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Sexual minority stress and mental health: An investigation of rural-urban differences in social support

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SEXUAL MINORITY STRESS AND MENTAL HEALTH:

AN INVESTIGATION OF RURAL-URBAN DIFFERENCES IN SOCIAL SUPPORT

by

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(Under the direction of Jeff Klibert)

ABSTRACT

As mental health disparities and discrimination facing the LGB (sexual minority) community continues to come into public focus, researchers and clinicians are moving toward identifying LGB-specific mental health interventions to support well-being efforts within this population. Furthermore, much of the current literature on sexual minority mental health is focused on predominantly urban samples failing to consider the sociocultural impacts of living in low resourced and geographically isolated regions of the United States (US). To this end, social support is a promising prevention factor, but few studies to date examine its influence on different minority stress models. As such, the current study sought to answer the following questions: a) do reports of social support, internalized homophobia, and mental health distress vary by rural groups?, b) do self-reports of internalized homophobia correlate with mental health distress?, c) do indices of support moderate the relationship between internalized homophobia and mental health distress?, and d) does rurality moderate the relationship between internalized homophobia and mental health distress? The study utilized a cross-sectional and correlational design, whereby participants completed an online survey to answer questions related to their rural status, experiences with internalized homophobia, overall social support, LGB-peer support, and mental health distress. Online survey data were collected from a community sample of 494 adults who self-identified as a sexual minority. A MANOVA was analyzed to determine any significant rural differences on the main variables. Results indicated non-rural and rural sexual minorities report comparable levels of internalized homophobia, social support, and distress. Bivariate correlations indicated that higher self-reported internalized homophobia was significantly correlated with poorer mental health outcomes. Regarding path analytic models, neither social support indices or rurality were found to significantly moderate the relationship between internalized homophobia and mental health outcomes. Overall, these findings reinforce

the negative psychological effects of internalized discrimination on distress. The merits of employing social support interventions as a prevention to approach to manage minority stress is also discussed. Finally, the results emphasize the need for additional research into significant moderators of the relationship between discrimination and mental health distress.

INDEX WORDS: LGB adults, Social support, Community support, Mental health distress, Internalized homophobia, Rurality

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CHAPTER 1

LITERATURE REVIEW

Sexual minorities are a growing focus of social science and clinical psychology research. This highly heterogeneous group is composed of lesbian, gay, and bisexual (LGB) individuals, as well as those who identify as pansexual, asexual, queer, and questioning. According to the Williams Institute (2019a), approximately 10.3 million Americans (4%) identify as LGB. Most sexual minority adults, an estimated 60%, identify as gay or lesbian, while 40% of sexual minority adults identify as bisexual (Williams Institute, 2019b). However, rates of sexual orientation are related to how sexuality is assessed, as Americans who endorse any lifetime history of same-sex behavior (8.2%) and those that report any same-sex attraction (11%) greatly outnumber those who self-identify as sexual minorities (Gates, 2011). The sexual minority community overlaps with gender minorities, such as transgender individuals and those who identify as gender nonconforming (i.e., identifying as a gender that is different from sex at birth, or as neither male or female), comprising about .3% of Americans and 3.8% of sexual minorities (Williams Institute, 2019b). For this reason, the health literature reviewed here commonly includes transgender individuals in their samples, but studies with exclusively transgender individuals were excluded.

Health research focusing on the geographic distribution of Americans sexual minorities is growing. According to the Movement Advancement Project (MAP, 2019), a recent large-scale examination of rural LGBT health, an estimated 2.9 to 3.8 million LGBT Americans are residents in rural areas. These rural sexual and gender minorities make up approximately 5% of rural Americans and up to 20% of LGBT Americans (Fadel, 2019; Pew Research Center, 2013). Unfortunately, sexual minority adults living in rural and other non-metropolitan areas are

underrepresented in psychological research (Institute of Medicine [IOM], 2011). The current research attempts to meet this gap in the literature by assessing the impact of minority stress among rural and urban sexual minorities and comparing their stress-buffering social resources.

Sexual Minority Mental Health

Past studies indicate that the majority of sexual minority adults are well adjusted and do not experience mental health problems (Cochran & Mays, 2000a; IOM, 2011), affirming that most sexual minorities do not experience the mental health problems laid out in the following literature. However, in comparison to the heterosexual population, a greater proportion of LGB individuals experience mental health related concerns that affect their overall well-being.

*Health disparities***.** Those who identify as sexual minorities experience certain mental health conditions at higher rates than heterosexuals. These disparities include higher prevalences of anxiety disorders, major depression, suicidality, trauma, and substance use, with bisexual individuals reporting additional mental health burdens compared to lesbian or gay individuals (Bostwick et al., 2010; Cochran & Mays, 2006; IOM, 2011; Kerridge et al., 2017; Pakula, Carpiano et al., 2016; Plöderl & Tremblay, 2015; Ross et al., 2018; Semlyen et al., 2016).

Rates of anxiety disorders are elevated among sexual minorities compared to heterosexuals (Pakula, Shoveller et al., 2016; Ross et al., 2018). Bostwick et al. (2010) found that men who report same-sex identification, attraction, and behavior have more mood and anxiety-related problems compared to women. The same study showed that the lifetime prevalence of an anxiety disorder was elevated among self-identified lesbian women (40.8%), gay men (41.2%) bisexual women (57.8%), and bisexual men (38.7%) compared to heterosexual women (31.3%) and men (18.6%). Additionally, Wadsworth and Hayes-Skelton (2015) found that bisexual men and women and those who endorsed a write-in sexual orientation had greater levels of social

anxiety compared to homosexual or heterosexual individuals. Men who reported same-sex behaviors were also more likely to experience panic symptoms than men who report only opposite-sex partners (Bostwick et al., 2010; Cochran & Mays, 2006; Cochran et al., 2003). Overall, previous studies have found that anxiety disproportionately affected sexual minority men, bisexual men and women, and those questioning their sexual orientation compared to women and those who endorsed same or opposite sex partners only.

The occurrence of mood disorders (i.e., depression, bipolar disorders, mania, persistent depression) are also pronounced among self-identified sexual minorities. Disparities in rates of depression among sexual minorities are especially robust in the literature, and these differences have been found in research using a variety of methods including chart review, self-report, and clinician report (Plöderl & Tremblay, 2015). Particularly, compared to heterosexual individuals and other sexual minorities, higher rates of self-reported depression and mood disorders have been endorsed among gay men and men who have sex with men (Caceres et al, 2019; Cochran & Mays, 2006; Cochran et al., 2003; Pakula & Shoveller, 2013), bisexual individuals (Bostwick et al., 2010; Pakula, Shoveller, et al., 2016; Ross et al., 2018), and sexual minority youth and young adults (Marshal et al., 2011). Increased rates of depression have been attributed to discrimination-based challenges experienced by sexual minority men (Ross et al., 2018) and developmental obstacles faced by sexual minority youth (Katz-Wise et al., 2017). Therefore, while higher depression rates have been found among sexual minorities generally, men with same-sex partners may be especially at risk for the development of depression.

Disparities also exist in suicidality among sexual minority samples. Rates of suicide attempts are elevated among sexual minorities (Cochran & Mays, 2000b; King et al., 2008; Plöderl & Tremblay, 2015). A large meta-analysis of international respondents found that 11-

20% of sexual minorities report a suicide attempt during their lifetime compared to 4% of heterosexual respondents (Hottes et al., 2016). Disparities in suicidality are also reported in specific sexual minority groups. Suicidality was especially prominent among gay and bisexual men (King et al., 2008) and young sexual minorities (Cochran & Mays, 2006; Marshal et al., 2011; Ream, 2019; Taliaferro & Muehlenkamp, 2017). A sample of sexual minority veterans reported increased suicidal ideation over 12 months compared to heterosexual veterans (Blosnich et al , 2014). Firearm access has been found to increase risk of completed suicide among heterosexual and bisexual men, but not among females or other subgroups of the LGB community (Ream, 2019). These conclusions suggest that suicidality is markedly high among young sexual minorities and those who are more apt to utilize a firearm as a means of suicide, including sexual minority men.

Previous research has also found higher incidences of traumatic events (Roberts et al., 2010; Schneeberger et al., 2014) and PTSD diagnoses (Cohen et al., 2016; Roberts et al., 2010) among sexual minorities when compared to those who identify as heterosexual. Increased risks of sexual and intimate partner violence have been found among sexual minorities, with bisexual individuals reporting increased risk of violent experiences compared to homosexuals (Chen et al., 2020; Rhodes et al., 2009). Further, research has concluded that bisexual women, particularly those who reported adult victimization, had difficulty recovering from trauma (Sigurvinsdottir & Ullman, 2016). Although additional research is needed to understand trauma and stress experiences among sexual minorities, literature consistently examines the role of stigmatizing and discriminatory experiences in the development of trauma among sexual minorities.

Contrasted with those who only report opposite-sex partners, gay and bisexual individuals are also more likely to experience psychiatric comorbidity (Cochran et al., 2003),

which is marked by the presence of one or more psychiatric diagnoses in addition to substance use. Pakula, Shoveller et al. (2016) found that sexual minority respondents experienced greater incidences of combined anxiety and mood disorders, and anxiety and substance use disorders compared to heterosexual respondents. The same study found that self-identified bisexual individuals experienced elevated comorbidity (i.e., anxiety and mood, or anxiety or mood and heavy drinking) compared to lesbian and gay participants (Pakula, Shoveller et al, 2016), which is consistent with trends among individuals who identify as bisexual.

Researchers have also investigated how mental health factors such as emotion dysregulation, interpersonal problems, and maladaptive cognitive changes occur as a result of stigma (Hatzenbuehler, 2009). These transdiagnostic mental health processes may contribute to the presence of mental health disparities among sexual minorities. For instance, Bergfeld and Chiu (2017) found that trait acceptance and avoidant coping significantly mediated the influence of minority stress on depressive symptoms. Additionally, studies on sexual minorities have found emotion regulation is linked to psychological distress (Hatzenbuehler et al., 2009) as well as problematic drinking (Fitzpatrick et al., 2019) following experiences of minority stress (e.g., discrimination, self-stigma, etc.). Mental health problems related to stigma may be especially salient among certain sexual minority groups that are in settings that are traditionally considered unsupportive to the sexual minority community, such as rural spaces.

Barriers to Rural Sexual Minority Mental Health

Research among heterosexual individuals and sexual minorities alike has revealed barriers to receiving healthcare facing rural individuals that do not affect their urban or metropolitan counterparts. Mental health problems among rural individuals have been attributed to various aspects associated rurality, such as increased geographic and interpersonal isolation

(Hirsch & Cukrowicz, 2014), differing definitions of mental health and well-being compared to urban individuals (Gessert et al., 2015), economic vulnerability (Fuller et al., 2000; Hirsch & Cukrowicz, 2014; Larson et al., 2012), occupational hazards (Hirsch & Cukrowicz, 2014), norms of independence and emotional stoicism, mental health stigma (Fuller et al., 2000; Hirsch & Cukrowicz, 2014), and difficulty hiring/retaining mental health professionals (Thomas et al., 2012). As members of a cultural minority group in a geographically understudied area, rural sexual minorities face additional barriers to healthcare that are unique to rural settings (Smalley et al., 2018; Willging et al., 2006). Rosenkrantz and colleagues (2017) found that rural sexual minorities' difficulties navigating the healthcare system centered around three themes: individual health outcomes and risk behaviors, experiences and interactions within the healthcare system, and sociocultural factors related to health and rurality. Given these barriers, seeking and receiving quality healthcare continues to be a challenge among rural sexual minorities.

In addition to challenges accessing care, rural sexual minorities face greater risks of encountering medical and mental healthcare providers that are not capable of providing culturally competent care (e.g., by discouraging sexual orientation disclosure during group treatment; Smalley et al., 2018). Through qualitative interviews, Willging et al. (2006) found that rural LGBT residents seeking medical care faced various forms of homophobia and biphobia from their providers, such as being laughed at upon disclosing their identity, being faulted for being in a same-sex interracial relationship in a rural area, and a lack of consideration for the way that sexual minority issues could be interacting with their health problem. For rural transgender individuals, a community that overlaps with rural sexual minorities, such stigma is associated with lower healthcare utilization (Whitehead et al., 2016). Furthermore, Whitehead and colleagues also found that higher healthcare utilization among rural gay men was associated

with increased rates of "outness" indicating that stigma resulting in elevated sexual identity concealment diminishes sexual minority healthcare attainment.

Rural-Urban Health Disparities among Sexual Minorities. A dearth of research about rural sexual minority mental health disparities does not allow for a comprehensive review of mental health disparities in this population. A small body of literature finds specific mental health challenges facing rural sexual minorities. Fisher et al. (2014) found that rural sexual minorities reported higher rates of binge drinking and smoking behaviors compared to urban individuals. In a sample of youth from British Columbia, Canada, suicidality was also found to be elevated among rural sexual minority adolescent boys compared to urban sexual minority adolescents (Poon & Saewyc, 2009). Although researchers recognize that the literature examining rural-urban mental health disparities is underdeveloped, some scholars have questioned whether rural-urban disparities are due only to measurement error (i.e., conflating sexual minority identity vs. behavior, or collapsing sexual minorities into a homogenous group; Woodell, 2018) rather than true differences in health.

Minority Stress Theory (MST)

A growing body of research attempts to understand the impact of discriminatory events on the mental well-being of sexual minorities by exploring factors that may contribute to the development and maintenance of stress-based psychopathology. Meyer's (2003) minority stress theory lays the theoretical groundwork for this area. According to the minority stress model, sexual minorities are subject to minority stress through distal stressors (i.e., objective discriminatory events and conditions) and proximal stressors (i.e., stigma related to an individual's subjective perceptions and appraisals). Distal stressors, according to Meyer, include both external acute and chronic stressors, such as discriminatory events such as victimization and

social attitudes such as heteronormativity, respectively. Proximal stressors (e.g., expectations of rejection, concealment, internalized homophobia, stigma consciousness etc.), on the other hand, occur as internalized experiences that stem from distal minority stressors. This makes sense considering that internalized homophobia is theorized to develop as a result of internalizing negative social attitudes. From another perspective, proximal minority stress can be viewed as the result of a reactionary response to distal minority stress (Meyer, 2003); some sexual minorities develop maladaptive ways of coping with these external experiences, including being vigilant of future experiences of discrimination and rejection, concealing their sexual identity, and adopting self-directed sexual prejudice. Additionally, MST asserts that sexual minority stress negatively affects health and diminishes several internal and external resources that contribute to mental well-being. Therefore, this theory lays important groundwork in reducing health disparities between sexual minorities and their heterosexual counterparts by suggesting tangible influences on sexual minority health.

Minority Stress and Mental Health. Research has established links from minority stressors to various negative mental health outcomes among sexual minorities (Meyer, 2003; Meyer & Frost, 2013; Newcomb & Mustanski, 2010; Pachankis et al., 2018; Schrimshaw et al., 2013; Walch et al., 2016), including depression (Bissonette & Szymanski, 2019; Bruce et al., 2015), anxiety disorders (Cohen et al., 2016; Griffin et al., 2018), substance use disorders (Lehavot & Simoni, 2011), non-suicidal self-injury (Muehlenkamp et al., 2015), risky sexual behaviors (Preston et al., 2004), and decreased life satisfaction (Michaels et al., 2019). However, it should be noted that some research has not found direct and significant associations between sexual minority stress and mental health outcomes (van der Star et al., 2019).

The current study focuses on the mental health effects of proximal minority stress, which is intended to complement an abundance of research examining the health effects of enacted discrimination (distal minority stress). While it may seem neglectful to focus this research on internalized stigma (proximal minority stress) rather than external prejudicial events, some literature in this area suggests that rural-urban discrepancies exist in sexual minority experiences of proximal minority stress (Woodell, 2018). For example, Swank et al. (2012) explained that small town residents showed statistically similar patterns of minority stress as rural individuals, and rural individuals did not significantly differ significantly from urban individuals on measures of enacted discrimination overall. Given this research, it is possible that rural and urban sexual minorities may experience similar rates of enacted discrimination but constructed environmental differences between rural and urban areas may contribute to higher internalized stigma among rural individuals.

Health research on stigma and its effects have also called for additional study of stigma in the context of cultural and policy dynamics in which it occurs (Stuber et al., 2008). Therefore, the sociocultural context of rurality on the development of sexual orientation openness and internalized homophobia will be examined here. Additionally, living in rural settings combined with the development of proximal minority stress may affect the attainment and quality of social support received by rural sexual minorities.

Minority Stress among Rural Sexual Minorities. A very small body of literature studying minority stress in rural areas has found that sexual orientation related stress contributes to poorer health outcomes for rural sexual minorities. A systematic review of healthcare studies on rural populations by Rosenkrantz et al. (2017) found that social stigmas unique to rural areas negatively influenced health among sexual minorities. Their review found that rural sexual

minorities experienced low social support and isolation, a hostile climate (i.e., aggression and discrimination), heterosexist norms, and a lack of legal/financial support. The review concluded that these elements of rural areas were associated with decreased sexual identity disclosure and poorer health among rural sexual minorities. Additionally, Hatzenbuehler et al. (2014) found that structural forms of minority stress significantly decreased life expectancy and age of suicide among sexual minorities living in areas with high amounts of anti-gay prejudice. However, these findings require continued study. While simultaneously reporting stressors experienced by rural sexual minorities, some qualitative research pointed out that rural sexual minorities reported advantages of living in rural areas such as close relationships with a small and tight-knit community, increased privacy and freedom, added quality of life, contact with organizations (including traveling to settings) that are accepting of LGBT people, and having a religious community that supports their sexual identity (Oswald & Culton, 2003; Woodell et al., 2015). Despite these observations, research continues to find that experiences of minority stress may unduly influence rural sexual minority mental health.

In addition to an observable heteronormative social climate, some studies have examined concepts of perceived stigma from nearby non-sexual minority community members(as opposed to known contacts such doctors, friends, or other sexual minorities). Recent literature reports that enacted discrimination (e.g., housing or employment discrimination) and victimization (e.g., being chased by strangers) has been reported in rural and small-town areas (Rosenkrantz et al., 2017, Smalley et al., 2018; Swank et al., 2013; Swank et al., 2012). Ongoing research attempts to understand how this type of enacted social stigma affects rural sexual minorities, but positive outcomes seem unlikely.

Sexual Orientation Openness and Rural Sexual Minorities. In recent years, the commonly accepted conceptualization of sexual orientation openness, composed of both decreased disclosure and increased concealment of one's sexual orientation, was developed by Meidlinger and Hope (2014). Minority stress literature explains that decreased sexuality openness is likely a strategy used by sexual minorities in order to avoid victimization where stigma is perceived to be more likely (Meyer, 2003). From the time that MST became prevalent in understanding sexual minority health, a multitude of studies have shown that sexual orientation concealment occurs among diverse sexual minorities in settings where stigma is expected, including in high school (Frost & Bastone, 2008), the workplace (Button, 2004), and among sexual minority elders (Kuyper & Fokkema, 2010).

Recent literature supports the notion that concealment and disclosure among rural sexual minorities is likely motivated by perceived aspects of rural settings. Rural areas tend to stigmatize sexual minorities and have diffuse LGBT communities. Willging and colleagues (2006) presented the challenge related to personal health and safety facing many rural sexual minorities:

> 'Living 'quietly' [as a rural sexual minority] may be the best option for a particular time and place, even if in the long run it reinforces negative messages about being LGBT. The alternative strategy of living more openly as an LGBT person could adversely affect rural clients in the short run, particularly if such openness elicits antagonistic and potentially violent community reaction. (p. 869)

Empirical research has corroborated this perception of rural areas. Swank et al. (2013) found that sexual minorities residing in rural and small towns who widely disclosed their sexual identities reported more enacted discrimination than those who concealed their identities. Swank

et al.'s (2013) finding that decreased sexual orientation disclosure among rural sexual minorities was associated with less enacted discrimination aligns with MST's conceptualization that reduced disclosure may be a reactive, self-protective response to stressful environments. Although little research has examined sexual orientation openness in the context of rurality, some studies support that rural sexual minorities disclose their sexual orientation less than urban individuals (e.g., to healthcare providers; Austin, 2013).

Decreased sexual identity openness among rural sexual minorities may help explain why Oswald and Culton (2003, p. 74) described rural LGBT communities as "a constellation of interacting networks with no consistent physical space … [which] means that GLBT people are likely invisible to those not part of the community." In this case, finding supportive settings in which to disclose one's identity may be a notable challenge to rural sexual minorities. A small study of 21 rural Latino immigrant men who have sex with men (MSM) supported this notion, finding that there was a lack of "healthy", positive social outlets for rural MSM (Rhodes et al., 2009, p. 6). The same study found that a lack of positive social outlets affected the sample's health by increasing the risk of unhealthy behaviors. Combined, the perceptions of rural areas as unwelcoming and having limited opportunities in which to share one's sexual orientation in a healthy way may result in restricted sexual orientation openness.

An added detriment of reduced openness among rural sexual minorities may be that they do not benefit from the interactions of sexual minority members to the same extent as urban individuals. Meyer (2003) stated that social support helps sexual minorities reappraise the threat of a discriminatory event and provide emotional support and validation that is protective against mental health problems. But coming out seems essential if someone expects to receive these benefits of social support following experiences of discrimination. Naturally, someone would

need to identify themselves as a member of the minority culture to explain an assault they experienced and attribute to the majority culture. Further, Meyer's concept of minority coping via sexual minority peer support (called "sexual minority social support" or "peer support" in this study) suggests that other sexual minorities, who have also experienced and managed discrimination, may be an especially poignant source of stress-buffering social support. Given the importance of coming out in order to receive this valuable social support, sexual minorities residing outside urban areas may not reap the benefits of social support to the extent as urban individuals. A stigma-laden cultural setting may reinforce the presence of another proximal minority stressor, internalized homophobia, which may especially degrade the quality of one's social supports.

Internalized Homophobia and Rural Sexual Minorities. Meyer's (2003) distinction between distal and proximal stressors highlights internalized homophobia (also called self-stigma, internalized heterosexism, and internalized homonegativity) as a type of stress that may be especially deleterious to rural sexual minority mental health, though it is related to poorer mental health outcomes among sexual minorities generally. Past research has established strong links between experiences of discrimination, increased internalized heterosexism, and mental health among sexual minorities (Hatzenbuehler, 2009; Lehavot & Simoni, 2011; Michaels et al., 2019; Puckett et al., 2015; Walch et al., 2016).

Precisely how internalized homophobia affects mental health is not clear. A possible explanation is that that sexuality based self-stigma influences sexual minority identity formation and thereby influences the quality of supportive relationships (Cao et al., 2017). This suggests that sexual minorities who internalize stigma may live in unhealthy ways that are consistent with stigmatized versions of their sexual minority identity. For instance, health behavior research on

sexual minorities (e.g., people living with HIV) found that reduced self-stigma is associated with enacting healthy sexual behaviors (Burnham et al., 2016), more-favorable disease progression, and physical health (Heywood & Lyons, 2016).

Through a similar process, internalized homophobia may also affect the quality of social support that sexual minorities receive from others (Puckett, et al., 2015; Szymanski et al., 2001) and from other sexual minorities (Fisher, et al., 2014). Research on internalized homophobia and relationships has largely examined how sexual minority stressors impact romantic relationships. In this vein of research, a meta-analysis by Cao et al. (2017) found that internalized homophobia, though modest in effect size, had a significantly larger effect on relationship well-being than heterosexist discrimination and visibility management (i.e., sexual orientation openness). Frost and Meyer (2012) also found that internalized homophobia was positively related to relationship strain among sexual minorities. Consistent with literature on the impact of internalized heterosexism on health behaviors, Cao and colleagues (2017) stated that one way for internalized homophobia to diminish the protectiveness of social support is when sexual minorities enact stigmatized relationship norms that are attributed to sexual minorities. Further, internalized stigma is normalized in certain settings and among particular groups of people, sometimes even excused as simply advantageous.

Rural individuals are likely familiar with this process of culturally normalized heterosexism when it comes to living positively and openly as a sexual minority. Rural sexual minorities may lack the models of positive openness that urban sexual minorities encounter more frequently (e.g., pride flags hanging from businesses), the presence of which could counter negative cultural and social messages about the valence of one's sexual identity. This culturally attuned process may lead rural sexual minorities to believe that they should not or need not be

out, which could affect the development of relationships with other sexual minorities. For example, if a sexual minority believes that individuals do not need to come out in order to be a contributing member of their community, relationships with supportive LGB and non-LGB friends may become strained when their dating life seems private. Further, sexual minorities who are socialized to keep expressions of same sex living to oneself may begin to internalize unchallenged sentiments from family and friends that invalidate of other sexual minorities' experiences. Sexual minorities with excess self-stigma may also have difficulty assertively asking friends for support about sexuality-related issues when it would otherwise be helpful. The relationship between sexual orientation openness and homophobia is interrelated and seemingly inseparable.

Relationships between sexual minorities may be unduly degraded through the exchange between social messages, self-stigma, and reduced sexual orientation openness. Minority stress literature views supportive relationships between two or more sexual minorities as a type of group-level resource. The current study calls these affirming relationships between sexual minorities *sexual minority peer support*. Internalized stigma among sexual minorities who are in friendships and relationships with other sexual minorities may make it difficult to attend social functions in which coming out is expected or sexual minority status is assumed (e.g., going on a date or attending a vigil for LGBT victims of violence) or to obtain sexual minority-specific resources that preclude favorable views of same-gender relationships and sexuality (e.g., relationship counseling, a marriage license, attending a LGBT health clinic). Further, sexual minorities who experience discrimination that are consist with internalized homophobic views of themselves may not reach out to social supports, which would typically help to reappraise these events and provide emotional support (Meyer, 2003).

Examining the impact stigma and concealment/non-disclosure on sexual minority mental health has special relevance to rural sexual minorities, who reportedly feel less connected to the LGBT community and experience higher rates of perceived discrimination (Swank et al., 2012). Additionally, the presence of internalized homophobia appears to worsen mental health outcomes in those who come out in stigmatizing environments (e.g., experiencing parental rejection; Puckett et al., 2015) and worsen the mental health effects of discrimination among those who are high in concealment (Walch et al., 2016).

Social Support

In recent psychosocial literature, social support has been conceptualized as one part of "social capital", a determinant of health (Berkman et al., 2000; Song et al., 2011). In one of the first contemporary reviews of the social support literature, House et al. (1988) distinguished between structural factors of social support (e.g., source, density) and functional features of social support (e.g., being emotionally comforted). As social resources were investigated as determinants of health, Berkman et al. (2000) contributed to House and colleagues' theoretical framework by outlining three areas of sociocultural influence on health: sociocultural conditions (e.g., urbanization, SES, politics, and social change), social network factors (e.g., frequency of contact, reciprocity), and psychosocial mechanisms (i.e., social support, social influence, social engagement, person-to-person contact, and access to material goods). Berkman and colleagues also hypothesized pathways through which these determinants act on health (i.e., health-behavioral, psychological, and physiological; Berkman et al., 2000). Although measuring all aspects of one's social capital is not the focus of the current investigation, this perspective gives important theoretical context to the examination of rurality (i.e., a sociocultural condition),

sexual minority peer support (i.e., social network factors), and overall social support (i.e., a psychosocial mechanism) as variables that moderate the health effects of minority stress.

A significant hindrance to research in this area is that measures of social support do not adequately capture social-network factors and/or do not assess social determinants of health. For example, some surveys such as the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) conflate the structural aspects of social support (i.e., sources of support; family, friends, significant others) with functional aspects of social support (i.e., factors that theoretically influence health, such as getting the emotional support). Other social support measures do not assess the functional, health-related theoretical aspects of social support. Functional and structural aspects of social support are commonly measured simultaneously, including in sexual minority peer support measures. The current study attempts to measure two types of social support among sexual minorities, overall support and social support from sexual minority peers, to accurately reflect both the functional and structural aspects of social support. Further, the study will examine rurality as an additional influence on both of these types of social support to understand the way that specific sociocultural contexts influence the advantages imparted by social support resources.

Social Support as a Determinant of Health. Social support is a commonly theorized vector through which societal factors are thought to impact health (Berkman et al., 2000). The most cited health-related aspects of social support include emotional support, appraisal support, and to a lesser extent, informational or instrumental support (Cohen et al., 1985; House et al., 1985). Importantly, these social resources are thought to be the functional stress-buffering mechanisms through which social support affects sexual minority mental health by influencing the support recipient's appraisal of demand in a stressful situation, ability to adapt to the

situation, emotional/cognitive response, and behavioral/physiological response (Kawachi & Berkman, 2001; Meyer, 2003). Further, MST posits that sexual minority mental health is the sum of the combined effects of minority stress and stress-buffering mechanisms including coping efficacy (i.e., using one's personal resources to cope) and social support (i.e., using group resources to cope; Meyer, 2015; Thoits, 2010).

Thoits (2011) asserted that certain benefits that may be better provided by experientially similar others (e.g., threat reappraisal, information, and social influence/comparison) than significant others, even if they are not part of your immediate social network. Building off this foundation synthesized from social determinant of health theory and MST, social support, especially from sexual minority peers, may play an integral role in protecting sexual minorities from the harmful effects of sexual minority stress.

Social Support and Sexual Minorities. Sources of support have been a special interest in research examining the benefits of sexual minorities receiving social support. Generally, this literature indicates that various types of support alleviate stress-related mental health problems. Thoits (2011), for example, examined the role of family and friend support, finding that support from friends was especially helpful in reducing discrimination-related negative affect. Further, van der Star and colleagues (2019) found that social support (measured by the MSPSS; Zimet et al., 1988) fully moderated the relationship between sexual orientation openness and depressive symptoms, accounting for 41% of the variance in depression among their sample of Swedish sexual minorities. They found that high levels of social support and lower levels of sexual orientation openness were associated with more favorable mental health. Additionally, one daily diary study found that friend social support reduced negative affect associated with above-

average minority stress days (Fingerhut, 2018); however, the analyses used did not distinguish between the types of minority stress experienced.

Sexual Minorities and Sexual Minority Peer Support. Narrowing in on another specific source of social support, support from other sexual minority peers is theorized to be a group-level resource for sexual minorities experiencing minority stress. This type of support is believed to provide affirmative evaluative and appraisal support (Meyer, 2003: Jones et al., 1984), mirroring the social benefits that Thoits' (2011) attributed to experientially-similar others. Peer support from other sexual minorities may carry benefits such as introduction to the local community, disclosure of one's sexual orientation with greater ease, validation of sexual minority identity and experiences, reducing estimation of a threat, feelings of safety/security, getting access to important resources, etc. (Bissonette & Szymanski, 2019). These benefits of socializing and turning to other sexual minorities for support results in what Meyer (2003, p. 677) called "minority coping", which involves depending on group resources to support well-being. In line with appraisal and evaluative functions of support, qualitative studies have found that sexual minority peer support is important to explore one's identity, have personal experiences validated, and exercise societal resistance against heteronormative attitudes (Pilling et al., 2017).

Although the concept of sexual minority peer support is firmly grounded in MST, the protectiveness of social support from sexual minority peers has not been consistently corroborated in social support research. For example, in a sample of sexual minority men from New York City, confirmatory factor analysis found that peer support is protective against mental health issues among sexual minorities (Frost & Meyer, 2012). But some research has found contrasting results. Bissonette and Szymanski's (2019) findings suggested that minority-stress

related mental health problems were worse among those with high sexual minority community involvement. Researchers have also found that involvement with the sexual minority community was associated with negative outcomes among sexual minorities who report increased discrimination (Feinstein et al., 2017; Frost & Meyer, 2012). Other studies posited that social support from other sexual minorities is not any different in quality or mental health advantage compared to support from heterosexual friends (Ueno et al., 2009), indicating that experientially similar other provide no additional functional support benefits. Given this mixed literature, it is unknown if social support from sexual minority peers benefits sexual minority mental health as expected according to MST.

Challenges in Measuring Sexual Minority Peer Support. Difficulties in defining essential aspects of social support have resulted in divergent measures of sexual minority peer support, ranging from the assessment of identification and involvement with the sexual minority community (Vanable, et al., 1992), to measures of community connectedness or affiliation with the LGBT community (Barrett & Pollack, 2005; Frost & Meyer, 2012), and psychological sense of the LGBT community (PSOC-LGBT; Lin & Israel, 2012). However, research examining the advantages of sexual minority peer support is mixed. One possible explanation for these mixed findings is that currently existing measures of sexual minority peer support insufficiently measure cultural influences on social support. Particularly, a failure to accurately measure sexual minority peer support in demographically diverse samples, such analyses including an ample number of rural individuals or those who have diminished socioeconomic status, may contribute to measurement inaccuracy and drive inconsistent results.

Although sexual minority peer support research continues to show the importance of developing affirmative spaces for sexual minorities, comparing the norming samples of the

measures stated previously in this paragraph illustrates that increased attention to cultural forces at play may be needed. The Connectedness to the LGBT community Scale (Frost & Meyer, 2012) utilized a sample exclusively composed of LGBT individuals who resided in a major metropolitan area for two years or more. Additionally, relatively few LGBT individuals in their study were raising children, a household characteristic that is more common among sexual minorities living in rural states (MAP, 2019) and often incurs a financial burden (Schneebaum & Badgett, 2019). Other norming samples such as for the PSOC-LGBT (Lin & Israel, 2012), utilize a highly educated sample including 50.3% of individuals that completed at least a bachelor's degree. This sample is highly educated compared to the national average percentage of individuals with bachelor's degree educations (33%; Ryan & Bauman, 2016) and far higher compared to rural communities (19%; Pew Research Center, 2018).

Furthermore, certain sexual minority peer support surveys measure frequency of accessing specific resources or settings (e.g., gay bars; as measured in the Identification and Involvement with the Gay Community Scale, Vanable et al., 1992), which may not appropriately measure social support among sexual minorities who reside in spaces that lack these venues. Such problems in the measurement of sexual minority social support are especially relevant when studying rural sexual minorities who, due to their sociocultural position, may not have access, the financial means to access, or adequate sociopolitical power in their local area to create well-known safe and affirmative spaces. Similar issues were noted by Barrett and Pollack (2005) in noticing that working-class sexual minority and transgender individuals were less engaged in the LGBT community, which may have been partially due to a lack of disposable time and income. This may mean that, even a rural sexual minority with a strong and positive symbolic identification with the sexual minority community may have difficulty answering

questions like “How often do you attend any gay or lesbian organizational activities, such as meetings, fund-raisers, political activities, etc.?” (Vanable et al., 1992, p. 409) simply because lesbian and gay organizational activities are less common rural areas than urban ones. Similarly, another item of community connectedness (“it is important for you to be politically active in [your area’s] LGBT community”; Frost & Meyer, 2012, p. 18) may be elevated among urban sexual minorities compared to rural sexual minorities because rural individuals may face increased barriers to political involvement in their local LGBT community.

Nonetheless, rural sexual minorities are likely to benefit from sexual minority peer support despite current issues in measuring support received by this group. A significant challenge in measuring sexual minority peer support in a geographically considerate way is that many current measures do not survey sexual minority peer supports that are appropriate for rural sexual minorities (e.g., spending time with other sexual minority individuals at a private residence, or obtaining sexual minority peer support online). Therefore, to continue the current research using existing measures of sexual minority peer support may, at best, not adequately measure peer support for rural sexual minorities. At worst, using traditional measures of sexual minority peer support may infer that rural sexual minorities are less resourced simply because they reside in non-metro areas. In actuality, rural sexual minorities may be disadvantaged due to a lack of contact with experientially similar others (i.e., members of the LGBT community) who can help alleviate the onset of psychopathology following discrimination-related stress but still reap the benefit of stress-buffering social support in the context of discrimination.

Moreover, if access to and involvement in specific LGB community functions is measured at the same time as stress-buffering social support, certain implicit assumptions are made that cast many sexual minority Americans as disadvantaged due to their sociocultural

situation. For one, this view on social resources echoes past research mistakes of pathologizing cultural elements (i.e., place of residence) by conflating access to, or involvement with, social settings and the receipt of social support. However, it is known and studied that there are various culturally legitimate reasons why sexual minorities may report decreased involvement with the sexual minority community, such as racism from LGBT peers (Bowleg, 2013; VanDaalen & Santos, 2017) or difficulty finding the resources to travel to LGBT functions (Barrett & Pollack, 2005). Additionally, measuring LGB social support this way assumes that LGB affirmative environments are inherently helpful in a way that buffers the negative mental health consequences of minority stress. While this may be the case, current ways of measuring LGB social support overlook measuring differences between access to settings in which sexual minorities are supported and the amount of stress-buffering social support received. However, there is a possibility that LGB peer support is only helpful in certain settings or under certain conditions, which may explain results in which LGB peer support was not advantageous to mental health (e.g., Bissonette & Szymanski, 2019; Feinstein et al., 2017; Frost & Meyer, 2012). A final limitation of measuring LGB peer support in this way is that it does not capture important aspects of a stress-buffering model. In line with Berkman et al. (2000) and Thoits (2011), the current study uses tailored measures and analyses to examine the mechanisms and modifiers of social support that help or harm sexual minorities' health when facing discrimination. As these researchers have pointed out, psychological pathways between socially adaptive behaviors and changes in psychopathology are a missing link in the study of social resources, especially as research on such pathways could reveal important clinical applications for those experiencing discrimination.

The Effects of Rurality on Sexual Minority Peer Support. Commonplace features associated with rurality signal a strongly heteronormative culture in rural areas, including differences in public opinion about sexual minorities, a greater focus on heteronormative family structures, pressure to conform to social norms, the political landscape in rural areas, each person's ability to exert their political power, and weak and fragmented LGBT resources (Barnes & Meyer, 2012; MAP, 2019; Oswald & Culton, 2003, Smalley et al., 2018; Warren et al., 2014). According to MST, these objective (distal) discriminatory experiences may predispose rural sexual minorities to the development of proximal minority stress. A study of Australian sexual minorities found this to be the case such that rurality was associated with increased nondisclosure, concealment, and internalized homophobia compared to urban individuals (Morandini et al., 2015).

Qualitative research on rural and urban individuals suggests that a mindset of reverence toward established ways of living creates unique settings in which outsiders who do not match the traditions of a given rural culture may be mistrusted or treated with skepticism. The perception rural America's supportive stances on heterosexual marriage and church-sponsored marriage contributes to a rural social climate that some sexual and gender minorities may consider heteronormative, unwelcoming, oppressive, homophobic. This view of rural areas is supported by research with sexual minorities residing in rural areas and small towns who reported a harsher social climate compared to urban sexual minorities (Oswald & Culton, 2003; Swank et al, 2012). This cultural atmosphere may leave rural sexual minorities feeling as though rural places are not meant for them or that they are at increased risk of prejudice and discrimination.

These upstream sociocultural influences of rurality may affect the attainment of sexual minority peer support and contribute to the reportedly diffuse nature of the physical sexual minority community in rural areas compared to urban locales. Some studies found that sexual minorities in rural areas reported being less connected to the LGBT community (Fisher et al., 2014; Swank et al., 2012) and having fewer gay friends their urban counterparts (Morandi et al., 2015). Combined with the literature on rural contributions to concealment and internalized homophobia, research suggests that rurality is linked to fewer opportunities to access affirmative sexual minority peer support. According to MST, this may mean that individuals with poor sexual minority peer support might not engage in effective minority coping, negatively impacting mental health. Nevertheless, it is possible that rural sexual minorities may find ample social support among non-sexual minorities or somewhere else (e.g., at work in a metro area, online, etc.). For this reason, the influence of rurality, the enhancing effect of sexual minority peer support, and the stress-buffering role of overall social support are examined in the current study.

Current Study

This study is founded in a social epidemiological view of social support combined with the minority stress model to examine the stress-buffering advantages of social support among rural and urban sexual minorities. Relatively few studies examining the mental health effects of discrimination statistically differentiate and report the influence of geographic place of residence (e.g., metro, non-metro, urban, suburban, city, small town, rural, remote locations) on health resources, despite various calls for contextual research on determinants of health. Furthermore, as is the case in other subfields of psychology, measures of sexual minority social support are commonly normed on culturally homogenous samples of urban/metropolitan individuals.

Compared to rural sexual minorities, urban sexual minorities may benefit from increased access affirmative settings that provide them with additional resources to cope with the effects of discrimination and social exclusion that adversely affects non-urban individuals. The acknowledged need for research examining rurality as a determinant of health is such a pressing issue that the tendency not to account for rurality has been called urban-normative or "urban-centric" (Warren & Smalley, 2013, p. 1), suggesting that current conceptions of health emphasize the norms and well-being of urban individuals. Fortunately, this trend is changing as research elucidates pertinent cultural differences; recent research initiatives, like the MAP (2019), have called attention to mental health disparities experienced by rural gender and sexual minorities and the need for clinicians and researchers to meet this challenge in mental health.

To move toward understanding the needs of rural sexual minorities, the current study examines the impact of rurality on two types of social support (i.e., overall social support and sexual minority peer support), and the influence of this social support on the mental health effects of proximal minority stress. To date, no known studies of sexual minorities in the United States have examined rural-urban differences in social support on minority stress-related mental health problems. This is remarkable considering the perceived cultural differences that exist between rural and urban sexual minorities and the benefits of social relationships reflected in qualitative literature. This research is intended to contribute to a detailed understanding of how contextual factors in mental health resources translate into geographically and culturally tailored psychotherapeutic treatment among diverse sexual minorities.

Aims and Hypotheses

The first purpose of the current study was to examine rural-urban differences in overall social support among sexual minorities. Given there is some research suggesting sexual

minorities face more barriers in rural vs. urban areas, I expect rural individuals will report lower support scores compared to individuals residing in more urban locations.

The second purpose of the current study was to evaluate the inter-relationships among proximal minority stressors (e.g., internalized homophobia), different facets of social support, and mental health distress in a diverse sample of sexual minorities. Based on the current literature, it is expected that proximal minority stress (e.g., internalized homophobia) will be positively associated with mental health distress. Moreover, considering the literature on social support, it is expected that general support will buffer the relationship between proximal minority stress (e.g., internalized homophobia) and mental health distress. Similarly, I expected LGBTQIA+ specific forms of support will buffer the relationship between proximal minority stress (e.g., internalized homophobia) and mental health distress. Finally, as an exploratory exercise, I will determine whether rurality status (rural vs. urban) will moderate the effects by which different social support constructs influence the relationship between proximal minority stress (e.g., internalized homophobia) and mental health distress.

CHAPTER 2

METHOD

Participants

The sample consisted of self-identified sexual minorities residing in rural and urban (i.e., non-rural) areas. The study sample was obtained through targeted advertising on social media (i.e., Facebook, Instagram) and selected email listservs. As an incentive, participants were invited to enter their email address to win one of 20 $50 Visa gift cards after they completed the survey. Respondents were included in the study if: a) they were 18 years of age or older, b) they identified as a sexual minority, and c) they resided in the US at the time of survey completion.

This study employed several quality checks to maintain data integrity. For instance, participants were removed from the final sample if they completed less than 70% of the survey or deemed to have sped through the survey (scores less than 2 standard deviations below the mean on completion time). A total of 774 respondents responded to the survey. Of those participants, 165 were removed for violation of a survey norm or quality check concern. Participants were eliminated because they completed less than 70% of the survey (n = 91), were not current US residents (n = 37), sped through the survey in less than 189 seconds (1 SDs below the mean; n = 12), were not 18 years old (n = 15), or did not identify as a sexual minority (n = 7). In addition, another 115 participants failed to give consent (either intentionally did not or forget to press the consent button on the survey and 3 participants only previewed the survey, not completing any assessments. A total of 494 individuals were retained in the final sample. Participants ranged in age from 18 to 78 years (M = 30.02; SD = 12.60). Other demographic data is presented in Table 1

Table 1. Socio-demographic Characteristics of the Sample

Demographic Variables		*n* (%)
Gender Identity		
	Cisgender Man	110 (22.3%)
	Cisgender Woman	170 (56.7%)
	Genderqueer	110 (22.3%)
	Transgender male (FTM)	41 (8.3%)
	Transgender female (MTF)	19 (3.8%)
	A better description not specified above	41 (8.3%)
	Prefer not to answer	3 (0.6%)
Sexual Orientation		
	Gay/lesbian	152 (30.8%)
	Mostly gay/lesbian	43 (8.7%)
	Bisexual	191 (38.7%)
	Mostly heterosexual	10 (2%)
	Questioning	5 (1%)
	A better description not specified above	93 (18.8%)
Racial Identity		
	White/Caucasian	421 (85.2%)
	Black/African American	10 (2%)
	Asian/Asian American	23 (4.7%)
	Multiracial	27 (5.5%)
	A better description not specified above	9 (1.8%)
Ethnic Identity		
	Hispanic/Latino	26 (5.3%)
	Not Hispanic/Latino	468 (94.7%)
Education		
	Less than high school	4 (.8%)
	Some high school	8 (1.6%)
	High school diploma or GED	43 (8.7%)
	Some college or vocational school	137 (27.7%)
	Vocational degree or certificate	8 (1.6%)
	College degree	172 (34.8%)
	Master's degree	93 (18.8%)
	Doctoral degree	29 (5.9%)
Financial Resources		
	Poor/Impoverished	74 (15%)
	Some financial resources	314 (78.5)
	Substantial financial resources	99 (20%)
	Affluent/rich	7 (1.4%)
Rural Status		
	Rural/Small Town	261 (52.8%)
	Non-Rural	233 (47.2%)
Relationship Status		
	Never Married	118 (23.9%)
	Single	194 (39.3%)
	Married/Partnered/Common Law	164 (33.2%)
	Separated	3 (0.6%)
	Divorced	14 (2.8%)
	Widowed	1 (0.2%)
Living Arrangement		
	Living alone	93 (18.8%)
	Living with friends	80 (16.2%)
	Living with partner	180 (32.4%)
	Living with family	141 (28.5%)
	Other	20 (4.0%)

Measures

*Demographics***.** Sample demographic indices, including participants' sexual orientation, gender, sex, race and ethnicity, relationship/marital status, relationship duration, current living arrangement, markers of socioeconomic status, and rural status were collected. See Appendix 1 for demographic survey items and response options.

*Rurality***.** The US Office of Management and Budget's Urban (metro- and micropolitan) delineation codes supplemented by the Office of Rural Health Policy's Rural-Urban Continuum Codes (RUCA) were used to assess sexual minorities' connectedness to a metropolitan area. This method of distinguishing urbanicity reflects areas that are economically, culturally, and socially integrated with an urban core statistical area (OMB, 2010), while at the same time detecting rural counties that may be undercounted according to US Census data because of their proximity to a metropolitan area (e.g., Coconino County, AZ where the Grand Canyon is located). Respondents ZIP codes were matched to RUCA codes and urbanicity will be sorted into two groups; urban (i.e., metropolitan and micropolitan; RUCA codes 1.0 to 6.0) and rural (i.e., small town and rural; RUCA codes 7.0 to 10.3). However, based on these metrics, I was unable to accurately construct meaningful continuum scores to evaluate within my analysis. Importantly, a significant portion of participants failed to report their ZIP codes. As such, self-reported rural status was used to determine participants from rural vs. more urban backgrounds. This dichotomous representation of the sample was used in subsequent analyses. See Appendix 1 for specific demographic items assessing rurality.

The Nebraska Outness Scale (NOS). The NOS (Meidlinger & Hope, 2014*)* measured sexual orientation openness as a measure of proximal minority stress. Meidlinger and Hope's (2014) outness scale consisted of 10 items over two subscales: five items measured sexual

orientation disclosure and five items measured sexual orientation concealment. The dimensions score of the NOS were analyzed in the current research, reflecting that the construct of sexual orientation openness is made of both concealment and disclosure. The disclosure subscale assessed what percent of various social groups (i.e., immediate family, extended family, friends, people in their daily life, and strangers) are aware of their sexual orientation. Participants reported their sexual orientation disclosure to these groups on an 11-point Likert scale ranging from 0 (0%) to 11 (100%). The concealment subscale asked participants how often "they avoid talking about topics related to or otherwise indicating their sexual orientation (e.g., not talking about your significant other, changing your mannerisms)" regarding the same five groups of people (Meidlinger & Hope, 2014; p. 497). Participants rated concealment on an 11-point Likert scale ranging from Never to Always with Half the time as the midpoint. Lower scores on the disclosure subscale and higher scores on the concealment subscale NOS indicated increased sexual orientation openness or being more "out". The NOS demonstrated good psychometric validity in previous research (Meidlinger & Hope, 2014). The NOS showed good internal consistency (Cronbach's alpha [α] = .89; Meidlinger & Hope, 2014). The measure also correlated significantly with measures of sexual orientation outness such as the Outness Inventory and had divergent associations with a measure of gay-related expectations of rejection and internalized homophobia. In the current study, the NOS disclosure subscale demonstrated adequate internal consistency (α = .78), as did the NOS concealment subscale (α = .76).

*Internalized Homophobia Scale Revised (IHP-R)***.** The construct of internalized homophobia assessed the extent to which sexuality stigma reflects poorly on one's self-concept" (Herek et al., 1997). IHP-R total scores were be used in the current analysis. The IHP-R demonstrated good psychometric properties in previous research. According to Herek et al.

(1997), the measure had adequate internal consistency among men (α = .83) and women (α = .71); however, men routinely score higher on the IHP-R than women in situations in which stigma may be elevated (e.g., among sexual minorities living with HIV/AIDS; Cramer et al., 2017). The measure showed good convergent and divergent validity with expected measures among gay men (i.e., of perceived stigma, depression, demoralization, self-esteem, collective self-esteem, and outness), but only associations with measures of collective self-esteem and outness were significant among lesbian women (Herek, et al., 1997). In this study, the IHP-R demonstrated good internal consistency (α = .83).

*Interpersonal Support Evaluation List-12 (ISEL-12)***.** The ISEL-12 (Cohen et al., 1985) is a 12-item measure that assesses social support via three subscales: belongingness (emotional), appraisal, and tangible (instrumental) support. However, only a total score was calculated in the current study. According to Merz et al. (2014), the ISEL-12 showed good internal consistency among English speakers (α > .70). The same authors also found adequate internal consistency for the appraisal (α = .71) and belonging subscales (α = .76), whereas internal consistency for the tangible support subscale was inadequate (α = .66). . According to Merz et al. (2014) the overall score of the ISEL-12 showed appropriate convergent validity with measures of social network integration, life engagement, depression, anxiety, and stress in expected directions. Participants read each statement regarding their social support and rated the extent to which they believed the item is true for them on a 4-point Likert scale, ranging from 0 (*Definitely false*) to 3 (*Definitely true*). Items included statements such as “If I wanted to have lunch with someone, I could easily find someone to join me” and “In general, people do not have much confidence in me” (Cohen et al., 1985; Merz et al., 2014). In the current study the ISEL-12 demonstrated good internal consistency (α = .88).

Involvement with the Gay Community Scale (IGCS). The IGCS (Vanable et al., 1992) was adapted to measure sexual minority peer support in the current study. According to Vanable and colleagues (1992) the original IIGCS demonstrated good psychometric properties for the purposes of the original measure (i.e., to predict risk-taking and sexual behavior in a metropolitan African American sample). The authors reported adequate internal consistency (α = .78) and 2-year test-retest reliability (α = .74). According to the same study, the IIGCS showed convergent validity with measures of sexual identification, outness, and sexual behavior with the same sex.

In order to prevent confounding with minority stress variables and achieve theoretical consistency with a social-network perspective of social support, the first subscale of the IIGCS (identification) was removed and the involvement subscale of the IIGCS was retained. Further, four original items were developed and added to the involvement subscale to measure social support from sexual minority peers that are more applicable and relevant to rural individuals (e.g., "How often do you spend time with other lesbian, gay or bisexual individuals at home or at someone else's house?"). Last, the revised measure was rephrased to reflect support from sexual minorities apart from gay/bisexual men alone, as the original survey was designed. The adapted scale included a total of eight items; seven items assessed a range of LGBT-related social activities. Participants were asked to mark how often they have engaged in these activities over the last six months on a 5-point Likert scale ranging from A (*never*) to E (*several times a week or daily*). A final question - carried over from the original IIGCS - asked participants "About how many gay or bisexual people would you call personal friends (as opposed to casual acquaintances)?". Response choices for this final item ranged from A (*none*) to E (*5 or more gay*

or bisexual friends) on a 5-point Likert scale. In the current study, the adapted IIGCS demonstrated adequate internal consistency (α = .72).

The Depression, Anxiety, and Stress Scales (DASS-21). The DASS-21 (Lovibond & Lovibond, 1995) was used as a multidimensional measure of mental health distress. The DASS-21 measures emotional distress associated with experiences of depression, anxiety, and stress. Therefore, the DASS-21 was used as an indicator of psychological distress rather than as a survey of diagnosable mental illness. The DASS-21 utilized three subscales to capture depression, anxiety, and stress related concerns, with seven items in each subscale. DASS-21 total scores were analyzed in the current study. Respondents were asked to read 21 statements regarding their mental well-being and indicate how much each statement applied to them over the last week (e.g., "I felt that I had nothing to look forward to"). Participants responded on a 4-point Likert scale ranging from 0 (*Does not apply to me at all*) to 3 *(Applied to me very much, or most of the time*).

The DASS-21 has shown adequate psychometric properties. According to Henry and Crawford (2005), the DASS-21 showed adequate overall internal consistency (α = .93; Henry and Crawford, 2005). The three subscales of the DASS-21 showed good internal consistency: α = .83-.88 for the depression subscale, .78-.82 for the anxiety subscale, and .87-.90 for the stress subscale (Henry & Crawford, 2005; Norton, 2007). The subscales of the DASS-21 also have fitting convergent and divergent validity with comparable measures. The depression subscale is positively associated with the Beck Depression Inventory-II (BDI-II) and appropriately correlates with subscales of the Positive and Negative Affect Schedule (PANAS); the anxiety subscale is associated with the Beck Anxiety Inventory-II (BAI-II) as well as the negative affect scale of the PANAS; and the stress scale had weaker but adequate associations with the BDI-II,

BAI-II, and the negative affect scale of the PANAS. In the current study, internal consistency of the overall measure was excellent (α = .94).

Procedure

Recruitment. In addition to advertisements on Facebook and its subsidiary platform, Instagram, this study utilized email listservs to reach more rural sexual minorities (Warren et al., 2015). Other recruitment methods were considered (Amazon's Mechanical Turk) but MTurk samples tended to overrepresent non-nationals, higher-educated individuals, young people, and women (Ross et al., 2010) which may interfere with generalizing results to rural sexual minorities.

Health research using Facebook, Instagram, Craigslist, and targeted listservs appear to adequately capture hard-to-reach populations such as sexual minority youth, rural individuals, and rural sexual minorities (Pederson & Kurz, 2016; Warren et al., 2015). Past research utilizing Facebook gathered a sample that was 10% rural (Fenner et al., 2012). Studies of online recruiting methods also indicate that expectations of reimbursement are associated with the number of responses completed among rural MSM (Bowen, 2005), emphasizing the need to offer incentives for participation in this research. Online recruitment advertisements utilized a brief message and an eye-catching graphic that emphasized minority status, lived experience, and engagement through research. Appendix 2 shows the two advertisement designs used in the current study. One recruitment ad was designed to recruit those who are open with their sexual orientation and may have a more positive sense of LGBT identity, and another design was intended to appeal to those who may be experiencing concealment and psychological distress related to their sexual orientation. This method was indicated in research presented by Pachankis (2016) to enhance recruitment of heavily stigmatized sexual minorities.

Participants who clicked on either version of the recruitment advertisement were prompted to separate but identical research surveys in a third-party survey hosting site (i.e., Qualtrics) via a link embedded in the advertisements. This allowed for targeted advertisement while maintaining the ability to analyze all survey data in one analysis. Participants indicated that they were eligible for the study by answering inclusion questions related to sexual minority identification, age of majority, English language literacy, and US residence. Excluded participants were sent to a webpage thanking them for interest in the study and linked them to national LGBT resources and service opportunities. Individuals who met inclusion criteria for the study were prompted to thoroughly read the informed consent statement on the following page and voluntarily consent to being part of the study. Specifically, participants offered their passive consent by clicking that they agree with the informed consent statement.

After providing their informed consent, participants completed online survey measures. Average survey completion time was approximately 22.75 minutes. When participants completed the survey, they were segued to a webpage thanking them for their participation in this study before they were prompted to an additional site where they entered their contact information, if they wished to enter to win the incentive. A terminating page reminded participants of the option to contact the principal investigator (PI) with follow up questions and take advantage of national LGBT resources and service opportunities.

Informed consent. Before accessing the online questionnaires, participants were provided with informed consent. Informed consent for participants emphasized confidentiality and the freedom to withdraw from the study at any time without penalty. Participants were also notified that the study was approved by the Georgia Southern University IRB.

Data collection procedures. After ensuring that inclusion criteria were met and consent was obtained, participants completed measures of mental health, sexual minority peer support, social support, minority stress, and demographic information including rurality, sequentially. The ordering of questionnaires was designed to minimize testing effects that may occur while assessing stress, such as mental health and support ratings being influenced by reminders of stress.

Electronic information related to study eligibility and informed consent was stored on a secure Qualtrics server until data collection was completed, at which point the data were transferred to a password-protected hard drive, and the original data was deleted from Qualtrics' server. To maintain confidentiality, data was not individually identifiable. Participants' IP addresses were not collected in Qualtrics and, if they chose to participate in the incentive, participants entered their contact information into a separate survey so that their contact information was not linked to their original survey responses. Further, results were presented in an aggregate manner so that no individual participant can be identified.

Proposed Statistical Analysis

The current study used a cross-sectional design to evaluate the inter-relationships among minority stress, rurality, social support, and mental health distress. Conditional path analysis was performed using PROCESS for SPSS (Hayes, 2018).

Power Considerations. The sample size needed to generate appropriate power to detect and rule out expected effects was estimated using Monte Carlo bootstrap confidence intervals (CIs). Standards in research planning using this method estimated the number of participants needed was approximately equal to the number of variables in the model multiplied by 100, plus

an additional 30% to account for missing or unusable data. Using this method, a goal of 845 participants was tabulated.

Analytic Plan. In terms of preliminary analyses, a MANOVA was used to analyze rural - non-rural differences (rural vs. urban) between the study's main variables. Next, a correlation matrix was constructed to evaluate the bivariate relationships among the study's main variables. Finally, a series (x2) of moderated-moderation models were analyzed via PROCESS (Model 3). These models evaluated whether social support variables and rural status moderated the relationship between internalized homophobia and mental health distress. These models produced three main effects, three two-way interaction effects, and one three-way interaction effect. If any interaction effect is significant, then probing procedures (i.e., simple slopes analysis) will be employed to further deconstruct the interaction.

CHAPTER 3

RESULTS

Preliminary Analysis

A MANOVA was analyzed to determine any significant differences in the variables of interest based on population density groups (rural vs. urban [non-rural]). The MANOVA indicated a non-significant overall effect for rurality, $F(6, 378) = .75$, $p > .05$, $\eta^2 = .01$. Follow-up ANOVAs were used to identify potential rural differences on each specific variable. These ANOVAs did not yield any significant findings. Table 2 depicts the means and standard deviations for each study variable by rural group. The results indicated that sexual minorities currently residing in rural areas scored similarly on measures of identity disclosure, concealment, internalized homophobia, general and sexual minority peer social support, and mental health distress than their non-rural counterparts.

Table 2. Mean and Standard Deviation Scores for Outness Dimensions, Internalized Homophobia, Support Indices, and Mental Health Distress by Rural Groups

	Rural (n = 203)	Non-rural (n = 182)	F	p	*Partial* η^2
Outness - Disclosure			3.02	.08	.01
Mean	29.54	27.55			
Standard Deviation	11.29	11.11			
Outness - Concealment			.09	.77	.00
Mean	19.49	19.84			
Standard Deviation	11.53	11.77	.		
Internalized Homophobia			.41	.52	.00
Mean	14.55	14.18			
Standard Deviation	5.84	5.62			
General Social Support			.17	.68	.00
Mean	24.55	24.85			
Standard Deviation	7.10	6.99			
LGB-specific social support			.02	.88	.00
Mean	20.34	20.26			
Standard Deviation	5.49	5.20			
Mental Health			.01	.93	.00
Mean	23.24	23.11			
Standard Deviation	14.67	12.94			

Primary Analyses

Bivariate Correlations. Bivariate correlations were performed to identify significant relationships among the study's main variables. Findings are depicted in Table 3. Results indicated significant relationships of interest. As anticipated, internalized homophobia was significantly and positively related to mental health distress. Internalized homophobia was also significantly and inversely correlated with identity disclosure and positively associated with identity concealment. Significant relationships between internalized homophobia and social support indices were also detected, such that individuals with higher levels of internalized

homophobia tended to report less social support as less sexual minority peer support. Further, general social support was linked to mental health distress, such that those with higher levels of general social support reported less symptoms of mental health distress. Counter to expectations, however, sexual minority peer support was not significantly correlated with mental health.

Table 3. Intercorrelations among The Study's Main Variables.

Variables	Rurality	NOS-D	NOS-C	IHP-R	ISEL	IIGCS	DASS
Rurality	- - -	-.084	.025	-.069	.043	-.028	-.007
NOS-D		- - -	-.429**	-.276**	.108*	.228**	-.122*
NOS-C			- - -	.323**	-.173**	-.065	.232**
IHP-R				- - -	-.262**	-.238**	.356**
ISEL					- - -	.327**	-.371**
IGCS						- - -	-.037
DASS							- - -

Moderated Model with General Social Support. A moderated-moderation model was run to examine if the relationship between internalized homophobia and mental health distress varied as a function of general social support and rurality. Regression statistics are presented in Table 4. The model analyzed the main effects for internalized homophobia, general social support, and rurality, two two-way interaction effects (internalized homophobia x general social support, internalized homophobia x rurality, and general social support x rurality), and one three-way interaction (internalized homophobia x general social support x rurality). In total, the main and interactive effects accounted for 23% of the variance in mental health distress, $F(7, 484) = 11.60$, $p < .01$. No significant main effects or interaction effects detected within the model. Because there were no significant interaction effects, general social support and rurality did not moderate

the relationship between internalized homophobia and mental health distress. Thus, no probing procedures were needed to deconstruct the findings further.

Table 4. General Main and Interaction Effects in Accounting for Mental Health Distress

	b	*p*	95% LCI	95% UCI
Main Effects				
Internalized Homophobia	.47	.58	-1.19	2.13
General Social Support	-1.10	.08	-2.32	.12
Rurality	-2.67	.79	-22.58	17.24
Interaction Effects				
Internalized homophobia x general social support	-.00	.97	-.07	.07
Internalized homophobia x rurality	-.36	.54	-1.51	.80
General social support x rurality	.05	.91	-.76	.86
Internalized homophobia x general social support x rurality	.02	.39	-.03	.07

Moderated Model with LGB-specific Social Support. A second moderated-moderation model was also analyzed to examine if the relationship between internalized homophobia and mental health distress varied as a function of LGB-specific social support and rural status. Regression statistics for the model are presented in Table 5. The model explored the main effects for internalized homophobia, LGB-community support, and rurality, two two-way interaction effects (internalized homophobia x LGB-specific social support, internalized homophobia x rurality, LGB-specific social support x rurality), and one three-way interactive effect (internalized homophobia x LGB-specific social support x rurality) on mental health distress. Overall, the model accounted for 14% of the variance in mental health distress, $F(7, 484) =$

11.60, $p < .01$. Results did not detect a significant main or interaction effect within the model. Because there were no significant interaction effects, LGB-specific social support and rurality did not moderate the relationship between internalized homophobia and mental health distress. Thus, no probing procedures were needed to deconstruct the findings further.

Table 5. *LGB-Specific Main and Interaction Effects in Accounting for Mental Health Distress*

	b	*p*	95% LCI	95% UCI
Main Effects				
Internalized Homophobia	-1.66	.14	-3.87	.55
LGB-Specific Social Support	-1.60	.08	-3.39	.18
Rurality	-14.46	.22	-37.84	8.92
Interaction Effects				
Internalized homophobia x LGB-specific social support	.14	.06	.02	.25
Internalized homophobia x rurality	1.27	.09	-.18	2.72
LGB-specific social support x rurality	.84	.15	-.31	2.00
Internalized homophobia x LGB-specific social support x rurality	-.07	.07	-.15	.00

CHAPTER 4

DISCUSSION

Review of Purpose

The current study aimed to evaluate the relationships among internalized homophobia, mental health distress, rurality, and indices of social support in a sample of sexual minorities. Founded in minority stress theory, moderated moderation analyses were employed to determine if and how indices of social support and rurality buffered the relationship between internalized homophobia and mental health distress. This research focus is novel as no known studies have investigated the role of social support and rurality in this unique relationship. Moreover, research focused on identifying preventative mechanisms are valuable because the LGBTQ+ literature is replete with guidelines on how to manage discrimination experiences through different behavioral health services.

In light of this research gap, the present study sought to answer the following questions: a) do reports of social support, internalized homophobia, and mental health distress vary by rural groups?, b) do self-reports of internalized homophobia correlate with mental health distress?, c) do indices of support moderate the relationship between internalized homophobia and mental health distress?, and d) does rurality moderate the relationship between internalized homophobia and mental health distress?

Rural Differences

A MANOVA was analyzed to examine rural-non-rural differences on the study variables. Across analyses, non-significant differences between sexual minorities from rural and non-rural areas were noted, suggesting that rural and non-rural sexual minorities experience similar levels of internalized homophobia, identity concealment and disclosure, social support, and mental

health distress. The lack of statistically significant rural-non-rural differences is inconsistent with the literature, especially literature regarding rural-urban differences in discrimination (Morandini et al., 2015). My finding suggests that rural and non-rural sexual minorities share more psychosocial commonalities and experience minority stressors in more similar ways than previously thought.

However, there may be several reasons for these non-significant effects. First, it is possible that the type of measures used may have minimize my ability to detect significant findings. Importantly, the majority of the measures were normed off samples largely comprised of individuals from non-rural areas. Because of this, unique expressions of internalized homophobia for sexual minorities residing in rural areas may not have been captured well. To remedy this concern, researchers are encouraged to qualitatively examine how sexual minorities from rural areas experience and express concerns related to internalized homophobia and consider these unique expressions in the construction of more relevant assessments. In turn, researchers may be able to use this new measure in conjunction with other measures to determine whether rural vs. non-rural differences among the study's main variables exist.

Second, it is possible a lack of significant rural differences may be due to how participants self-reported their rurality. Notably, participants were asked to self-identify whether they resided in a rural area. While self-reported data provide a subjective evaluation of the area a participant resides, it may not be accurate in terms of geographical status. For instance, a participant may live in a small town and perceive their community is rural, when in fact it does not meet rural standards. It should be noted that attempts were made to evaluate rurality from a more standardized and objective system. However, a large number of participants failed to respond to questions pertaining to ZIP code and other geo-demographic questions, minimizing

my ability to use these systems to group participants. In future studies, an objective classification system of quality, such as the US Office of Management and Budget's (OMB) RUCA codes, could be used to provide an objective framework to measure rurality. However, stringent efforts will need to be taken to ensure participants understand ZIP codes and other relevant data, so they may provide accurate data.

Finally, it is also possible that rural sexual minorities experience similar levels of internalized homophobia, distress, and social support as their non-rural peers. With the advent of and continued reliance on the internet as an important social tool, it is possible that social-based disparities between rural and non-rural sexual minorities are evaporating. For instance, rural sexual minorities might be receiving more social support through online groups and communities, which may offset historical trends in this area. Moreover, considering the socio-political climate, it is conceivable that all sexual minorities may be experiencing heightened levels of distress. Moving forward, researchers should examine potential conditions by which rural differences on these variables may fluctuate in strength. Particularly, researchers may need to consider how online access and sociopolitical concerns may frame whether rural differences exist.

Bivariate Relationships

Using a series of bivariate correlations, I was able to analyze the relationships among the study's main variables. Below is a brief series of discussions regarding the main relationships under investigation.

*Internalized Homophobia and Mental Health Distress***.** Bivariate correlations were analyzed to examine relationships between internalized homophobia and mental health distress. As expected, results detected a significant, positive relationship between internalized

homophobia and mental health distress, such that those with higher reported levels of internalized homophobia reported higher levels of mental health distress. These results are consistent with findings from the sexual minority stress literature noting the deleterious health effects of discrimination, particularly internalized homophobia (Hatzenbuehler, 2009; Lehavot & Simoni, 2011; Michaels et al., 2019; Puckett et al., 2015; Walch et al., 2016). Currently, this finding also supports the notion of internalized homophobia as a risk factor to distress outcomes. However, it is apparent that additional research is needed to understand the potential causative role of internalized homophobia on mental health distress outcomes. Moving forward, it will be important for researchers to examine this relationship using longitudinal and experimental designs. For instance, it would be interesting to determine whether changes in internalized homophobia account for decreases in mental health distress over a 3-, 6-, and 12-month window of time. Findings like these would clarify the nature of internalized homophobia on mental health distress and guide interventions designed to minimize the effects of internalized homophobia.

Internalized Homophobia and Indices of Support. Bivariate correlations were also used to examine relationships between internalized homophobia and social support indices. Significant and negative correlations were found between internalized homophobia and general and specific indices of social support, such that those who reported higher levels of internalized homophobia reported lower general and LGB- specific social support. These findings are consistent with the literature on social support and discrimination (van der Star, 2019), but warrant further research. For instance, longitudinal studies associated with discrimination may help determine if sexual minorities with higher levels of internalized homophobia tend to seek out less social support or if those with less social support tend to report high levels of self-directed homophobia. Such

studies may help to discern the causal direction by which these two variables relate to one another.

General Social Support and Mental Health Distress. Additional bivariate correlations were used to examine relationships between two types of social support and mental health distress. As expected, a significant and negative relationship was found between general social support and mental health distress. This finding aligns with previous literature about the positive impact of social support on mental health (van der Star, 2019) and helps clarify the pathways through which social support could impact mental health in sexual minorities. Future research is needed to extend our ability to evaluate how social support accounts for positive outcomes within LGBTQIA+ communities. For instance, no known examinations of social support have investigated whether functional and structural support indices better account for variation in mental health outcomes within rural sexual minority samples. It is possible the benefits of social support are conferred through the receipt of emotional, appraisal, and instrumental support from others as opposed to the source/size of one's social network. Previous mixed findings about the impact of social support on mental health may be attributable to conflation of different types of social support, evidencing the need for future studies to examine the relationships between social support and mental health using measures that capture the impact of various indices of support. Such studies will be important in understanding how social support can be leveraged to increase well-being and flourishing efforts in LGBTQIA+ communities.

Interestingly, an unexpected result was found in the examination of sexual minority peer support and mental health distress. It was hypothesized that social support from other sexual minority community members would provide an additional benefit of social support (Thoits, 2011) thus accounting for better mental health outcomes in sexual minority samples. However,

results indicated that LGBT-specific social support was not significantly related to mental health distress. This finding is inconsistent with the prevailing literature and public opinion that highlights the benefit of LGBTQIA+ community support as a protective factor for mental health concerns (Meyer, 2003; Thoits, 2011). There are numerous reasons for the detected non-significant relationship. First, this was one of the first studies to consider social support in a sample of geographically diverse sexual minorities. Generally, previous research examining social support from sexual minorities leans primarily on non-rural, urban, and metropolitan samples. Therefore, it is possible that sociocultural differences between rural and non-rural sexual minorities somehow alters how LGB peer support relates to mental health outcomes. Future studies should consider sociocultural differences in examining the strength of this relationship. Another possible explanation for this non-significant relationship finding is a lack of operational clarity in defining LGB-specific support. For instance, it is possible that having a social support network is not the same as feeling supported. This position is reflective of previous research emphasizing the impact of functional support factors rather than solely structural support regarding health determinants (Berkman et al., 2000, House et al., 1988). Moving forward, it will be important for researchers to examine how LGB social support networks and affective perceptions of LGBTQIA+ community support differentially explain variations in mental health outcomes within LGBTQIA+ communities. Finally, LGB peer support measures might possess significant flaws, which detracted from my ability to detect a significant relationship. The current LGB peer support measure was adapted to examine involvement with the LGB community, with the original measure created by Vanable and colleagues (1992). Because the measure contains more items associated with community involvement, it might not be reflective of important social support features. The decision to adapt

a measure was made because there are no LGB-specific social support assessments that measure multidimensional aspects of social support available for use. To this end, it is important that researchers construct LGB-specific measures for social support and use these measures to evaluate a relationship with mental health distress.

Other Key Relationships. The Nebraska Outness Scale's disclosure and concealment subscales were significantly correlated to reports of mental health distress. Specifically, higher reports of disclosure were linked with lower reports of mental health distress, whereas higher reports of concealment were linked to higher reports of mental health distress. These findings are consistent with the prevailing literature (Mohr, Jackson, & Sheets, 2017). However, the strength of these relationships was relatively weak. Moving forward, it is important to determine if these LGB-specific variables serve as protective and risk factors to different mental health outcomes. For instance, it would be important to determine if and how disclosure serves to bolster wellness and well-being outcomes. Currently, there is a dearth of qualitative and quantitative evidence to outline how disclosure is protective. Researchers should employ qualitative studies to evaluate the conditions by which disclosing bolsters well-being among LGBTQIA+ individuals.

Moderated-Moderation Models

A series of moderated-moderation models were analyzed to investigate the impact of social support indices and rurality on the internalized homophobia-mental health distress relationship. According to prevailing minority stress research, it was expected that internalized homophobia would be linked to poorer mental health outcomes, and that social support (general social support and LGB peer support) would buffer this relationship such that those with increased social support would report weaker relationships between internalized homophobia and mental health distress.

General Social Support Model. The investigation of overall social support as a moderator of discrimination and mental health distress revealed a non-significant interaction effect, indicating that overall or general social support did not moderate the relationship between internalized homophobia and mental health distress. This finding was inconsistent with previous minority stress literature noting social support has protective effects against certain types of minority stressors (Fingerhut, 2018; Meyer, 2003; van der Star, 2019; Thoits, 2011). However, several possible issues may have contributed to this unexpected and non-significant effect.

First, the moderation model examining overall social support may not have reached significance due to the nature of internalized homophobia as a proximal minority stressor (e.g., outness, internalized homophobia, expectations of gay-related rejection) as opposed to a distal minority stressor (e.g., violence, discrimination). It is possible that internalized homophobia stressors, a proximal stressor, are not alleviated by social support. For instance, social support may help to reframe a discriminatory event (i.e., distal stressor), but may be less apt to reframe internalized beliefs about perceived deficits and faults stemming from societal bias, which, in turn, may not decrease resulting distress. Additional research should examine if social support plays a significant protective role among sexual minorities who experience proximal vs. distal minority stressors.

Second, there could be some methodological confounds associated with the recruitment of the participants which may explain why I was unable to detect a significant moderated effect. Importantly, I recruited a convenience sample of sexual minorities via ads placed on selected webpages and message boards. It is quite possible that the participants I recruited may have been more well-adjusted, especially compared to outpatient and inpatient samples of sexual minorities. This is an important distinction because research suggests strength-based constructs

are more effective in alleviating distress among individuals who present with more distress and fewer positive experiences (Hurley & Kwon, 2013). Therefore, the moderated model might be significant with more clinical samples of sexual minorities. Evaluating whether clinical status moderates the effect of social support as a key buffer is an important step forward.

LGB Peer Support Model. The moderation analysis examining the role of LGB peer support revealed a non-significant interaction effect, indicating that LGB peer support did not moderate the relationship between internalized homophobia and mental health distress. These results are inconsistent with prevailing LGB minority stress literature suggesting that LGB peer support has a protective role among sexual minorities experiencing discrimination (Bissonette & Szymanski, 2019; Meyer, 2003; Thoits, 2011). There may be several possible explanations for this unique result.

First, as mentioned above, this project examined the relationship between *proximal* minority stress (e.g., outness, internalized homophobia, expectations of gay-related rejection) and mental health distress rather than *distal* minority stressors (e.g., violence, discrimination events). Additional research is warranted to investigate if social support interventions are similarly protective against mental health concerns in the face of, both, proximal and distal minority stressors.

It is also possible that the LGB peer support measured in this study did not capture any protective benefit of social support and, instead, only accounted for the size and frequency of interacting with one's LGB peer support. While the LGB peer support measure was chosen to represent structural elements of one's support system and was tailored to accurately account for rural sexual minority peer support, the instrument likely did not accurately measure the health-buffering elements of social support. Future research examining the effects of LGB-specific

social support should carefully choose measures that capture (a) an individual's LGB-specific social support factors, (b) the quality of LGB supports, and (c) the frequency of interaction with LGB supports. Employing such measures may help elucidate if and how LGB-specific support may offset the effects of internalized homophobia on different mental health distress symptoms.

Rurality as a Moderating Variable. The moderated moderation analyses also examined rurality as a second moderator on the relationships between internalized homophobia and mental health distress. In both models, rurality was not determined to be a significant moderator. This means the strength of the conditional effects of overall and LGB-specific social support, both of which were non-significant, did not vary by rural groups (rural vs. non-rural participants). As this was an exploratory element of the study, there were no specific expectations. However, the fact that I considered rurality within these models is important. Currently, research does an insufficient job of identifying rural differences within different social and mental health outcomes among sexual minority samples. While this information is important, it is a rather surfaced way of exploring the effects of rurality on the LGBTQIA+ community. Instead, more research is needed to evaluate whether models vary across different rural groups in LGBTQIA+ communities. In this way, researchers will be able to accurately evaluate whether protective- or risk-based models hold stable for a wide range of sexual minorities residing in different geographic and sociocultural environments. As such, researchers should continue to evaluate the conditional effects of rurality in constructing and investigating different processes and models associated with LGBTQIA+ mental health.

Clinical Implications

The findings of the current research highlight internalized homophobia as a risk factor for negative mental health outcomes among a geographically diverse sample of sexual minorities.

This is key as clinicians may need to consider and effective address the role of internalized homophobia in promoting different types of distress outcomes when serving clients. Additional research is needed to identify and validate effective treatments that reduce mental health risk associated with internalized homophobia. An increasing number of sexual and gender minority-affirming care models were devised with the specific aim of reducing internalized homophobia. For example, trauma-focused cognitive behavioral therapy for LGBTQ+ individuals (TF-CBT LGBT; Cohen et al., 2018) directs practitioners to assist clients with recognizing and addressing maladaptive cognitions associated with heterosexism, homo-/hetero-negativity, and homo-/hetero-sexism through psychoeducation, cognitive coping, and trauma processing. However, more research is needed to elucidate if, how, and when these approaches are effective in offsetting the effects of internalized homophobia on distress outcomes.

Furthermore, although social support did not significantly moderate the relationship between discrimination and mental well-being, social support was found to be inversely related to mental health distress. This finding suggests that social support may be a clinically useful component to improve well-being among sexual minorities. Indeed, social support interventions are utilized in sexual identity affirming treatments (Cohen et al., 2018). Moving forward, researchers should conduct deeper investigations into the conditions by which social support interventions negate the effects of discrimination and promote a foundation for wellness among diverse LGBTQIA+ samples. Moreover, it is important for researchers to continue identifying protective factors to mental health distress. Although indices of social support did not offer any meaningful advancement to the literature, future research should examine other positive psychological variables. For instance, the effects of discrimination may be greatly buffered by self-compassion, resiliency, coping skills, one's positive sense of LGBTQ+ identity, and the

ability to positively reappraise a negative event, to minimize distress. Research in this area would be beneficial to the development of effective interventions for sexual minorities receiving psychotherapy for concerns stemming from minority stress issues. Additionally, continued research in this area may benefit groups beyond the sexual minority community that encounter mental health risk factors associated with discrimination and "invisible" minority status (e.g., gender minorities, naturalized US citizens, religious minorities, people living with chronic pain/illness, etc.).

Limitations

In addition to the limitations already acknowledged, there are some confounds worth mentioning. First, the current study design utilized a correlational and cross-sectional method, therefore, causal relationships could not be established among the study's main variables. It will be important to evaluate the causal effects of internalized homophobia and social support to bolster intervention efforts. Also, longitudinal research is warranted to examine whether internalized homophobia is associated with distress. This will help researchers track the effects of internalize homophobia on distress and how changes in one variable affect the other. Second, the current study's sample was limited regarding educational status (90% had at least some college experience) and race (85% of participants identified as White). The study also sampled non-clinical community members. The composition of the sample may limit the generalizability of the findings. Continued research is needed to ascertain if the current study's results are generalizable to a broader population of LGBTQIA+ individuals, including gender minorities, clinical populations, those from lower-SES groups, and individuals of ethnically diverse backgrounds. Third, there were some measurement concerns related to the administration of the Nebraska Outness Scale. Specifically, this scale was presented to participants using a slider

feature; participants would move the slider to the appropriate position to better indicate the experience with identity disclosure and concealment. However, a lot of participants did not touch the slide. I believe they did not touch the slider because they meant to report their score as zero. However, instead of recording the score as zero, Qualtrics recorded their score as absent. So, there was some confusion regarding how to interpret some participants responses on this measure. In the future, it is recommended researchers not use slider functions to help participants estimate their scores on important variables.

Fourth, this study is limited in that a large proportion of individuals were dropped from the study due to not meeting inclusionary criteria. Analyses were not conducted to determine if those retained in the current study were statistically similar to those that were dropped from the study. Mostly, there was not enough data from removed participants to draw out any meaningful conclusions. However, if significant differences were present, this may have minimized or overextended the ability to detect significant differences in the sample group. Future research should carefully consider their recruitment approach when assessing geographically diverse sexual minorities for research to minimize this concern.

Fifth, there were some concerns that my statistical analyses were underpowered. Specifically, I had to remove so many individuals from my study due to quality check concerns that I fell slightly short of my desired sample size. If my analyses were underpowered this might have minimized my ability to detect significant effects. Moving forward, it is important researchers re-evaluate my study questions with a greater sample size.

Sixth, I used total scores in favor of subscales scores in evaluating general social support using the ISEL-12. Although the ISEL-12 contains subscales for emotional, appraisal, and instrumental support, the psychometric properties of the overall measure were stronger than each

subscale individually. Further, the content of the overall ISEL-12 score fitted well with functional aspects of social support that were hypothesized to influence mental health. Given this potential limitation in the context of general social support being significantly and negatively correlated with mental health, it may be useful for additional research to investigate the influence of social support on mental well-being utilizing ISEL-12 subscale values.

Finally, data collection was conducted during the COVID-19 pandemic, an event that drastically altered life for many Americans. Specifically, data was collected from April to June 2021, at which time the initial COVID vaccines were distributed, mask mandates were being relaxed, and people were beginning to re-integrate into the community for normal activities. Although social support measures attempted to account for online social support, which many people utilized during the pandemic, it is impossible to know the ways that quarantine and social distancing policies may have affected participants responses to measures of discrimination and social support. Further, some research suggests that COVID was associated with poorer mental health, which confounds the current study variables that were predicted to be associated with mental health status. This project will benefit from a replication study to gather if the current findings hold during a time in which a pandemic may not influence participants' responses.

General Conclusions

The current project examined the relationships between internalized homophobia, mental health distress, various indices of social support, and rurality, in a sample of geographically diverse sexual minorities. Specifically, the study employed a cross-sectional and correlational design to evaluate social support and rurality as moderators of the relationship between internalized homophobia and mental health distress. The findings advance the current body of sexual minority and stigma literature in several ways. First, this study is one of a few quantitative

studies to examine internalized homophobia as a mental health risk factor among urban and rural sexual minorities living in the US. Results reinforced the position that internalized homophobia is a significant risk factor to individuals residing in rural and non-rural areas. Second, overall or general social support and mental health distress were inversely related, suggesting that social support may be an important element of social adjustment and well-being among sexual minorities. However, social support from LGB peers was not found to have a relationship with distress. Future research needs to re-evaluate this relationship using more detailed and validated measures of LGB social support. Finally, social support and rurality did not significantly moderate the relationship between discrimination and mental health, suggesting that other factors may be more pertinent in explaining the conditional effects of the relationship between internalized homophobia and mental health. Specifically, other positive psychological factors, like self-compassion and resilience, should be evaluated through different protective factor modeling in the near future.

REFERENCES

Austin, E. L. (2013). Sexual orientation disclosure to health care providers among urban and non-urban southern lesbians. *Women & Health, 51*(1), 41-55. https://doi.org/10.1080/03630242.2012.743497

Barnes, D. M. & Meyer, I. H. (2012). Religious affiliation, internalized homophobia, and mental health in lesbians, gay men, and bisexuals. *American Journal of Orthopsychiatry, 82*(4), 505-515. https://doi.org/10.1111/j.1939-0025.20125.01185.x

Barrett, D. C. & Pollack, L. M. (2005). Whose gay community? Social class, sexual self-expression, and gay community involvement. *The Sociological Quarterly, 46*(3), 437-456

Bergfeld, J. R. & Chiu, E. Y. (2017). Mediators in the relationship between minority stress and depression among young same-sex attracted women. *Professional Psychology: Research and Practice, 48*(5), 294-300. https://doi.org/10.1037/pro0000155

Berkman, L. F., Glass, T., Brissette, I., & Seeman, T. E. (2000). From social integration to health. Durkheim in the new millennium. *Social Science & Medicine,* 51, 843-857.

Bissonette, D. & Szymanski, D. M. (2019). Minority stress and LGBQ college students' depression: Roles of peer group and involvement. *Psychology of Sexual Orientation and Gender Diversity, 6*(3), 308-317. https://doi.org/10.1037/sgd0000332

Blosnich, J. R., Mays, V. M., & Cochran, S. D. (2014). Suicidality among veterans: Implications of sexual minority status. *American Journal of Public Health, 104,* S535-S537. https://doi.org/10.2105/AJPH.2014.302100

Bostwick, W. B., Boyd, C. J., Hughes, T. L., & McCabe, S. E. (2010). Dimension of sexual orientation and the prevalence of mood and anxiety disorders in the United States.

American Journal of Public Health, *100*(3), 468-475. https://doi.org/10.2105/AJPH.2008.152942

Bowen, A. (2005). Internet sexuality research with rural men who have sex with men: Can we recruit and retain them? *Journal of Sex Research*, *42*(4), 317-323. https://doi.org/10.1080/00224490509552287

Bowleg, L. (2013). "Once you've blended the cake, you can't take the parts back to the main ingredients": Black gay and bisexual men's descriptions and experiences of intersectionality. *Sex Roles*, *68*, 754-767. https://doi.org/10.1007/s11199-012-0152-4

Bruce, D., Harper, G. W., & Bauermeister, J. A. (2015). Minority stress, positive identity development, and depressive symptoms: Implication for resilience among sexual minority male youth. *Psychology of Sexual Orientation and Gender Diversity*, *2*(3), /sgd287-296. https://doi.org/10.1037/sgd0000128

Burnham, K. E., Cruess, D. G., Kalichman, M., Grebler, B. A., Cherry, C., & Kalichman, S. C. (2016). Trauma symptoms, internalized stigma, social support, and sexual risk behavior among HIV-positive gay and bisexual MSM who have sought sex partners online. *AIDS Care*, *28*(3), 347-353. https://doi.org/10.1080/09540121.2015.1096894

Button, S. B. (2004). Identity management strategies utilized by lesbian and gay employees, A quantitative investigation. *Group & Organization Management*, *29*(4), 470-494. https://doi.org/19.1177/1059601103257417

Caceres, B. A., Makarem, N., Hickey, K. T., & Hughes, T. L. (2019). Cardiovascular disease disparities in sexual minority adults: An examination of the behavioral risk factor surveillance system (2014-2016). *American Journal of Health Promotion*, *33*(4), 576-585. https://doi.org/10.1177/0890117118810246

Cao, H., Zhou, N., Fine, M., Liang, Y., Li, J., Mills-Koonce, W. R. (2017). Sexual minority stress and same-sex relationship well-being. A meta-analysis of research prior to the U.S. nationwide legalization of same-sex marriage. *Journal of Marriage and Family, 79*, 1258-1277. https://doi.org/10.1111/jomf.12415

Chen, J., Walters, M. L., Gilbert, L. K., & Patel, N. (2020). Sexual violence, stalking, and intimate partner violence by sexual orientation, United States. *Psychology of Violence, 10*(1), 110-119. https://doi.org/10.1037/vio0000252

Cochran, S. D. & Mays, V. M. (2000a). Relationship between psychiatric syndromes and behaviorally defined sexual orientation in a sample of the US population. *American Journal of Epidemiology*, *151*(5), 516-526.

Cochran, S. D. & Mays, V. M. (2000b). Lifetime prevalence of suicide symptoms and affective disorders among men reporting same sex sexual partners: Results from NHANES III. *American Journal of Public Health*, *90*(4), 573-578.

Cochran, S. D. & Mays, V. M. (2006). Estimating prevalence of mental and substance-using disorders among lesbians and gay men from existing national health data. In A. M. Omoto & H. S. Kurtzman (Eds.), *Contemporary perspectives on lesbian, gay, and bisexual psychology. Sexual orientation and mental health: Examining identity and development in lesbian, gay, and bisexual people* (p. 143–165). American Psychological Association. https://doi.org/10.1037/11261-007

Cochran, S. D., Sullivan, J. G., & Mays, V. M. (2003). Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the United States. *Journal of Consulting and Clinical Psychology*, *71*(1), 53-61. https://doi.org/10.1037/0022-006X.71.1.53

Cohen, J. M., Blasey, C., Taylor, C. B., Weiss, B. J., & Newman, M. G. (2016). Anxiety and related disorders and concealment in sexual minority young adults. *Behavior Therapy, 47*(1), 91-101. https://doi.org/10.1016/j.beth.2015.09.006

Cohen, J.A., Mannarino, A.P., Wilson, K. & Zinny, A. (2018). Trauma-Focused Cognitive Behavioral Therapy LGBTQ Implementation Manual. Pittsburgh, PA: Allegheny Health Network.

Cohen, S, Mermelstein, R., Kamarck, T., & Hoberman, H. M. (1985). Measuring the functional components of social support. In Sarason, I. G. & Sarason, B. R. (Eds), *Social support: Theory, research, and applications.* Martinus Niijhoff.

Fadel, L. (2019). New Study: LGBT people a 'Fundamental part of the fabric of rural communities'. https://williamsinstitute.law.ucla.edu/press/in-the-news/new-study-lgbt-people-a-fundamental-part-of-the-fabric-of-rural-communities/

Fenner, Y., Garland, S. M., Moore, E. E., Jayasinghe, Y., Fletcher, A., Tabrizi, S. N., Gunasekaran, B., & Wark, J. D. (2012). Web-based recruiting for health research using a social networking site: An exploratory study. *Journal of Medical Internet Research*, *14*(1), e1-15. https://doi.org/10.2196/jmir.1978

Feinstein, B. A., Dyar, C., & London, B. (2017). Are outness and community involvement risk or protective factors for alcohol and drug abuse among sexual minority women? *Archives of Sexual Behavior*, *46*, 1411-1423. https://doi.org/10.1007/s10508-016-0790-7

Fingerhut, A. W. (2018). The role of social support and gay identity in the stress process of a sample of Caucasian gay men. *Psychology of Sexual Orientation and Gender Diversity, 5*(3), 294-302. https://doi.org/10.1037/sgd0000271

Fisher, C. M., Irwin, J. A., & Coleman, J. D. (2014). LGBT health in the midlands: A rural/urban comparison of basic health indicators. *Journal of Homosexuality, 61,* 1062-1090. https://doi.org/10.1080/00918369.2014.872487

Fitzpatrick, S., Dworkin, E. R., Zimmerman, L., Javorka, M, & Kaysen, D. (2019). Stressors and drinking in sexual minority women: The mediating role of emotion dysregulation. *Psychology of Sexual Orientation and Gender Diversity*. Advance online publication. https://doi.org/10.1037/sgd0000351

Frost, D. M. & Bastone, L. M. (2008). The role of stigma concealment in the retrospective high school experiences of gay, lesbian, and bisexual individuals. *Journal of LGBT Youth, 5*(1), 27-36.

Frost, D. M. & Meyer, I. H. (2012). Measuring community connectedness among diverse sexual minority populations. *Journal of Sexuality Research, 49*(1), 36-49. https://doi.org/10.1080/00224499.2011.565427

Fuller, J., Edwards, J., Procter, N., & Moss, J. (2000). How definition of mental health problems can influence help seeking in rural and remote communities. *Australian Journal of Rural Mental Health, 8,* 148-153.

Gates, J. G. (2011). How many people are lesbian, gay, bisexual, and transgender? *The Williams Institute*. https://williamsinstitute.law.ucla.edu/wp-content/uploads/Gates-How-Many-People-LGBT-Apr-2011.pdf

Gessert, C., Waring, S., Bailey-Davis, L., Conway, P., Roberts, M., & VanWormer, J. (2015). Rural definition of health: A systematic literature review. *BMC Public Health, 15*(378). https://doi.org/10.1186/s12889-015-1658-9

Griffin, J. A., Drescher, C. F., Eldridge, E. D., Rossi, A. L., Loew, M. M., & Stepleman, L. M. (2018). Predictors of anxiety among sexual minority individuals in the southern US. *Journal of Orthopsychiatry*, *88*(6), 723-731. https://doi.org/10.1037/ort0000363

Hatzenbuehler, M. L. (2009). How does sexual minority stigma "Get under the skin"? A psychological mediation framework. *Psychological Bulletin*, *135*(5), 707-730. https://doi.org/10.1037/a0016441

Hatzenbuehler, M. L., Bellatorre, A., Lee, Y., Finch, B., Muennig, P., & Fiscella, K. (2014). Structural stigma and all-cause mortality in sexual minority populations. *Social Science & Medicine*, *103*, 33-41. https://doi.org/10.1016/j.socscimed.2013.06.005

Hatzenbuehler, M. L., Nolen-Hoeksema, S., & Dovidio, J. (2009). How does stigma "Get under the skin"? The mediating role of emotion regulation. *Psychological Science*, *20*(10), 1282-1289.

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). The Guilford Press.

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *44*, 227-239. https://doi.org/10.1348/014466505X29657

Herek, G. M. Cogan, J. C., Gillis, J. R., & Glunt, E. K. (1997). Correlates of internalized homophobia in a community sample of lesbians and gay men. *Journal of the Gay and Lesbian Medical Association*, *2*, 17-25.

Heywood, W. & Lyons, A. (2016). HIV and elevated mental health problems: diagnostic treatment, and risk patterns for symptoms of depression, anxiety, and stress in a national

community-based cohort of gay men living with HIV. *Aids and Behavior, 20,* 1632–1645. https://doi.org/10.1007/s10461-016-1324-y

Hirsch, J. K. & Cukrowicz, K. C. (2014). Suicide in rural areas: An updated review of the literature. *Journal of Rural Mental Health, 38*(2). https://doi.org/10.1037/rmh0000018

Hottes, T. S., Bogaert, L., Rhodes, A. E., Brennan, D. J., & Gesink, D. (2016). Lifetime prevalence of suicide attempts among sexual minority adults by study sampling strategies: A systematic review and meta-analysis. *American Journal of Public Health Research, 106*(5), e1-12. https://doi.org/10.2105/AJPH.2016.303088

House, J. S., Kahn, R. L., McLeod, J. D., & Williams, D. (1985). *Measures and concepts of social support.* In S. Cohen & S. L. Syme (Eds.), *Social Support and Health* (p. 83–108). Academic Press.

House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *American Association for the Advancement of Science, 241*(4865), 550-545.

Hurley, D. B., & Kwon, P. (2013). Savoring helps most when you have little: Interaction between savoring the moment and uplifts on positive affect and satisfaction with life. *Journal of Happiness Studies, 14*(4), 1261-1271. doi:10.1007/s10902-012-9377-8

Institute of Medicine (IOM; 2011). The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding. Washington, DC: The National Academies Press.

Jones, E. E., Farina, A., Hestrof, A. H., Markus, H., Miller, D. T., & Scott, R. A. (1984). Social stigma: The psychology of marked relationships. Freeman.

Katz-Wise, S. l., Rosario, M., Calzo, J. P., Scherer, E. A., Sarda, V., & Austin, S. B. (2017). Associations of timing of sexual orientation developmental milestones and other sexual

minority stressors with internalizing mental health symptoms among sexual minority young adults. *Archives of Sexual Behavior, 46,* 1441-1452. https://doi.org/10.1007/s10508-017-0964-y

Kawachi, I. & Berkman, L. F. (2001). Social ties and mental health. *Journal of Urban Health: Bulletin of the New York Academy of Medicine, 78*(3), 458-467.

Kerridge, B. T., Pickering, R. P., Saha, T. D., June Ruan, W., Chou, S. P., Zhang, H., Jung, J., & Hasin, D. S. (2017). Prevalence, sociodemographic correlates and DSM-5 substance use disorders and other psychiatric disorders among sexual minorities in the United States. *Drug and Alcohol Dependence, 170,* 82-92. https://doi.org/10.1016/j.drugalcdep.2016.10.038

King, M., Semlyen, J., See Tai, S., Killaspy, H., Osborn, D., Popelyuk, D., & Nazareth, I. (2008). A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC Psychiatry, 8*(70). https://doi.org/10.1186/1471-244X-8-70

Kuyper, L. & Fokkema, T. (2010). Loneliness among older lesbian, gay, and bisexual adults: The role of minority stress. *Archives of Sexual Behavior, 39,* 1171-1180. https://doi.org/10.1007/s10508-009-9513-7

Larson, J. E., Corrigan, P. W., & Cothran, T. P. (2012). In Smalley, K. B., Rainer, J., and Warren, J. (Eds.), *Rural mental health: Issues, policies, and best practices,* 49-64. New York, NY: Springer Publishing Company.

Lehavot, K., & Simoni, J. M. (2011). The impact of minority stress on mental health and substance use among sexual minority women. *Journal of Counseling and Clinical Psychology, 79*(2), 159-170. https://doi.org/10.1037/a0022839

Lin, Y., & Israel, T. (2012). Development and validation of a Psychological Sense of Community Scale. *Journal of Community Psychology*, *40*(5), 573-587. https://doi.org/10.1002/jcop.21483

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety and Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33*(3), 335-343.

Marshal, M. P., Dietz, L. J., Friedman, M. S., Stall, R., Smith, H. A., McGinley, J., Thoma, B. C., Murray, P. J., D'Augelli, A. R., & Brent, D. A. (2011). Suicidality and depression disparities between sexual minority and heterosexual youth: A meta-analytic review. *Journal of Adolescent Health, 49,* 115-123. https://doi.org/10.1016/j.jadohealth.2011.02.005

Meidlinger, P. C., & Hope, D. A. (2014). Differentiating disclosure and concealment in measurement of outness for sexual minorities: The Nebraska Outness Scale. *Psychology of Sexual orientation and Gender Identity*, *1*(4), 489-497. https://doi.org/10.1037/sgd0000080

Merz, E. L., Roesch, S. C., Malcarne, V. L., Penedo, F. J., Llabre, M. M., Weltzman, O. B., Navas-Nacher, E. L., Perreira, K. M., Gonzalez II, F., Ponguta, L. A., Johnson, T. P., & Gallo, L. C. (2014). Validation of Interpersonal Support Evaluation List-12 (ISEL-12) scores among English- and Spanish-speaking Hispanics/Latinos from the HCHS/SOL sociocultural ancillary study. *Psychological Assessment*, *26*(2), 384-394. https://doi.org/10.1037/a0035248

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, *129*(5), 674-697. https://doi.org/10.1037/0033-2909.129.5.674

Meyer, I. H. (2015). Resilience in the study of minority stress and health of sexual and gender minorities. *Psychology of Sexual Orientation and Gender Diversity*, *2*(3), 209-213. https://doi.org/10.1037/sgd0000132

Meyer, I. H. & Frost, D. M. (2013). Minority stress and the health of sexual minorities. In Patterson, C. J. & D'Augelli (Eds.), *Handbook of Psychology and Sexual Orientation* (252-266). Oxford University Press.

Michaels, C. Choi, N.-Y. Adams, E. M., & Hitter, T. L. (2019). Testing and new model of sexual minority stress to assess the roles of meaning in life and internalized heterosexism on stress-related growth and life. *Psychology of Sexual Orientation and Gender Diversity*, *6*(2), 204-216. https://doi.org/10.1037/sgd0000320

Mohr, J. J., Jackson, S. D., & Sheets, R. L. (2017). Sexual orientation self-presentation among bisexual-identified women and men: Patterns and predictors. *Archives of Sexual Behavior*, *46*(5), 1465–1479. https://doi.org/10.1007/s10508-016-0808-1

Morandini, J. S., Blaszczynski, A., Dar-Nimrod, I., & Ross, M. W. (2015). *Australian and New Zealand Journal of Public Health, 39*(3), 10.1111/1753-6405.12364

Movement Advancement Project (MAP; 2019). *Where we call home: LGBT people in rural America*. http://www.lgbtmap.org/rural-lgbt

Muehlenkamp, J. J., Hilt, L. M., Ehlinger, P. P., & McMillan (2015). Nonsuicidal self-injury in sexual minority college students: A test of theoretical integration. *Child and Adolescent Psychiatry and Mental Health, 9*(16). https://doi.org/10.1186/s13034-015-0050-y

Newcomb, M. E. & Mustanski, B. (2010). Internalized homophobia and internalizing mental health problems: A meta-analytic review. *Clinical Psychology Review, 30,* 1019-1029. https://doi.org/10.1016/j.cpr.2010.07.003

Norton, P. J. (2007). Depression Anxiety and Stress Scales (DASS-21): Psychometric analysis across four racial groups. *Anxiety, Stress, & Coping*, *20*(3), 253-265. https://doi.org/10.1080/10615800701309279

Office of Management and Budget (OMB; 2010). 2010 Standards for delineating metropolitan and micropolitan statistical areas; Notice. *Federal Register*, *75*(123), 37246-37252.

Oswald, R. F., & Culton, L. S. (2003). Under the rainbow: Rural gay life and its relevance for family providers. *Family Relations, 52,* 72-81.

Pachankis, J. (2016, November). Promoting resilience from the closet through minority stress research. Presentation at the Gay Men's Health Summit, Vancouver, BC.

Pachankis, J., Sullivan, T. J., Feinstein, B., & Newcomb, M. E. (2018). Young adult gay and bisexual men's stigma experiences and mental health: An 8-year longitudinal study. *Developmental Psychology, 54*(7). https://doi.org/10.1037/dev0000518

Pakula, B. & Shoveller, J. A. (2013). Sexual orientation and self-reported mood disorder diagnosis among Canadian adults. *BMC Public Health, 13,* 209. *Social Psychiatry and Psychiatric Epidemiology,* 51, 1181-1192. https://doi.org/10.1007/s00127-016-1236-1

Pakula, B. Shoveller, J., Ratner, P. A., & Carpiano, R. (2016). Prevalence and co-occurrence of heavy drinking and anxiety and mood disorders among gay, lesbian, bisexual, and heterosexual Canadians. *American Journal of Public Health Research, 106*(6), 1042-1048. https://doi.org/10.2105/AJPH.2016.303083

Pedersen, E. R., & Kurz, J. (2016) Using Facebook for health-related research recruitment and program delivery. *Current Opinion in Psychology, 9*, 38-43. https://doi.org/10.1016/j.copsych.2015.09.011

Pew Research Center (2013). A survey of LGBT Americans; Attitudes, experiences and values in changing times [report]. https://www.pewsocialtrends.org/2013/06/13/a-survey-of-lgbt-americans/

Pew Research Center (2018). What united and divides urban, suburban, and rural communities [report]. https://www.pewsocialtrends.org/2018/05/22/what-unites-and-divides-urban-suburban-and-rural-communities/#:~:text=But%20according%20to%20a%20new,and%20rural%20areas%20are%20white.

Pilling, M., Howison, M., Frederick, T., Ross, L., Ballamy, C. D., Davidson, L., McKenzie, K., & Kidd, S. A. (2017). Fragmented inclusion: Community participation and lesbian, gay, bisexual, trans, and queer people with diagnoses of schizophrenia and bipolar disorder. *American Journal of Orthopsychiatry*, *87*(5), 606-613. https://doi.org/10.1037/ort0000215

Plöderl, M. & Tremblay, P. (2015). Mental health of sexual minorities: A systematic review. *International Review of Psychiatry, 27*(5), 367-385. https://doi.org/10.3109/09540261.2015.1083949

Poon, C. S. & Saewyc, E. M. (2009). Out Yonder: Sexual-Minority Adolescents in Rural Communities in British Columbia. *American Journal of Public Health*, *99*(1), 118-124. https://doi.org/10.2105/AJPH.2007.122945

Preston, D. B., D'Augelli, A. R. D., Kassab, C. D., Cain, R. E., Schulze, F. W., & Starks, M. T. (2004). The influence of stigma on the sexual risk behavior or rural men who have sex with men. *AIDS Education and Prevention, 16*(4), 291-303.

Puckett, J. A., Woodward, E. N., Mereish, E. H., & Pantalone, D. W. (2015). Parental rejection following sexual orientation disclosure: Impact on internalized homophobia, social support, and mental health. *LGBT Health, 2*(3), 265-269. https://doi.org/10.1089/lgbt.2014.0024

Ream, G. L. (2019). What's unique about lesbian, gay, bisexual, and transgender (LGBT) youth and young adult suicides? Findings from the National Violent Death Reporting System. *Journal of Adolescent Health, 64*, 602-607. https://doi.org/10.1016/j.jadohealth.2018.10.303

Rhodes, S. D., McCoy, T. P., Wilkin, A. M., & Wolfson, M. (2009). Behavioral risk disparities in a random sample of self-identifying gay and non-gay male university students. *Journal of Homosexuality, 56*(8), 1083-1100. https://doi.org/10.1080/00918360903275500.

Roberts, A. L., Austin, S. B., Corliss, H. L., Vandermorris, A. K., & Koenen, K. C. (2010). *American Journal of Public Health, 100*(12), 2443-2441. https://doi.org/10.2105/AJPH.2009.168971

Rosenkrantz, D. E., Black, W. W., Abreu, R. L., Aleshire, M. E., & Fallin-Bennett, K. (2017). Health and health care of rural sexual and gender minorities: A systematic review. *Stigma and Health, 2*(3), 229-243. https://doi.org/10.1037/sah0000055

Ross, J., Irani, I., Silberman, M. Six, Zaldivar, A., and Tomlinson, B. (2010). Who are the Crowdworkers?: Shifting demographics in Amazon Mechanical Turk [Conference session]. Association for Computer Master Computer Human Interaction, Extended

Abstract. https://www.researchgate.net/publication/268427703_Who_are_the_Turkers_Worker_Demographics_in_Amazon_Mechanical_Turk

Ross, L. E., Salway, T., Tarasoff, L. A., MacKay, J. M., Hawkins, B. W., & Fehr, C. P. (2018). Prevalence of depression and anxiety among bisexual people compared to gay, lesbian, and heterosexual individuals: A systematic review and meta-analysis. *Journal of Sex Research, 55*(4-5). https://doi.org/10.1080/0022499.2017.1387755

Ryan, C. L. & Bauman, K. (2016). *Educational attainment in the United States*. United States Census Bureau. https://www.census.gov/content/dam/Census/library/publications/2016/demo/p20-578.pdf

Schneebaum, A., & Badgett, M. V. L. (2019). Poverty in US lesbian and gay couple households. *Feminist Economics, 25*(1), 1-30. https://doi.org/10.1080/13545701.2018.1441533

Schneeberger, A. R., Dietl, M. F., Muenzenmaier, K. H., Huber, C. G., & Lang, U. E. (2014). Stressful childhood experiences and health outcomes in sexual minority populations: A systematic review. *Social Psychiatry & Psychiatric Epidemiology*. https://doi.org/10.1007/s00127-014-0854-8

Schrimshaw, E. W., Siegel, K., Downing, Jr., M. J., & Parsons, J. T. (2013). Disclosure and concealment of sexual orientation and the mental health of non-gay-identified, behaviorally bisexual men. *Journal of Counseling and Clinical Psychology, 81*(1), 141-153. https://doi.org/10.1037/a0031272

Semlyen, J., King, M., Varney, J., & Hagger-Johnson (2016). Sexual orientation and symptoms of common mental disorder or low wellbeing: Combined meta-analysis of 12 UK

population health surveys. *BMC Psychiatry*, *16*(67). https://doi.org/10.1186/s12888-016-0767-z

Sigurvinsdottir, R. & Ullman, S. E. (2016). Sexual orientation, race, and trauma as predictors of sexual assault recovery. *Journal of Family Violence*, 31, 913-921. https://doi.org/10.1007/s10896-015-9793-8

Smalley, K. B., Warren, J. C., Rickard, A., & Barefoot, K. N. (2018). In Smalley, K. B., Warren, J. C., & Barefoot, K. N. (Eds.), *LGBT health: Meeting the needs of gender and sexual minorities* (327-343). New York, NY: Springer Publishing Company.

Song, L., Son, J., & Lin, L (2011). Social Support. In Scott, J. & Carrington, P (Eds.) *The Sage Handbook of Social Network Analysis*, 116-128. London: SAGE.

Stuber, J., Meyer, I., & Link, B. (2008). Stigma, prejudice, discrimination and health. *Social Science & Medicine*, *67*(3), 351-357. https://doi.org/10.1016/j.socscimed.2008.03.023

Swank, E., Fahs, B., & Frost, D. M. (2013). Region, social identities, and disclosure practices as predictors of heterosexist discrimination against sexual minorities in the United States. *Sociological Inquiry, 38*(2), 238-258. https://doi.org/10.1111/soin.12004

Swank, E. Frost, D. M., & Fahs, B. (2012). Rural location and exposure to minority stress among sexual minorities in the United States. *Psychology and Sexuality, 3*(3), 226-243. https://doi.org/10.1080/19419899.2012.700026

Szymanski, D. M., Chung, Y. B., & Balsam, K. F. (2001). Psychosocial correlates of internalized homophobia in lesbians. *Measurement and Evaluation in Counseling and Development, 34*, 27-38.

Taliaferro, L. A. & Muehlenkamp, J. J. (2017). Nonsuicidal self-injury and suicidality among sexual minority youth: Risk factors and protected connectedness factors. *Academic Pediatrics, 17*(7), 715-722. http://dx.doi.org/10.1016/j.acap.2016.11.002.

Thoits, P. A. (2010). Stress and health: Major findings and policy implications. *Journal of Health and Social Behavior, 51*(S), S41-S53. https://doi.org/10.1177/0022146510383449

Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior, 52*(2), 145-161. https://doi.org/10.1177/0022146510395592

Thomas, D., MacDowell, M., & Glasser, M. (2012). Rural mental health workforce needs assessment - a national survey. *The International Electronic Journal of Rural and Remote Health Research, Education, Practice and Policy, 12*(2176).

Ueno, K., Gayman, M. D., Wright, E. R., & Quantz, S. D. (2009). Friends' sexual orientation, relationship quality, and mental health among gay, lesbian, and bisexual youth. *Personal Relationships, 16*, 659-670.

Vanable, P. A., McKirnan, D. J,, & Stokes, J. P. (1992). Identification and Involvement with the Gay Community Scale. In *Handbook of Sexuality-Related Measures.* In Fisher, T. D., Davis, C. M, Yarber, W. L., & Davis, S. L. (Eds.), *Handbook of Sexuality-Related Measures* (pp. 407-409).

VanDaalen, R. A., & Santos, C. E. (2017). Racism and sociopolitical engagement among lesbian, gay, and bisexual racial/ethnic minority adults. *The Counseling Psychologist, 45*(3), 414-437. https://doi.org/10.1177/0011000017699529

van der Star, A., Pachankis, J. E., & Bränström, R. (2019). Sexual orientation openness and depression symptoms: A population-based study. *Psychology of Sexual Orientation and Gender Diversity*, *6*(3), 369-381. https://doi.org/10.1037/sgd0000335

Wadsworth, L. P., & Hayes-Skelton, S. A. (2015). Differences among lesbian, gay, bisexual, heterosexual individuals, and those who reported other identity on an open-ended response on levels of social anxiety. *Psychology of Sexual Orientation and Gender Diversity*, *2*(2), 181-187. https://doi.org/10.1037/sgd0000092

Walch, S. E., Ngamake, S. T., Bovornusvakool, W., & Walker, S. V. (2016). Discrimination, internalized homophobia, and concealment in sexual minority physical and mental health. *Psychology of sexual orientation and gender diversity*, *3*(1), 27-48. https://doi.org/10.1037/sgd00000146

Warren, J. C. & Smalley, K. B. (2013). What is rural? In. Smalley, K. B. & Warren, J. C. (Eds.), *Rural public health: Best practices and preventative models* (pp. 1-9). Springer Publishing Company.

Warren, J. C., Smalley K. B., & Barefoot, K. N. (2015). Recruiting rural and urban LGBT populations online: Differences in participant characteristics between email and Craigslist approaches. *Health Technology, 5,* 103-114. https://doi.org/10.1007/s12553-015-0112-4

Warren, J. C., Smalley, K. B., Rimando, M., Barefoot, K. N., Hatton, A., & LeLeux-LaBarge, K. (2014). Rural minority health: race, ethnicity, and sexual orientation. In J. Warren (Ed.), *Rural Public Health: Best Practices and Prevention Models* (pp. 203–226). New York, NY: Springer Publishing Company.

Whitehead, J., Shaver, J., & Stephenson, R. (2016). Outness, stigma, and primary health care utilization among rural LGBT populations. *PLoS One*, *11*(1), 1-17. https://doi.org/10.1371/journal.pone.0146139

Willging, C. E., Salvador, M. S., & Kano, M. (2006). Unequal treatment: Mental healthcare for sexual and gender minority groups in a rural state. *Psychiatric Services*, *57*(6), 867-870.

Williams Institute (2019a). Adult LGBT Population in the United States. https://williamsinstitute.law.ucla.edu/wp-content/uploads/LGBT-Population-Estimates-March-2019.pdf

Williams Institute (2019b). [Interactive map of United States LGBT population]. *LGBT Data and Demographics*. https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=LGBT#density

Woodell, B. (2018). Understanding sexual minority health disparities in rural areas. *Sociology Compass*, *12*, e12553. https://doi.org/10.1111/soc4.12533

Woodell, B., Kazyak, E., & Compton, D. (2015). Reconciling LGB and Christian identities in the rural south. *Social Sciences*, *4*, 859-878. https://doi.org/10.3390/socsci4030859

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*(1), 30-41.

APPENDIX 1

DEMOGRAPHICS QUESTIONNAIRE

Variable	Question
Age	How old are you? [Open response]
Ethnicity	Are you Hispanic or Latino/a? [pick one] ❑ Yes ❑ No
Race	What race do you identify with the most? [pick one] ❑ White/Caucasian ❑ African American/Black ❑ Asian/Asian American ❑ American Indian/Native American ❑ Multiracial ❑ A better description to mentioned above [Optional open response]
Sexual orientation	How would you describe your sexual orientation? [pick one] ❑ Gay/lesbian ❑ Mostly gay/lesbian ❑ Bisexual ❑ Mostly heterosexual ❑ Questioning ❑ A better description not specified above [Optional open response]
Gender	What is your current gender identity? [pick one] ❑ Male ❑ Female ❑ Female-to-Male (FTM)/Transgender Male/Trans Man ❑ Male-to-Female (MTF)/Transgender Female/Trans Woman ❑ Genderqueer, neither exclusively male or female ❑ A better description not specified above [Optional open response] ❑ I'd prefer not to answer
Sex	What sex were you assigned at birth on your original birth certificate? [pick one] ❑ Male ❑ Female

	❑ I'd prefer not to answer
Relationship/Marital Status	What is your relationship status? [Pick one] ❑ Never married ❑ Single ❑ Married/Partnered/Common Law ❑ Separated ❑ Divorced ❑ Widowed
Relationship duration	Have you been in a relationship with the same person for more than a year? [Pick one] ❑ I am not in a relationship at this time ❑ I am in a relationship but for less than a year ❑ I am in a relationship for longer than a year
Living arrangement	What is your current living arrangement? [Pick one] ❑ Living alone ❑ Living with friends ❑ Living with partner ❑ Living with family ❑ Other
SES (Education)	What is your highest level of formal education? [Pick one] ❑ Less than high school ❑ Some high school ❑ High school diploma or GED ❑ Some college or vocational school ❑ Vocational degree or certificate ❑ College degree ❑ Master's degree ❑ Doctoral degree
SES (Employment)	What is your current employment status? [Pick one] ❑ Employed full-time (30 or more hours per week) [if selected, pick one: employed with benefits, employed without benefits] ❑ Employed part-time (Less than 30 hours per week) [if selected, pick one: employed with benefits, employed without benefits] ❑ Self-employed ❑ Seeking employment ❑ Unemployed

	❑ Homemaker ❑ Student ❑ Retired
SES (Income)	What is your yearly income? [Pick one] ❑ $10,000 or less ❑ $10,000 to $19,999 ❑ $20,000 to $34,999 ❑ $35,000 to 49,999 ❑ $50,000 to $74,999 ❑ $75,000 to $99,999 ❑ $100,000 or more
SES (Status)	How would you currently describe your financial resource status? [Pick one] ❑ Poor/impoverished ❑ Some financial resources ❑ Substantial financial resources ❑ Affluent/rich
US Residence	Do you currently reside in the US? [Pick one] ❑ No ❑ Yes
Region (hometown)	❑ Which state was your US Hometown in? [Dropdown to include “My hometown as not in the US” and all states]
Rurality (hometown)	I consider my hometown to be more: ❑ Rural ❑ Small town ❑ Small city/micropolitan Urban/metropolitan
Rurality (hometown pop)	How many people currently reside in your hometown? [Pick one] ❑ > 50,000 ❑ 10,000 - 49,999 ❑ <10,000
Rurality (current ZIP)	❑ What is your current ZIP code? [Open response]
Region (current)	❑ Which state do you currently live in? [Dropdown to include all states]
Rurality (current)	I consider the town in which I currently live to be more [Pick one]

	❏ Rural ❏ Small town ❏ Small city/micropolitan Urban/metropolitan
Rurality (current pop)	How many people reside in the town in which you currently live? [Pick one] ❏ > 50,000 ❏ 10,000 - 49,999 ❏ <10,000

APPENDIX 2

RECRUITMENT ADVERTISEMENTS

Recruitment Advertisement 1:

Recruitment Advertisement 2: