policies to protect and support LGBTQ+ students on campus are even more essential given the recent wave of anti-LGBTQ+ legislation across the country. In the 2021 U.S. legislative season, there were approximately 160 anti-LGBTQ+ bills proposed, and 70% of U.S. states considered at least one anti-LGBTQ+ bill (Jackson et al., 2023). This wave of legislation is a dramatic increase from 2015, in which 15 anti-LGBTQ+ state laws were enacted (Talley et al., 2023). Luckily, the implementation of national public policies and laws to protect and guarantee rights for LGBTQ+ individuals can have significant positive outcomes. For example, in 2015, when the U.S. Supreme Court delivered the landmark decision in favor of marriage equality

nationwide (Obergefell v. Hodges, 2015), LGBTQ+ individuals reported decreased distress, reduced alcohol and other drug use, and increased well-being (Hatzenbuehler et al., 2015; Ogolsky et al., 2019a, 2019b). During a turbulent political climate, colleges and universities have an opportunity to affirm all LGBTQ+ individuals and an obligation to provide a safe environment.

In addition to extensive anti-discrimination policies, it is also recommended that universities allow students to list the names and pronouns they use in campus information systems. This may require that colleges update software on campus and adopt other changes to support students' names and pronouns across campus systems. For example, The Common Application is a non-profit organization with the goal of encouraging access and equity in the college application process (Edwards, 2017). Beginning in the 2021-2022 admissions cycle, questions related to sexual and gender identity were revised to better reflect the identities of students who use The Common App. In a similar manner, colleges should adjust documents, forms, and other standard paperwork to reflect the appropriate terminology to recognize LGBTQ+ identities. On a smaller scale, college administrators, faculty and staff should display their personal pronouns in office spaces, email signatures, Zoom bios, and other areas. Displaying personal pronouns demonstrates a strong sense of allyship and conveys a basic level of respect for faculty and students of all identities. Further, it reduces the likelihood that someone else would experience discomfort by displaying their own pronouns (Cress, 2022). Pronoun usage is a simple and cost-effective way to illustrate inclusivity.

Finally, there is a need to include LGBTQ+ topics in college curricula. Creating a safe school environment begins with acknowledging LGBTQ+ history in the classroom, recognizing pivotal LGBTQ+ leaders, promoting conversations about LGBTQ+ topics, and addressing

ongoing social injustices. Implementing inclusive curricula will likely require colleges and universities to provide professional development for teachers to create and design lessons for the classroom, in addition to the anti-discrimination policies and Safe Zone training alone (Meyer et al., 2015). Professors may partner with LGBTQ+ faculty on campus through a mentoring program or consult with LGBTQ+ higher education associations or organizations to learn how to best implement LGBTQ+ curricula (Garvey et al., 2015). It would also be beneficial to invite LGBTQ+ individuals outside of the university and community-based activists to speak on diversity topics in classrooms or provide additional educational opportunities. For example, it would be valuable to offer experiential or field exercises for students to interact with the LGBTQ+ community and learn more about the culture directly (Finkel et al., 2003). It would also be useful to allow students to choose between a variety of LGBTQ+ topics to study and have students present their research to peers in class. Overall, LGBTQ+ curricula and inclusive coursework would promote the discussion of LGBTQ+ topics and motivate all students to use critical thinking skills and examine social justice issues.

Implementing an inclusive college curriculum has demonstrated positive student outcomes. For example, among middle and high school students, LGBTQ+ curricula was associated with higher reports of safety at the individual and school level, and lower levels of bullying (Snapp et al., 2015b). In addition, LGBTQ+ youth reported higher levels of belonging and safety (Kosciw et al. 2010). At the university level, there is substantial benefit to implementing LGBTQ+ coursework and providing college credit. For example, Woodford et al., (2018) found when universities offered at least one for-credit LGBTQ course, students reported lower levels of discrimination, which was associated with less distress and higher self-acceptance among SM students. In addition, when college students were interviewed about their

experiences with LGBTQ+ specific coursework, they responded that “I felt like my pain was more validated because I was queer” and “I’m able to enjoy my academic work” (Hill et al., 2021; Schreiner, 2010). LGBTQ+ curricula allows SM college students to feel that they are reflected in the courses that are taught and can connect content to their personal lives. LGBTQ+ curricula may also create empathy and understanding for students who don’t identify as LGBTQ+ which in turn, fosters acceptance. Most importantly, adopting an inclusive college curriculum and affirming the identities of SM individuals creates a safe space for all students to thrive.

LIMITATIONS

There are several limitations that should be considered in this study. First, it is important to note the challenges associated with collecting data on SM individuals, particularly within the college setting. Although research suggests that awareness of sexual minority status appears to be occurring at younger ages (Russell & Fish, 2019), sexual identity is often characterized by fluidity and change. Many individuals who report same-sex behavior identify as heterosexual and others consider themselves to be alternately heterosexual, bisexual, and homosexual (or some other variation in pattern), with changes in self-perception over time (Mayer et al., 2008). Further, the college experience is considered an opportunity for students to experiment with and affirm non-heterosexual sexual identities (Rupp et al., 2014). Therefore, participants in the present study may be in a period of exploring sexual identity and it is important to recognize that there is fluidity with sexual identity. In addition, 68 participants in the present study (29%) responded that they were living off-campus with family. Previous research has demonstrated that the fear of rejection may prevent SM individuals from disclosing their sexual orientation to family members (Munoz-Plaza et al., 2002). It is possible that participants in the present study

who are living at home have chosen to conceal their sexual identity or may not be fully out to others. As a result, it is important to note that there are challenges associated with collecting data with SM individuals on variables that overlap with other such as factors such as outness and personal perception of sexual identity.

Additionally, there were limitations with the measurement of minority stress in the present study. For example, proximal minority stress was assessed using one dimension (i.e., internalized homophobia) using the Internalized Homophobia Scale (IHS; Wagner, 1994). On the other hand, distal minority stress was assessed using the Daily Heterosexist Experiences Questionnaire (DHEQ; Balsam et al, 2013) which captures distal minority stress across multiple dimensions including gender expression, vigilance, harassment and discrimination, vicarious trauma, family of origin, victimization, and isolation. As a result, this may have inflated the distal stress variable and minimized the proximal stress variable.

Similarly, there were also limitations with measuring general social support and sexuality-specific social support by calculating the average sum scores. For example, the general social support variable combined scores from the Perceived Social Support Friends (PSS-Fr) and Perceived Social Support Family (PSS-Fa) scales (Procidano & Heller, 1983). Therefore, participant responses may have indicated higher levels of family support but lower levels of friend support which may have presented bias with the overall social support variable. In addition, there are limitations with using sum scores on the sexuality-specific social support scale. For example, some items may have been impossible for some participants to rate (e.g., acceptance from sister for participants who did not have a sister). Calculating the average sum have resulted in underestimates of participants' levels of sexuality-specific social support by lowering the maximum possible score attainable on the subscales. Further, because the sexuality-

specific social support scale is divided into support from specific individuals (e.g., mother, father, brother, etc.), it may be difficult to gauge the level of support (or lack thereof) without knowing the importance of that individual in one's social support network. For example, on the measure, if a participant responds with high levels of support from the mother (i.e., more acceptance), but low levels of support from the father, the perceived support may be dependent on the support provider's importance or relationship to the participant. The participant rating for the mother item may be more significant compared to the father item, particularly the participant lives with the mother and receives continuous support from her, compared to the father if he is removed from the family or there is little/no contact. As a result, there are contextual limitations with the variable of sexuality-specific social support pertaining to the significance of the support provider.

In addition, research on sexual identity is subject to sample bias which reduces generalizability (Kuperberg & Walker, 2018). In the present study, the largest subgroup of participants identified as bisexual and White. Therefore, findings may not be generalizable to other gender minority populations (e.g., transgender, non-binary, or gender non-conforming individuals) or racial groups (e.g., Black, Hispanic/Latino, Asian). Also, most of the participants were students from Old Dominion University (ODU; 75.4%), which presents challenges when comparing data from the present study with that of other colleges and universities. For example, students from ODU are a part of a campus culture with policies and procedures that may be different than other university settings. It is also important to note that there may be regional differences based on where each university is located. Consequently, each state has different laws and policies regarding the treatment and acceptance of LGBTQ+ individuals, which should be considered given the scope of this study.

Another limitation of the present study is the dependence on cross-sectional data, making it difficult to draw conclusions regarding directions of influence. It was hypothesized that social support (i.e., general and sexuality-specific) would moderate the relationship between minority stress (i.e., heterosexist discrimination and internalized homophobia) and mental health symptoms (i.e., depression, anxiety, and stress). However, it is possible that what was hypothesized as the outcome variable (i.e., depression, anxiety, and stress) influenced the participants' perceptions of social support. Previous research has found that a diagnosis and treatment for depression was associated with significant increases in perceived social support, utilized social support, and satisfaction with support (Mohr et al., 2004). In the present study, SM college students with previous underlying symptoms of depression may have reported higher levels of general or sexuality-specific social support. Therefore, the potential for bidirectionality of the study variables should be considered.

Lastly, this research reveals challenges with identifying social support from different sources. In the present study, there were significant differences between items from both social support measures (i.e., perceived social support scale and sexuality-specific social support scale). For example, the general social support scale designed to measure perceived support from friends does not differentiate between SM friends and non-SM friends. Although the sexuality-specific support scale was modified in the present study to include LGBTQ+ friends of the same and other genders, neither of the social support scales distinguishes support from lesbian, gay, bisexual, transgender, or other friends who identify as a sexual minority. This point is particularly important given that the sample was predominantly bisexual and cisgender female. Previous research suggests that there may be an assumption that bisexuality is just a phase or temporary (Ross et al. 2010), and bisexual women may report the lowest perceived social

support (Ehlke et al., 2020) or seek support from other bisexual individuals (Sheets & Mohr, 2009). Further, the present study did not assess social support from individuals other than family or friends (e.g., partners, professors, coworkers, and community members). To effectively assess levels of social support, it is important to recognize one's larger social network to ensure that all potentially relevant sources of support are considered. It would be beneficial to adapt current social support scales for LGBTQ+ individuals or create new scales and include items to discern between social support from various individuals. It is important that social support measures are equivalent and representative of all LGBTQ+ identities and incorporate items to fully capture the construct of social support.

FUTURE DIRECTIONS

Previous research has measured social support in numerous ways, and it is important that future studies examine different dimensions of social support in coping with minority stress. For example, the distinction between perceived support and received support is particularly important when examining the stress-buffering effect of social support (Wethington & Kessler, 1986). In the literature, an interesting paradox exists indicating that perceived social support has a positive association with well-being, yet received social support is either unrelated or negatively related to well-being (Eagle, 2019; Kaul & Lakey, 2003; Lakey & Cronin, 2008; Liang et al., 2001). In fact, in some studies, higher levels of received support have been associated with worse mental health outcomes (Maisel & Gable, 2009; Myroniuk & Anglewicz, 2015). It may be that the relationship between received social support and mental health is dependent on additional factors such as the need for support, provider motivation, and reciprocity (Melrose et al., 2015; Nurullah, 2012). Therefore, future research examining the

influence of social support as a buffer against minority stress should assess perceived and received social support, as they may each contribute uniquely to mental health outcomes.

In addition, future studies might also examine the role of three main types of support including emotional, informational, and instrumental support (House, 1981). Emotional support involves the verbal and nonverbal communication of care and concern, informational support involves the delivery of information used to guide or advise, and instrumental support involves support that is tangible, often the delivery of material goods, money, or transportation (Helgeson & Cohen, 1999). Instrumental support may be particularly helpful because it directly coincides with the stress experienced, and it aligns with the matching theory of social support (Cohen & Wills, 1985). Although there are benefits to each type of social support for SM individuals, Ajrouch et el. (2010) found that instrumental support exerted a buffering effect to mitigate the negative influence of moderate levels of perceived discrimination on psychological distress. In a similar study, Wong et al., (2014) found that greater instrumental support significantly reduced the effects of distal minority stress on distress. Therefore, future studies among SM individuals should differentiate between types of social support, and specifically seek to assess instrumental support, as it has demonstrated the strongest buffering effect against minority stress.

Future research should also be devoted to understanding construct of social support and how sexuality-specific social support is garnered from individual sources (e.g., support from a parent) versus multiple individuals (e.g., network of friends). Further, it is equally important to assess the importance or significance of the support provider(s) when examining one's perceived social support. For example, within support measures, it would be beneficial to include additional items after the ratings of perceived support from each provider (e.g., mother, father), to request that participants rank or rate the importance of that individual (e.g., from 1-9 how

significant or meaningful is this individual in your life). This additional information may provide critical insight into the nature of social support, and how one's social network and support providers may consist of various individuals, each with a unique contribution to SM individuals' mental health.

It is also important to further examine the construct of sexuality-specific social support, especially given that low parental acceptance and parental rejection of one's sexual identity is associated with negative mental health outcomes among SM young adults (Lozano et al., 2020; Puckett et al., 2015; Rosario et al., 2009; Ryan et al., 2009). However, having a supportive peer group may protect against mental health problems, particularly among SM individuals who are rejected by their family of origin (Weeks et al., 2001). Further, future research should also differentiate between social support from other LGBTQ+ friends versus non-LGBTQ+ friends (Doan Van et al., 2018). It is well known that psychological connectedness to the LGBTQ+ community can lessen the negative impact of minority stress and promote positive mental health (Doan Van et al., 2018; Frost & Meyer, 2012; Kertzner et al., 2009; Ramirez-Valles et al., 2005). Future research should continue to examine LGBTQ+ community connectedness and investigate ways to promote this form of social support on campus (e.g., increasing LGBTQ+ student organizations, holding on-campus LGBTQ+-inspired events, etc.). Research in this area would benefit clinicians and campus officials who seek to create opportunities for SM college students to develop community affiliation.

Lastly, it is critical that future research studies continue to expand and improve the measurement of SM identity and behavior. The US college student population has become increasingly diverse, which has demanded the development of a more succinct manner of measuring students' sexual minority status. It is also important to recognize that sexual identity

is fluid, not a permanent characteristic, which demonstrates the need for future research to gather quantitative data in a multifaceted manner. For example, studies should elect to gather information about the frequency or strength of a behavior in addition to self-report measures about sexual identity (Salomaa & Matsick, 2019). Future data collection methods must be designed with inclusion in mind, which requires that survey items be updated to reflect appropriate terminology and worded to be respectful of all identities, which is especially important due to the heightened stigma associated with one's sexual identity (Mayer et al., 2008; Meyer, 2003). Researchers may be tempted to collapse complex classifications of identity for simplicity or group gender minority with sexual minority, yet these identities remain distinct (Galupo et al., 2014). Although researchers may fear that they will overlook aspects of sexual identity, it is important to utilize standardized scales of sexual identity while providing participants with opportunities to share aspects about themselves in a safe and considerate manner. As a result, this comprehensive approach will inform psychological practice with SM individuals and ensure that all identities are well-respected and represented in research.

CONCLUSION

This study adds to the expanding body of research on the impact of minority stress on SM college students' mental health (Bouris & Hill, 2017; Wilson & Liss, 2022; Woodford et al., 2014). In addition, this research was the first to examine general social support and sexuality-specific social support as moderators on the link between minority stress and mental health symptoms. Distal minority stress (i.e., heterosexist discrimination) was significantly associated with more mental health symptoms (i.e., depression, anxiety, and stress) among SM college students. Sexuality-specific social support did not moderate the relationships between minority stress (i.e., heterosexist discrimination and internalized homophobia) and mental health symptoms. General social support did not moderate the relationship between distal minority stress (i.e., heterosexist discrimination) and mental health symptoms. However, general social support did moderate the relationship between proximal minority stress (i.e., internalized homophobia) and mental health symptoms. Further, this association was strongest for individuals who reported more general social support. It is interesting that the moderated association between internalized homophobia and mental health symptoms occurred in the opposite direction than expected, which warrant further investigation into ways to buffer proximal minority stress (i.e., internalized homophobia).

Collectively, these results establish that distal minority stress (i.e., heterosexist discrimination) is a significant risk factor for negative mental health and that general social support influences the association between proximal minority stress (i.e., internalized homophobia) and mental health symptoms. Future studies should examine additional dimensions and sources of social support, seek to better understand the construct of sexuality-specific social

support, and further develop measures of sexual identity to enhance mental health research and practice with SM populations.

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APPENDIX A

SUMMARY OF STUDY MEASURES

Construct	Measure
Screening Assessment	
Assessment Battery	
Heterosexist Discrimination	Daily Heterosexist Experiences Questionnaire (DHEQ)
Internalized Homophobia	Internalized Homophobia Scale (IHS)
General Social Support	Perceived Social Support, Friends (PSS-Fr) and Perceived Social Support, Family (PSS-Fr) Scale
Sexuality-Specific Social Support	Sexuality-Specific Social Support Scale
Mental Health Symptoms	The Depression, Anxiety, and Stress Scales (DASS-21)
Demographics	
Contact Information	

APPENDIX B

SCREENING QUESTIONNAIRE

1. What is your age? _____

2. Are you currently enrolled as an undergraduate college student?
    a. Yes
    b. No

3. Which of the following best represents how you think of yourself?
    a. Straight/heterosexual
    b. Sexual minority (Lesbian, Gay, Bisexual, Queer, etc.)
    c. Something not listed (please describe): _____

APPENDIX C

CONSENT FORM

NOTIFICATION STATEMENT

OLD DOMINON UNIVERSITY

PROJECT TITLE: Minority Stress, Social Support, and Mental Health Symptoms

INTRODUCTION

The purposes of this form are to give you information that may affect your decision whether to say YES or NO to participation in this research. This is an online survey study.

RESEARCHERS

Principal Investigator: Michelle L. Kelley, Ph.D., Old Dominion University, Psychology Department, mkelley@odu.edu

Co-investigator: Lee A. Golembiewski, M.S., Graduate Research Assistant, Psychology Department, lgole001@odu.edu

DESCRIPTION OF RESEARCH STUDY

The present study is examining associations between stressors that LGBTQ+ students may experience and mental health symptoms, such as symptoms of stress and anxiety. This study will also ask you about your social support from friends and family members. In addition, you will be asked some background questions, such as your age and year in college. If you say YES, the survey will take approximately 30 minutes to complete. Approximately 300 college students will take part in this study.

EXCLUSIONARY CRITERIA

To be eligible for this study you must be at least 18-26 years of age, currently enrolled as an undergraduate college student, and self-identify as a sexual minority individual (Lesbian, Gay, Bisexual, Queer, etc.).

RISKS AND BENEFITS

RISKS: If you decide to participate in this study, then you may face a risk of psychological discomfort from answering some of the survey questions about your personal experiences. You can skip any questions that make you feel uncomfortable. You can also stop participating at any time by closing your browser. And, as with any research, there is some possibility that you may be subject to risks that have not yet been identified.

COSTS AND PAYMENTS

There are no costs to participating in this study. If you are a student actively enrolled at Old Dominion University may receive .5 research credit point through the SONA system for a

psychology course. We advise before completing the survey, that you check with your course instructors as to whether any additional extra credit will be given for completing the survey. For ODU students, research credits may be obtained in other ways. You do not have to participate in this study, or any study, to obtain research credit.

NEW INFORMATION

If the researchers find new information during this study that would reasonably change your decision about participating, then they will give it to you.

CONFIDENTIALITY

All information obtained about you in this study is strictly anonymous unless disclosure is required by law. If you receive research credit for your participation, your SONA ID will not be connected to your study information. Therefore, the researchers will not know who you are. The results of this study may be used in reports, presentations, and publications, but the researchers will not identify you.

WITHDRAWAL PRIVILEGE

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study at any time. Your decision will not affect your relationship with Old Dominion University, or otherwise cause a loss of benefits to which you might otherwise be entitled. The researchers reserve the right to withdraw your participation in this study, at any time, if they observe potential problems with your continued participation.

COMPENSATION FOR ILLNESS AND INJURY

If you say YES, then your consent in this document does not waive any of your legal rights. However, in the event of harm arising from this study, neither Old Dominion University nor the researchers are able to give you any money, insurance coverage, free medical care, or any other compensation for such injury. In the event that you suffer injury as a result of participation in this research project, you may contact Michelle Kelley, Ph.D., Principal Investigator at mkelley@odu.edu or 757-683-4459, Lee Golembiewski, M.S., Co-Investigator, at lgole001@odu.edu, Dr. Tancy Vandecar-Burdin the current IRB chair at 757-683-3802 at Old Dominion University, or the Old Dominion University Office of Research at 757-683-3460 who will be glad to review the matter with you.

VOLUNTARY CONSENT

By clicking "I read the notification statement" and "Yes, I wish to participate," you are saying that you have read this information, that you are satisfied that you understand the information, the research study, and its risks and benefits. If you have any questions about this research study now or in the future, please contact the co-investigator, Lee Golembiewski, at lgole00@odu.edu or the principal investigator, Dr. Michelle Kelley, at mkelley@odu.edu or 757-683-4459. If at any time you feel pressured to participate, or if you have any questions about your rights as a study participant, then you should call Dr. Tancy Vandecar-Burdin the current IRB chair at 757-683-3802 at Old Dominion University or the Old Dominion University Office of Research at 757-683-3460.

And importantly, by clicking “I read the notification statement” and “yes, I wish to participate”, you are telling the researcher YES, that you agree to participate in this study.

You may choose to print a copy of this page for your own records.

APPENDIX D

DAILY HETEROSEXIST EXPERIENCES QUESTIONNAIRE (DHEQ)

We understand that some of the language in these survey questions may not directly reflect your understanding of sex or gender. Please answer the questions as best as you can and interpret them in a way that makes sense to you.

The following is a list of experiences that LGBTQ+ people sometimes have. Please read each one carefully, and then respond to the following question:

How much has this problem distressed or bothered you during the **past 12 months**?

0= Did not happen/not applicable to me
1= It happened, and it bothered me NOT AT ALL
2= It happened, and it bothered me A LITTLE BIT
3= It happened, and it bothered me MODERATELY
4= It happened, and it bothered me QUITE A BIT
5= It happened, and it bothered me EXTREMELY

1. Difficulty finding a partner because you are LGBTQ+

2. Difficulty finding LGBTQ+ friends

3. Having very few people you can talk to about being LGBTQ+

4. Watching what you say and do around non-LGBTQ+ people

5. Hearing about LGBTQ+ people you know being treated unfairly

6. Hearing about LGBTQ+ people you don't know being treated unfairly

7. Hearing about hate crimes (e.g., vandalism, physical or sexual assault) that happened to LGBTQ+ people you don't know

8. Being called names such as "fag" or "dyke"

9. Hearing other people being called names such as "fag" or "dyke"

10. Hearing someone make jokes about LGBTQ+ people

11. Family members not accepting your partner as a part of the family

12. Your family avoiding talking about your LGBTQ+ identity

13. Feeling like you don't fit in with other LGBTQ+ people

14. Pretending that you have an other-sex partner

15. Pretending that you are not LGBTQ+

16. Hiding your relationship from other people
17. People staring at you when you are out in public because you are LGBTQ+
18. Feeling invisible in the LGBTQ+ community because of your gender expression
19. Being harassed in public because of your gender expression
20. Being harassed in bathrooms because of your gender expression
21. Being rejected by your mother for being LGBTQ+
22. Being rejected by your father for being LGBTQ+
23. Being rejected by a sibling or siblings because you are LGBTQ+
24. Being rejected by other relatives because you are LGBTQ+
25. Being verbally harassed by strangers because you are LGBTQ+
26. Being verbally harassed by people you know because you are LGBTQ+
27. Being treated unfairly in stores or restaurants because you are LGBTQ+
28. People laughing at you or making jokes at your expense because you are LGBTQ+
29. Hearing politicians say negative things about LGBTQ+ people
30. Avoiding talking about your current or past relationships when you are at work
31. Hiding part of your life from other people
32. Feeling like you don't fit into the LGBTQ+ community because of your gender expression
33. Difficulty finding clothes that you are comfortable wearing because of your gender expression
34. Being misunderstood by people because of your gender expression
35. Being punched, hit, kicked, or beaten because you are LGBTQ+
36. Being assaulted with a weapon because you are LGBTQ+
37. Being raped or sexually assaulted because you are LGBTQ+
38. Having objects thrown at you because you are LGBTQ+

APPENDIX E

INTERNALIZED HOMOPHOBIA SCALE (IHS)

We understand that some of the language in these survey questions may not directly reflect your understanding of sex or gender. Please answer the questions as best as you can and interpret them in a way that makes sense to you.

The following are some statements that individuals can make about being an LGBTQ+ individual. Please read each one carefully and decide the extent to which you agree with the statement, then circle the number that best reflects how much you agree or disagree with the statement.

1= Strongly disagree

2=Disagree

3=Neutral

4= Agree

5= Strongly agree

1. LGBTQ+ orientations are a natural expression of sexuality in humans.

2. I wish I were not LGBTQ+.

3. When I am sexually attracted to another LGBTQ+ individual, I do not mind if someone else knows how I feel.

4. Most problems that LGBTQ+ individuals have come from their status as an oppressed minority, not from their sexual orientation per se.

5. Life as a LGBTQ+ individual is not as fulfilling as life as a non-LGBTQ individual.

6. I am glad to be LGBTQ+

7. Whenever I think a lot about being LGBTQ+, I feel critical about myself.

8. I am confident that my sexual orientation does not make me inferior.

9. Whenever I think a lot about being LGBTQ+, I feel depressed.

10. If it were possible, I would accept the opportunity to be non-LGBTQ+.

11. I wish I could become more sexually attracted to people of another sex.

12. If there were a pill that could change my sexual orientation, I would take it.

13. I would not give up being LGBTQ+ even if I could.

14. LGBTQ+ orientations are deviant.

15. It would not bother me if I had children who were LGBTQ+.
16. Being LGBTQ+ is a satisfactory and acceptable way of life for me.
17. If I were not LGBTQ+, I would probably be happier.
18. Most LGBTQ+ people end up lonely and isolated.
19. For the most part, I do not care who knows I am LGBTQ+.
20. I have no regrets about being LGBTQ+.

APPENDIX F

PERCEIVED SOCIAL SUPPORT FRIENDS SCALE (PSS-Fr)

Instructions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with **friends**. Please read each one carefully and decide the extent to which you **agree or disagree** with the statement.

1= Very strongly disagree

2= Strongly disagree

3= Mildly disagree

4= Neutral

5= Mildly agree

6= Strongly agree

7= Very strongly agree

1. My friends give me the moral support I need.
2. Most other people are closer to their friends than I am.
3. My friends enjoy hearing about what I think.
4. Certain friends come to me when they have problems or need advice.
5. I rely on my friends for emotional support.
6. If I felt that one or more of my friends were upset with me, I'd just keep it to myself.
7. I feel that I'm on the fringe in my circle of friends.
8. There is a friend I could go to if I were just feeling down, without feeling funny about it later.
9. My friends and I are very open about what we think about things.
10. My friends are sensitive to my personal needs.
11. My friends come to me for emotional support.
12. My friends are good at helping me solve problems.
13. I have a deep sharing relationship with a number of friends.
14. My friends get good ideas about how to do things or make things from me.
15. When I confide in friends, it makes me feel uncomfortable.
16. My friends seek me out for companionship.

17. I think that my friends feel that I'm good at helping them solve problems.

18. I don't have a relationship with a friend that is as intimate as other people's relationships with friends.

19. I've recently gotten a good idea about how to do something from a friend.

20. I wish my friends were much different.

APPENDIX G

PERCEIVED SOCIAL SUPPORT FAMILY SCALE (PSS-Fa)

Directions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with **family**. Please read each one carefully and decide the extent to which you **agree or disagree** with the statement

1= Very strongly disagree

2= Strongly disagree

3= Mildly disagree

4= Neutral

5= Mildly agree

6= Strongly agree

7= Very strongly agree

1. My family gives me the moral support I need.

2. I get good ideas about how to do things or make things from my family.

3. Most other people are closer to their family than I am.

4. When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.

5. My family enjoys hearing about what I think.

6. Members of my family share many of my interests.

7. Certain members of my family come to me when they have problems or need advice.

8. I rely on my family for emotional support.

9. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.

10. My family and I are very open about what we think about things.

11. My family is sensitive to my personal needs.

12. Members of my family come to me for emotional support.

13. Members of my family are good at helping me solve problems.

14. I have a deep sharing relationship with a number of members of my family.

15. Members of my family get good ideas about how to do things or make things from me.

16. When I confide in members of my family, it makes me uncomfortable.

17. Members of my family seek me out for companionship.

18. I think that my family feels that I'm good at helping them solve problems.

19. I don't have a relationship with a member of my family that is as close as other people's relationships with family members.

20. I wish my family were much different.

APPENDIX H

SEXUALITY-SPECIFIC SOCIAL SUPPORT SCALE

Instructions: Below is a list of individuals who may or may not have influence in your life. Please indicate how you think they perceive ***or*** would perceive your sexuality (if they are currently unaware) using the scale below.

1----------2----------3----------4----------5----------6----------7----------8----------9

Acceptance **Rejection**

1 2 3 4 5 6 7 8 9 (N/A) 1. Mother

1 2 3 4 5 6 7 8 9 (N/A) 2. Best heterosexual friend (same gender)

1 2 3 4 5 6 7 8 9 (N/A) 3. Father

1 2 3 4 5 6 7 8 9 (N/A) 4. Best heterosexual friend (other gender)

1 2 3 4 5 6 7 8 9 (N/A) 5. Sister

1 2 3 4 5 6 7 8 9 (N/A) 6. Most other heterosexual friends (other gender)

1 2 3 4 5 6 7 8 9 (N/A) 7. Brother

1 2 3 4 5 6 7 8 9 (N/A) 8. Most other heterosexual friends (other gender)

1 2 3 4 5 6 7 8 9 (N/A) 9. Best LGBTQ+ friend (same gender)

1 2 3 4 5 6 7 8 9 (N/A) 10. Best LGBTQ+ friend (other gender)

1 2 3 4 5 6 7 8 9 (N/A) 11. Most other LGBTQ+ friends (same gender)

1 2 3 4 5 6 7 8 9 (N/A) 12. Most other LGBTQ+ friends (other gender)

APPENDIX I

THE DEPRESSION, ANXIETY, AND STRESS SCALES (DASS-21)

Please read each statement and circle a number 0,1,2, or 3 which indicates how much the statement applied to you over the **past week**.

The rating scale is as follows:

0= Did not apply to me at all
1= Applied to me to some degree, or some of the time
2= Applied to me to a considerable degree or a good part of time
3= Applied to me very much or most of the time

1. I found it hard to wind down
2. I was aware of dryness in my mouth
3. I couldn't seem to experience any positive feeling at all
4. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)
5. I found it difficult to work up the initiative to do things
6. I tended to over-react to situations
7. I experienced trembling (e.g in the hands)
8. I felt that I was using a lot of nervous energy
9. I was worried about situations in which I might panic and make a fool of myself
10. I felt that I had nothing to look forward to
11. I found myself getting agitated
12. I found it difficult to relax
13. I felt down-hearted and blue
14. I was intolerant of anything that kept me from getting on with what I was doing
15. I felt I was close to panic
16. I was unable to become enthusiastic about anything
17. I felt I wasn't worth much as a person
18. I felt that I was rather touchy
19. I was aware of the action of my heart in the absence of physical exertion (e.g sense of heart rate increase, heart missing a beat)

20. I felt scared without any good reason

21. I felt that life was meaningless

APPENDIX J

DEMOGRAPHICS

1. What is your age? _____

2. What college/university are you currently enrolled at?
    a. Old Dominion University
    b. Other
    If Other, please list which college/university you are currently enrolled at:
    _____

3. What is your class standing?
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior
    e. Something not listed (please specify): _____

4. What is your student status?
    a. Full-time
    b. Part-time

5. Where is your current residence?
    a. On-campus dormitory
    b. On-campus living-learning community
    c. On-campus themed community
    d. Off-campus house or apartment with roommates
    e. Off-campus house or apartment on your own
    f. With partner
    g. With family
    h. Other (please specify):

6. What is your race? (select all that apply)
    a. White
    b. Black
    c. American Indian/Alaskan Native
    d. Asian
    e. Native Hawaiian/Pacific Islander
    f. Something not listed (please specify): _____

7. Are you Hispanic/Latino(a)/Spanish origin?
    a. Yes
    b. No

8. Which of the following best describes you?
    a. Cisgender female, I was born a female and I identify as a female

b. Cisgender male, I was born a male and I identify as a male
c. Genderqueer, gender non-binary, or gender fluid
d. Transgender male
e. Transgender female
f. Something not listed (please specify): _____

9. Which of the following best represents how you think of yourself?
    a. Lesbian or gay
    b. Bisexual
    c. Pansexual
    d. Queer
    e. Asexual
    f. Two-spirit
    g. Something not listed (please specify): _____
    h. Don't know/Not sure

10. Do you know what age you were when you first wondered if you might be LGBTQ+?
    a. Yes
    b. No
    c. Prefer not to say

    If yes, at what age did you wonder if you might be LGBTQ+? _____

11. Do you know what age you were when you first self-identified as LGBTQ+?
    a. Yes
    b. No
    c. Prefer not to say

    If yes, at what age did you first self-identify as LGBTQ+? _____

12. Have you disclosed your sexual identity to anyone? Yes/No

If "Yes" to Question 12,

a. Have you disclosed your sexual identity to your biological mother? Yes/No/Na

b. Have you disclosed your sexual identity to your biological father? Yes/No/Na

c. Have you disclosed your sexual identity to a stepmother(s)? Yes/No/Na

d. Have you disclosed your sexual identity to a stepfather(s)? Yes/No/Na

e. Have you disclosed your sexual identity to a family member other than a parent or guardian? Yes/No

f. Have you disclosed your sexual identity to any of your friends? Yes/No

g. Who did you disclose your sexual identity to first?

Biological mother
Biological father
Stepmother
Stepfather
A family member other than parent or guardian
Friend
Other (please specify): _____

h. At what age did you first disclose your sexual identity? _____

i. Have you disclosed your sexual identity to anyone else? Yes/No
If Yes, please list who else you have disclosed to: _____

13. How did you hear about this research study?
    a. SONA research pool
    b. Email announcement
    c. From the ODU Office of Intercultural Relations LGBTQIA+ initiative
    d. Facebook
    e. Listservs
    f. Other
    If Other, please list where you hear about this research study? _____

14. Are you taking this survey to receive research credits at ODU?
    a. Yes
    b. No
    If Yes, please enter your SONA ID in the space below:
    _____

VITA

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PRESENTATIONS:

Golembiewski, L., Kelley, M.L., & Koster, M.L. (2022, May). Differences in Thwarted Belongingness Between Disabled and Non-disabled Veterans. Poster presented at the Association for Psychological Sciences Annual Convention, Chicago, IL.

Chae, J.W., **Golembiewski, L.**, Milam, A.L., Ayers, Jr., & Kelley, M.L. (2022, May). The Effect of Sexual Identification and Posttraumatic Stress Disorder on Suicide Ideation among Military Personnel. Poster presented at the Association for Psychological Sciences Annual Convention, Chicago, IL.

Golembiewski, L., Milam, A., Koster, M., Kelley, M., & Davis, J. (2021, August). Associations Between Belongingness and Burdensomeness on Depressive Symptoms and Beliefs About Psychological Services. Poster presented at the American Psychological Association Annual Conference 2021.

PUBLICATIONS:

Golembiewski, L. L. (2021). The Effects of Depression, Anxiety, and Stress on College Students: Examining the Role of Mental Health Self-Efficacy on Willingness to Engage in Mental Health Services (Master's thesis, Old Dominion University).

Meca, A., Park, H., Higgins, J., Hamrick, H., Webb, T., Davies, R., **Golembiewski, L.**, Bravo A., Kelley, M., (2020). The role of United States identity in adjustment among veterans. Military Psychology, 32(6), 408-416. https://doi.org/10.1080/08995605.2020.1802400