MINORITY STRESS AS TRAUMATIC STRESS: THE RELATIONSHIP BETWEEN DISCRIMINATION, SOCIAL SUPPORT, POSTTRAUMATIC STRESS, AND ALCOHOL USE FOR BISEXUAL WOMEN

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Abstract

Background: Lesbian, gay, and bisexual (LGB) individuals are at increased risk of both psychological distress (e.g., depression and anxiety) and maladaptive behaviors (e.g., alcohol use) compared to heterosexual peers. The literature linking discrimination experiences to symptoms of posttraumatic stress disorder (PTSD) suggests that sexual minority stress may serve as a form of posttraumatic stress. Studies addressing within-group differences indicate that bisexual women are more likely than other LGB people to report poor physical and psychological outcomes, which may be explained by disparities in social support and symptoms of posttraumatic stress. **Purpose:** The current study measured the role of social support and symptoms of posttraumatic stress as potential mediators in the relationship between discrimination experiences (anti-bisexual and sexist) and alcohol use in sample of bisexual women. **Method:** Participants included bisexual women over the age of 18 from an archival data set (N = 256) with measures including self-reported discrimination experiences, social support, posttraumatic symptoms, and alcohol use. Two sequential, three-path mediation path models were analyzed to examine the direct effects of anti-bisexual discrimination and sexist discrimination on alcohol use, as well as the indirect effects through social support and posttraumatic stress. **Results:** Path analyses were conducted to analyze the relationships between discrimination experiences, social support, PTSD symptoms, and alcohol use. Neither social support nor PTSD symptoms mediated the relationships between either anti-bisexual experiences or sexist experiences and alcohol use. Most effects were found to not be significant; however, significant bivariate relationships were found between anti-bisexual and sexist experiences, as well as between both types of discrimination

experiences and PTSD symptoms. In addition, multivariate relationships were found between anti-bisexual experiences and PTSD symptoms; sexist experiences and PTSD symptoms; social support and PTSD symptoms; and sexist experiences and alcohol use. **Conclusion:** Anti-bisexual and sexist experiences appear linked, and both of these prejudice experiences relate to bisexual women's reported PTSD symptoms. Future research should address the sequential relationships between these variables, as well as other psychosocial factors not explored in the present study. Clinicians are advised to conceptualize prejudice experiences as interrelated, and bisexual women clients would benefit from practice that is affirmative and trauma-informed.

Table of Contents

Chapter I

Introduction

Prejudice, as first defined by Allport (1958), is an appraisal of another person or persons without evidence or precedent. Allport notes that while these appraisals may at times be positive, typically prejudice denotes judgement in an unfavorable light without experience or prior knowledge. *Discrimination*, then, can be defined as the denial of equal treatment to individuals or groups on the basis of prejudice (Allport, 1958). The U.S. Equal Employment Opportunity Commission notes that discrimination may target a number of immutable personal characteristics, including race or ethnicity, religion, gender, age, disability, and national origin (U.S. Equal Employment Opportunity Commission, n.d.), with the American Civil Liberties Union including sexual orientation, gender identity, and HIV status to this list (American Civil Liberties Union, n.d.). *Discrimination experiences* can subsequently be defined as negative life events including marginalization, harassment, and violence that stem from prejudicial views.

Lesbian, gay, and bisexual (LGB) people encounter acts of prejudice and discrimination in their daily lives on both an interpersonal level and a societal, systemic level. The 2017 State Sponsored Homophobia Report of the International Lesbian, Gay, Bisexual, Trans, and Intersex Association (ILGA) notes that while 47 nation-states have provided legal marriage or partnership for same-gender couples, 72 nation-states criminalize “same-gender behavior.” Of these 72 nation-states, 14 implement a prison sentence ranging from 14 years to life imprisonment, and 8 nation-states implement the death penalty (Carroll & Mendos, 2017). In the ILGA report, the United States is

included in the list of nation-states that have legalized same-gender marriage, as the United States Supreme Court's decision in *Obergefell v. Hodges* set precedent for marriage equality in 2015 (*Obergefell v. Hodges*, 2015). However, anti-LGB sentiment in the United States has reemerged due to changes in both sociopolitical discourse and renewed institutional support for a plethora of discriminatory attitudes. Such is evidenced by the 2017 Accelerating Acceptance report by GLAAD (Gays and Lesbians Against Discrimination), which noted its first increase in negative sentiment toward LGB people since 2012 (S. K. Ellis, 2018). In addition, at the time of this writing, the Pulse LGBT Nightclub mass shooting is listed as the second-most deadly in United States history with 49 homicides of LGB and transgender (T) people and allies, ranking as the first-deadly when it occurred (CNN, 2018). Both in the United States and internationally, being LGB can carry long-lasting negative effects, ranging from experiences of prejudice to death.

Lazarus (1966) defined *stress* as "a universal human and animal phenomenon result[ing] in intense and distressing experience," which has "tremendous influence on behavior" (p. 2). Studies of stress in the general population consistently show that psychological stress impacts both psychological well-being and physical health (Schneiderman, Ironson, & Siegel, 2005). According to the Stress in America survey by the American Psychological Association (2017), there are individual differences in stress, with women and racial and ethnic minority individuals more likely to report experiencing or perceiving stress. In a similar vein, Meyer (1995; 2003) proposed that for LGB people, discrimination events can be viewed as an experience of *minority stress*, which is defined as the additional level of stress incurred throughout the lifespan due to identifying as LGB. According to Meyer (1995; 2003), minority stress serves as a potential explanation

for the physical and psychological disparities between LGB people compared to heterosexual peers. The *minority stress model* has been evaluated and utilized by a number of scholars and research studies (Cao et al., 2017; Chaudoir, Wang, & Pachankis, 2017; Feinstein & Dyar, 2017; Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2014). The primary argument of the minority stress model is that LGB individuals experience chronic and unique social stress resulting from personally identifying as LGB, and this chronic stress serves as the antecedent for psychological distress and poor health in LGB people.

Building upon the minority stress model, Hatzenbuehler's (2009) psychological mediation model posits that there are psychological factors that mediate the relationship between minority stress and health disparities for LGB individuals. While the model agrees with the assumption of the minority stress model that LGB individuals experience greater levels of stress than the general population, the psychological mediation model advances Meyer's (1995; 2003) model by arguing that psychological mediators common to all persons play a significant role in facilitating the relationship between discrimination and distress. Research has found that psychological mediators such as *social support* (i.e., the level of perceived close relationships; Schwarzer & Leppin, 1989), hopelessness, rumination, and emotion dysregulation consistently mediate the relationship between sexual minority status and negative outcomes (e.g., depression, anxiety, suicidal behavior, and substance use; Hatzenbuehler, 2009).

Minority Stress as Posttraumatic Stress

The Anti-Defamation League is credited for first proposing the *Pyramid of Hate* (2018), a diagram that categorizes experiences of prejudice and discrimination as being

on a continuum. The diagram lists prejudiced behaviors from increasing intensity, starting with biased attitudes or acts of bias and escalating to discrimination, motivated violence, and genocide. The pyramid conceptualizes these acts as being distinct, yet interrelated, and all acts contribute to a culture of violence against a specific group. For example, while biased attitudes (e.g., microaggressions, insensitive remarks) and acts of bias (e.g. belittling jokes, name calling) may be more similar to one another than to motivated violence (e.g., threats, assault), these acts serve as foundational elements for more dangerous forms of prejudice.

Root (1992) argued that discrimination experiences, on an individual psychological level, are perceived as traumatic, and that symptoms of posttraumatic stress are likely to follow an event in which one experiences discrimination. However, little research has addressed Root's conceptualization of *insidious trauma*, which can be defined as actions that dehumanize and marginalize minority individuals. Examples of insidious trauma include the expression of prejudice towards a certain group (e.g., racism, ageism, heterosexism); the intergenerational threat of genocide experienced by Holocaust survivors, Native Americans, and refugees; and experiences of maltreatment or neglect due to serious physical illness (e.g., multiple sclerosis, diabetes, AIDS). Contemporary conceptualizations of trauma, Root contests, have relied primarily on the experiences of soldiers, despite the fact that survivors of insidious trauma report a similar sequelae of symptoms, including "psychological threat" (p. 242). Indeed, LGB research and trauma research have remained largely separate, though their theoretical frameworks appear to share a number of common attributes for explaining the psychological distress of LGB people. Cognitive theories of posttraumatic stress, including *cognitive processing theory,*

suggest that individuals with exposure to traumatic events rewrite cognitive schemas of self, others, and the world to match the fear and powerlessness experienced during a traumatic event, which is a process known as *overaccommodation* (Resick, Monson, & Chard, 2016). For example, an LGB person who experiences a hate crime at an LGB bar may believe all LGB bars are unsafe. Other examples of overaccommodation include the belief in a just world (i.e., positive events happen to good people and negative events happen to bad people) and self-blame (Resick et al., 2016). Cognitive processing theory mirrors concepts from the minority stress model, such as *internalization of stigma,* which can be viewed as the cognitive attribution of discrimination experiences to internal or personal causes. The similarity between cognitive processing theory and minority stress theory is evidenced by the well-documented relationship between LGB discrimination experiences and symptoms of PTSD (Beckerman & Auerbach, 2014; D'Augelli, Grossman, & Starks, 2006; Dworkin, Gilmore, et al., 2018; Szymanski & Balsam, 2011).

In addition, psychological mediators appear to play a role in the translation of discrimination experiences to posttraumatic stress symptoms and distress (Szymanski & Balsam, 2011). For a number of populations with trauma exposure, social support relates negatively with PTSD symptoms, with higher levels of social support correlating with lower PTSD symptom severity (Dar, Iqbal, Prakash, & Paul, 2018; Dworkin, Ojalehto, Bedard-Gilligan, Cadigan, & Kaysen, 2018; Guo, Liu, Kong, Solomon, & Fu, 2018; Stanley et al., 2018). Social support may be particularly lacking for bisexual people, as prejudice from both heterosexual and lesbian and gay people may increase their likelihood of distress and decrease their likelihood of close connections with others (Ross, Siegel, Dobinson, Epstein, & Steele, 2012). Though perceived social support

predicts the psychological well-being of bisexual individuals (Sheets & Mohr, 2009), bisexual women report less social support than lesbian peers (Ross et al., 2012), possibly due to more frequent experiences of discrimination and stigmatization (Koh & Ross, 2006).

The B is Silent: Intragroup Disparities in LGB Research

Alfred Kinsey is credited for the colloquial "1 in 10" rule; that is, approximately 10% of the United States population identifies as lesbian or gay (Spiegelhalter, 2015). More contemporary, empirical data estimate that 4.5% of Americans identify as LGBT, with notable cohort differences (2.4% of baby boomers, 3.5% of Generation X, and 8.2% of millennials; Gates, 2017) . Of these, approximately half identify as bisexual (Gates, 2017). *Bisexuality* can be defined as romantic and/or sexual attraction to more than one gender. The "bisexual umbrella" includes related identities such as *pansexual* (attraction to all genders) and *queer* (an umbrella term indicating non-heterosexual attraction).

Anti-bisexual discrimination can be defined as discrimination against bisexual people based on their sexual orientation. Bisexual people can experience discrimination from both heterosexual and lesbian/gay people, with Israel and Mohr (2004) noting that anti-bisexual discrimination often takes three distinct forms: authenticity, loyalty, and sexuality. First, *authenticity* discrimination belittles bisexual identity by asserting that bisexuality is an unstable, transitional phase. That is, bisexual people are either "experimenting" and then re-identifying as heterosexual or will inevitably "fully" identify as lesbian or gay. Next, *loyalty* discrimination events highlight distrust in bisexual people. This type of discrimination is particularly salient with LGB peers, as bisexual people may be perceived as less committed to LGB causes or policies or that they may

"pass" as heterosexual to avoid discrimination. *Sexuality* discrimination presumes that bisexual people are promiscuous or overly sexual. Bisexual people may be perceived to be unfaithful to romantic partners or assumed to be carriers of sexually transmitted infections. In sum, through anti-bisexual discrimination, bisexual people are perceived as being overly sexual or promiscuous, unfaithful, having sexually transmitted infections, being indecisive, and a multitude of other negative stereotypes that specifically target their sexual orientation.

These stereotypes of bisexual people may serve as an explanation for the known disparities between the health of bisexual women and women of other sexual orientations. Compared to lesbian and heterosexual women, bisexual women are more likely to experience a litany of poor psychological and physical health outcomes. Bisexual women are more likely to abuse substances such as alcohol, experience intimate partner violence, and underutilize health care compared to lesbian or heterosexual peers (Dworkin, Gilmore, et al., 2018; Katz-Wise, Mereish, & Woulfe, 2017; MacLeod, Bauer, MacKay, Robinson, & Ross, 2015; Molina et al., 2015; Munson & Cook, 2016; White-Hughto et al., 2016). While broader work has assessed the increased likelihood of psychological distress for LGB individuals and for women (e.g., Meyer, 2003; Szymanski & Moffitt, 2012), few investigations have been conducted to assess the unique experience of bisexual women and the impact of both anti-bisexual and sexist discrimination on their psychological distress.

Crenshaw (1991) proposed the term *intersectionality*, which can be defined as the unique adverse impact of multiple forms of discrimination experiences. Bisexual women must navigate two linked forms of discrimination experiences. Whereas anti-bisexual

discrimination targets the sexual orientation of bisexual people, *sexist discrimination* can be defined as discrimination events that target a person's gender, typically to maintain systemic, binary power hierarchies between men and women (Szymanski & Moffitt, 2012). At times, bisexual women experience these forms of discrimination concurrently, as both types of discrimination experience ultimately aim to maintain the social order of a heterosexist, patriarchal society.

Of note, the prescribed categories for people as either man (and thus masculine) or woman (and thus feminine) are particularly damaging for transgender and gender non-conforming individuals, which is evidenced by a greater rate of suicide attempts for transgender people (Clements-Nolle et al., 2018) and the greater likelihood of being a victim of homicide for transgender women of color (Dinno, 2017) compared to the general population. In LGB research, the majority of investigations categorize participants as either male or female (e.g., Lehavot & Simoni, 2011; Przedworski, McAlpine, Karaca-Mandic, & VanKim, 2014; Szymanski, Dunn, & Ikizler, 2014; Szymanski & Henrichs-Beck, 2014; Watson, Grotewiel, Farrell, Marshik, & Schneider, 2015). Thus, while the current study, which focuses on bisexual women, will align with prior investigations in describing gender through a binary conceptualization, it is important to note that the descriptions man/men and woman/women may not apply to all individuals who identify as LGB.

Rationale for the Current Study

Few research studies have assessed bisexual women's unique experiences, including the link between discrimination and psychological distress for this population. Often, bisexual women have been included in research with lesbians into a category

known as “sexual minority women,” with lesbians often overrepresenting the category (Kaysen et al., 2014; Lehavot & Simoni, 2011; Litt, Lewis, Rhew, Hodge, & Kaysen, 2015; Szymanski & Henrichs-Beck, 2014; Watson et al., 2015). While some investigations of sexual minority women may generalize to bisexual women, those measuring the impact of discrimination on psychological distress likely face inadequacies in construct validity, as bisexual women may experience discrimination from lesbian and gay peers. Thus, investigations with bisexual-only samples of women are warranted.

LGB psychological research and PTSD research share several commonalities in the conceptualization and measurement of psychological distress, and integration of these theories may be the optimal way to understand the link between discrimination experiences and symptoms of psychological distress for LGB people. Insidious trauma (Root, 1992) has been largely understudied in favor of more restricted conceptualizations of posttraumatic stress that primarily focus on severe psychopathology. Moreover, to date, no study has assessed how both social support and symptoms of posttraumatic stress may explain the relationship between both anti-bisexual and sexist discrimination experiences and alcohol use for bisexual women. The current study aims to bridge the gap between these fields of research to determine if it is fitting to coin the term *posttraumatic minority stress.*

Chapter II

Literature Review

The following review of the literature begins with a summary of the known health disparities between bisexual women and heterosexual or lesbian peers, as well as proposed precursors to these disparities. Included is a summary of the research examining the effects of discrimination for sexual minority (i.e., LGB) individuals, with attention to current theoretical conceptualizations of the relationship between discrimination, psychological variables, and distress. Theoretical conceptualizations of LGB persons' distress, including the minority stress model and the psychological mediation model, are evaluated through a posttraumatic lens. Next, this review summarizes the literature base in LGB posttraumatic stress, including clinical conceptualizations of posttraumatic stress, with an analysis of the similarities or parallels between current theoretical conceptualizations of LGB identity-related stress. Last, the literature on alcohol use is briefly reviewed, with special attention to investigations of persons with PTSD and bisexual women.

Bisexual Women's Health Disparities

Compared to lesbian and heterosexual peers, bisexual women experience notable disparities in psychological well-being and health. Bisexual women report higher levels of distress, including anxiety and depression, and they are less likely to seek help for symptoms of posttraumatic stress compared to peers (Bostwick, Boyd, Hughes, & McCabe, 2010; Ovrebo et al., 2018; Ross et al., 2018; Smalley, Warren, & Barefoot, 2015). Of note, more than half of bisexual women (58.7%) report a lifetime history of mood disorder (Bostwick et al., 2010). Bisexual women are more likely than peers to

engage in use of alcohol (including binge drinking), marijuana, and other drugs (Przedworski et al., 2014; Robinson, Sanches, & MacLeod, 2016; Walters, Chen, & Breiding, 2013; White-Hughto et al., 2016). In the lens of relational and physical health, bisexual women more frequently report intimate partner violence, are more likely to engage in risky sexual behavior, and underutilize health care (Charlton et al., 2011; Walters, Chen, & Breiding, 2013). Socioeconomically, bisexual women are more likely than lesbian and heterosexual peers to report being uninsured or to be living in poverty (Przedworski et al., 2014). Yet despite these stark differences in well-being between bisexual women and women of other sexual orientations, little is known about the precursors to these disparities in psychological well-being. Current investigations in the field typically address the experiences of sexual minority women (SMW), a category including both lesbian and bisexual women.

Contemporary explanations for the significantly lower well-being of SMW begin with analysis of the primary difference between SMW and heterosexual peers; that is, the level of psychological distress that can be explained by personally identifying as lesbian or bisexual (Hatzenbuehler, 2009; Meyer, 2003). While a few investigations include measurement of sexual orientation through behavior, the use of self-identification allows for the assumption of appraisal (i.e., personal assessment and evaluation of experience). As a result, it is important to review how oppressive or marginalizing experiences may be unique, including the assessment of the systems perpetuating discrimination against LGB people. These systems can be best described by the constructs of heterosexism and homophobia, as well as their bisexual-specific counterparts (monosexism and biphobia).

Heterosexism and Monosexism: The Roots of Discrimination

As a social process, discrimination may best be understood in context. Heterosexism, as defined by Herek (1990), is the systemic belief that heterosexual behavior is ideal, while non-heterosexual behavior should be stigmatized or marginalized. The author argues that the primary manifestation of heterosexism is the invisibility of non-heterosexual culture or behavior. Examples of heterosexism range from individual to systemic, such as an LGB person being rejected by family and friends due to their sexual orientation or a governmental lack of recognition of same-gender marriage (Szymanski & Moffitt, 2012). Heterosexism has been found to relate to an LGB person's level of well-being in a number of investigations (e.g., Dworkin et al., 2018; Herek, 1990; Straub, McConnell, & Messman-Moore, 2018; Szymanski & Balsam, 2011; Szymanski & Henrichs-Beck, 2014; Szymanski & Moffitt, 2012). As experiences of heterosexism increase, LGB persons' well-being decreases, even without a self-report of perceived discrimination (Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010).

From this working conceptualization of heterosexism, *monosexism* can be defined as the systemic idealization of attraction to only one gender (either same-gender or different-gender, but not both), which leads to stigmatization of any behavior or identity deviating from the norm of monosexual attraction (Roberts, Horne, & Hoyt, 2015). While heterosexism views all non-heterosexual behavior as deviant, monosexism views non-monosexual behavior as either deviant or maladaptive, through the conceptualization of non-monosexual behavior as being that of indecision or hypersexuality (Israel & Mohr, 2004). Therefore, bisexual individuals are marginalized through the system of

monosexism, and their identities are rendered invisible by monosexual (i.e., heterosexual or lesbian/gay) peers.

While heterosexism and monosexism operate on a subconscious, systemic level, individual manifestations can be understood through the terms *homophobia* and *biphobia*, respectively. *Homophobia* can be defined as prejudicial attitudes or discriminatory behavior targeting lesbian and gay individuals (Herek, 2004), and *biphobia* can be defined similarly, as prejudice or discrimination targeting bisexuals (Ochs, 1996). Often, these constructs are associated with fear of LGB people, and while homophobia and biphobia co-occur with heterosexism or monosexism, the concepts are not mutually exclusive. Pharr's (1988) conceptualization of homophobia positions the concept as part of the arsenal of male supremacy, as same-gender attraction threatens the social order and roles of men and women in society. Therefore, stigmatization of same-gender attraction aims to uphold the supremacy of masculinity and masculine ideals. Put simply, anti-LGB discrimination is predicated upon sexist discrimination.

Sexist discrimination. A foundational element of anti-bisexual discrimination is the presupposition that bisexual orientation violates prescribed gender norms and roles. Unwritten expectations dictate how men and women are supposed to behave, including the norm that women must be both attracted and devoted to men (Szymanski & Moffitt, 2012). These norms and presuppositions translate into sexist discrimination, which has been associated with a number of negative outcomes for women, such as decreases in self-esteem, as well as greater depression, anxiety, and substance use (Choi, Bowleg, & Neilands, 2011; Klonoff, Landrine, & Campbell, 2000; Moradi & DeBlaere, 2009; Swim, Hyers, Cohen, & Ferguson, 2001; Szymanski & Owens, 2009; Szymanski & Stewart,

2010; Zucker & Landry, 2007). Examples of sexist discrimination events include workplace sexual harassment, the belief that women are less competent or inferior to men, and parents giving preferential treatment to sons over daughters (Szymanski & Moffitt, 2012). Glick and Fiske (1996) proposed that sexism takes two primary forms. *Hostile sexism* is targeted behavior or attitudes in order to reinforce a power dynamic between men and women, similar to the conceptualization of prejudice first proposed by Allport (1958). However, *benevolent sexism* involves the underlying, restrictive beliefs and attitudes about women's roles in society, including paternalism, which is the belief that women need to be instructed and parented; heterosexual intimacy, or the presumption that women exist to fulfill the sexual desire of men; and of note, gender differentiation, or the belief that women "complete" men through complementary attributes of warmth and intimacy (Glick & Fiske, 1996; Kuchynka et al., 2018). Glick and Fiske (1996) proposed that *ambivalent sexism* can be conceptualized as a person's integration of both hostile and benevolent sexist beliefs.

In a daily diary study of undergraduate women, Swim and colleagues (2001) used qualitative analysis to assess the discrimination experiences of female and male college students. On average, female participants reported approximately one or two sexist discrimination experiences per week. The authors categorized the reported experiences of participants into three categories: traditional role stereotypes and practices (the assumption that women must fulfill specific roles as part of their gender), sexual objectification (viewing women as objects made for the purpose of sexual fulfillment), and degrading and demeaning comments (derogatory statements meant to target women on the basis of their gender). Of note, male participants reported hearing more

stereotypical comments about women than those reported by female participants, likely because peers may feel more comfortable sharing prejudiced views with others who they perceive to be like them (Allport, 1958). This finding, while not directly generalizable to bisexual people, is important for the study of bisexual orientation, especially anti-bisexual discrimination.

Anti-bisexual discrimination. Akin to the Pyramid of Hate (Anti-Defamation League, 2018), anti-bisexual experiences range from overt (e.g., social exclusion) to subtle (e.g., stereotypes; Brewster & Moradi, 2010). In addition, a number of studies have found a relationship between anti-bisexual experiences and psychological distress for bisexual participants (e.g., Arnett, 2016; Bostwick, Hughes, Steffen, Veldhuis, & Wilsnack, 2018; Feinstein & Dyar, 2017; Roberts, Horne, & Hoyt, 2015). Investigations of anti-bisexual discrimination experiences have found that in comparison to heterosexist discrimination, anti-bisexual discrimination is unique in that bisexual people experience discrimination from two groups (from heterosexual and lesbian/gay peers) as well as incremental concerns about sexual orientation disclosure or "passing" as heterosexual to avoid discrimination (Arnett, 2016; Bostwick et al., 2018; Feinstein & Dyar, 2017; Lambe, Cerezo, & O'Shaughnessy, 2017; Ovrebo et al., 2018; Smalley et al., 2015; Watson et al., 2015). These themes are also evidenced by qualitative studies, as bisexual participants have reported that their sexual orientation is often marginalized or unrecognized, yet they receive backlash when disclosing their identity (Ross, Dobinson, & Eady, 2010).

While anti-bisexual discrimination experiences may include violent prejudicial acts, discriminatory experiences in daily life often take the form of marginalization.

Bisexual erasure can be defined as the marginalization of bisexual orientation through a lack of recognition or support for bisexual identities (Yoshino, 2000). Bisexual people may experience identity erasure from both heterosexual and lesbian and gay peers; for example, a bisexual woman with a different-gender partner may need to "perform" heterosexuality when interacting with heterosexual people, but her identity could also be marginalized with LGB peers, who may perceive her as a heterosexual ally due to her relationship status. Yet, the former may be more damaging than the latter, as bisexual people endorse a significantly greater number of discrimination experiences from heterosexual peers than from lesbian and gay peers (Roberts, Horne, & Hoyt, 2015). Thus, bisexual erasure likely contributes to bisexuals' psychological stress in myriad ways. A bisexual person in a relationship with a different-gender partner may be perceived as heterosexual, and consequently, the invisibility of bisexual identity may encourage heterosexual or peers to express anti-bisexual prejudices more openly with bisexual people who are perceived to be like-minded or like-identified.

Intersectional discrimination. Given the assumption that sexist and anti-bisexual discrimination are linked, it is important to note how these forms of discrimination are unique, yet intersectional, and how this intersection may explain the disparity in well-being between bisexual women and heterosexual or lesbian peers (Koh & Ross, 2006; Molina et al., 2015; Watson et al., 2015; Watson, Velez, Brownfield, & Flores, 2016). The incremental impact of sexism on bisexual women's distress is best elucidated by the literature that broadly assesses perceptions of bisexuality. Of note, Eliason (2000) conducted a study with a sample of undergraduate students and found that more than half of the sample viewed bisexual men's and women's sexual orientation as being

"unacceptable" (p. 150). When comparing responses by gender, the author found that bisexual men were perceived more negatively than bisexual women, especially by participants identifying as heterosexual men. On a superficial level, bisexual women may be viewed more positively by heterosexual men, but this positive endorsement may mask benevolent and objectifying sexism (Roberts et al., 2015).

These differences in attitudes are further supported by results of investigation of lesbian and gay participants' attitudes toward bisexuals. Matsick and Rubin (2018) proposed the *androcentric desire hypothesis*, which argues that bisexual people are believed to be more attracted to men than women. The authors conducted two studies with a sample of lesbian women and gay men assessing their perceptions of bisexual people. In the authors' first study, lesbian women were more likely than gay men to perceive bisexual women as having sexual orientation instability. In the authors' second study, gay men reported significantly greater positive affect for bisexual men than lesbian women reported for bisexual women. In addition, the majority of participants endorsed the belief that both bisexual men and bisexual women are more attracted to men than to women. In sum, the study highlights notable gender differences in lesbian and gay peers' perceptions of bisexual people. Despite greater acceptance of non-heterosexual attraction in lesbian and gay circles, sexism may serve as an implicit or pervasive influence, and bisexuality may be seen as a less legitimate identity for women than for men..

Minority Stress

First proposed by Meyer (1995) to explain the psychological disparities between gay and heterosexual men, the *minority stress model* argues that LGB people experience an additional level of stress in their daily lives resulting from identifying as LGB. In a

following theoretical paper, Meyer (2003) describes that *minority stressors* are the impetus for minority stress. That is, minority stressors provoke a heightened stress response above and beyond the stress of daily life for LGB people, and this vulnerability to stress can explain the increased prevalence of psychological distress for LGB persons. Minority stressors can be viewed on a continuum of adverse experiences. Meyer conceptualized minority stressors as being *distal* (external) or *proximal* (internal). While distal events include obvious or overt signs of prejudice, such as harassment and violence, proximal discrimination events include internal manifestations of discrimination, such as the internalization of stigma.

Meyer (2003) noted that distal minority stressors typically precede proximal minority stressors. Distal stressors serve as stressful conditions and events that are either chronic or acute, and LGB persons must engage in vigilance to avoid or prevent the reoccurrence or increase of distal stressors. For example, an LGB person may need to invest mental resources in avoiding or navigating conversations about romantic partners with acquaintances or in the workplace to avoid retaliation. Through this increased investment in vigilance and expectations of future adverse experiences of discrimination, the minority stress model proposes that LGB people may begin to identify with those who discriminate against them, leading to internalization of heterosexist or homophobic attitudes. The author added that certain behaviors, such as the hiding of sexual orientation, can be attributed to these internalized attitudes.

For bisexual people, sexual minority stress may evolve from interactions with both heterosexual and lesbian/gay peers. Katz-Wise and colleagues (2017) coined the term *bisexual-specific minority stress*, or the sexual minority stress unique to identifying

as bisexual. The authors conducted a study to investigate the relationship between bisexual-specific minority stress and health outcomes with a sample of bisexual individuals. Using measures for both sexual minority stress and bisexual-specific minority stress, the authors found that the measure for bisexual-specific minority stress had a greater level of prediction of health outcomes than the sexual minority stress measure used alone. In addition, results suggested a significant effect of gender across measures, with cisgender men in the sample reporting less bisexual-specific stress than cisgender women and transgender people.

Of the handful of studies utilizing a bisexual-only sample of women or recruiting sufficient bisexual women participants for cross-comparison between groups, all have validated the minority stress conceptualization linking discrimination to psychological distress (Lambe et al., 2017; Ovrebo et al., 2018; Straub et al., 2018; Watson et al., 2015). For example, Watson and colleagues (2015) found significant bivariate relationships between distress and both anti-bisexual and sexist discrimination. Given that inquiries of the minority stress experiences of bisexual women have been illuminated only recently in the literature, most research studies addressing intersecting anti-bisexual and sexist discrimination have utilized a more contemporary theory explaining LGB psychological distress known as the *psychological mediation framework.*

Psychological Mediators

For Hatzenbuehler (2009), the minority stress conceptualization lacks a mechanism of action. While the author agrees that status as a sexual minority individual leads to additional levels of stress, Hatzenbuehler (2009) argues that psychological mediators, such as emotion regulation, rumination, and social support, explain the

transformation of stressful experiences into psychological distress. Hatzenbuehler proposed that while LGB people experience unique forms of discrimination compared to heterosexual peers, all individuals possess inherent psychological processes such as emotion regulation. Indeed, it is these general psychological processes that are dysregulated in LGB people compared to heterosexual peers. As a result, Hatzenbuehler created three assumptions for the psychological mediation framework: first, that LGB persons have an increased stress exposure compared to heterosexuals due to stigma; second, that stigma-related stress heightens interpersonal problems, emotion dysregulation, and maladaptive thought patterns; and last, that these processes serve as mediators in the relationship between minority stress and psychopathology.

Of investigations of SMW's psychological health utilizing the framework, significant mediators have included behavioral strategies, coping, social support, spirituality, syndemic factors (i.e., interactional structural and psychological factors), rejection sensitivity, and rumination (Dyar, Feinstein, & London, 2014; Kaysen et al., 2014; Lehavot & Simoni, 2011; Litt et al., 2015; Logie, Lacombe-Duncan, Poteat, & Wagner, 2017; Szymanski & Henrichs-Beck, 2014). In a broad assessment of psychological mediators, Lehavot and Simoni (2011) conducted a cross-sectional survey of SMW to investigate a latent model relationship between minority stress variables, psychological mediators (spirituality and social support), substance use, and psychological distress (anxiety and depression). The authors found that both spirituality and social support served as mediators in the relationship between minority stress and psychological distress.

In comparison to the number of investigations employing SMW samples to validate the framework, only one has assessed the psychological mediation framework with a bisexual-only sample of women. Molina and colleagues (2015) assessed the relationship between minority stress, symptoms of depression, and alcohol use for a sample of bisexual women identifying as being in a romantic relationship. The authors found that bisexual women in a relationship with a male partner were significantly more likely to report experiences of binegativity than women in a relationship with a female partner. Experiences of binegativity positively correlated with symptoms of depression, binge drinking, and alcohol-related consequences (e.g., withdrawal symptoms and risk-taking). A full review of alcohol use findings for this study is described in the section "Coping with Trauma".

Often in psychological literature, social support is viewed as a moderator, meaning that social support systems help an individual buffer or prevent the development of psychological distress after a stressful or traumatic experience (Cohen & Wills, 1985). For example, a bisexual woman may process a discrimination event with identity-affirming friends and family members, allowing her to view the situation as less stressful or less threatening. While Hatzenbuehler agrees that psychological variables, such as social support, may serve as buffers prior to a stressor, these variables are inherently altered by precipitating stressful events. It appears reasonable to infer that a bisexual woman may perceive family members or close friends as less supportive in the wake of a discrimination experience (Hatzenbuehler, 2009). Thus, the psychological mediation variable of the current study—social support—will be viewed from the lens of the

psychological mediation framework and will be included as a mediator both conceptually and analytically.

Social Support

The ability to rely upon other people in one's social network is a critical component of well-being (Cohen & Wills, 1985). In a meta-analysis of the link between social support and health, Schwarzer and Leppin (1989) found small effect sizes between social support and poor physical health (-.20 to -.30). In addition, a relationship between greater social support and decreased PTSD symptom severity has been documented in several trauma-exposed populations, such as survivors of natural disasters, sexual assault victims, and firefighters (Dar et al., 2018; Dworkin, Ojalehto, et al., 2018; Guo et al., 2018; Stanley et al., 2018). A number of meta-analyses have assessed the relationship between social support and posttraumatic stress, with a consistent negative relationship between social support and posttraumatic stress symptoms or symptom severity (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2008) and a positive relationship between level of social support and posttraumatic growth (Prati & Pietrantoni, 2009). It is likely that decreased social support not only reduces the ability to cope with and cognitively process the traumatic impacts of discrimination, but it may also play a translational role in the relationship between discrimination experiences and posttraumatic stress. From a cognitive processing framework, trauma survivors may conceptualize their trauma through the lens of close, important others. Schemas of trauma may be coopted from close friends, family, or romantic partners, even if these schemas are stigmatizing or maladaptive (Correia, Vala, & Aguiar, 2002; Resick et al., 2016; Ullman, 1999).

Due to stigmatization, social support for LGB people can be lacking, which may exacerbate the relationship between discrimination and psychological distress. The literature base relating discrimination to social support has primarily focused on investigations of LGB youth (e.g., Goodenow, Szalacha, & Westheimer, 2006; Hershberger & D'Augelli, 1995; Muñoz-Plaza, Quinn, & Rounds, 2002; Williams, Connolly, Pepler, & Craig, 2005). Hershberger and D'Augelli (1995) found that in a sample of LGB youth, family support served as a mediator in the relationship between acts of discrimination and mental health outcomes, including suicide. These authors' results were corroborated more recently by a longitudinal study of LGB youth conducted by McConnell, Birkett, and Mustanski (2016). The authors found a significant negative relationship between family support and psychological distress. However, this relationship was impacted by support outside the family, and LGB youth who reported higher levels of non-familial support reported less psychological distress over time.

McConnell and colleagues' findings fit well with the colloquial phrase *chosen family* (Dewaele, Cox, Van den Berghe, & Vincke, 2011), a term which is used in LGB social circles to describe non-nuclear social support. For example, an LGB person may create a network of like-identified or like-minded individuals to receive the care and support that is not provided due to rejecting or stigmatizing family members. Blair and Pukall (2015) found that in a sample of heterosexual and LGBT participants, participants in same-gender relationships were less likely to perceive family members as supportive or approving of their relationships, while friends or chosen family were more likely to approve of their relationships. Yet, reliance on non-familial social support has been found

to vary based on gender, with lesbian and bisexual women being significantly less likely to rely on chosen family than gay and bisexual men (Frost, Meyer, & Schwartz, 2016).

Despite a desire to connect with others, bisexual people face challenges in navigating interpersonal relationships and receiving adequate social support. *Bisexual invisibility* can be conceptualized as the social presentation of bisexual erasure (Yoshino, 2000). To avoid stigmatization, bisexuals may feel compelled to conceal different-gender attraction with LGB peers or compelled to manage self-disclosure of their sexual orientation with heterosexual people to avoid stigmatization. Regardless of social setting, bisexual people must inhibit some component of their identity, which may lead to less satisfying, close, or connecting relationships with family, friends, or romantic partners (Israel & Mohr, 2004). Therefore, social support may mediate the relationship between anti-bisexual experiences and psychological distress. This supposition is supported by a study by Katz-Wise and colleagues (2017), who found that loneliness mediated the relationship between minority stress and depression for a sample of bisexual participants.

In qualitative studies, bisexual people report informal social support such as friendships to be the most salient and important forms of social connection (Toft & Yip, 2018), yet bisexual women have self-reported that interpersonal stigmatization impacts their perceived mental health, with the process of explaining their sexual orientation to others as being “exhausting” (p. 472; Flanders, Dobinson, & Logie, 2015). Overall, scholars have noted the need for further investigation of bisexual people’s social support (Persson & Pfaus, 2015; Ross et al., 2018), as few studies have been conducted that document the theoretical disparity between bisexual people and LG or heterosexual peers. Only one study has found that bisexual youth of all genders report significantly less

social support compared to lesbian or gay peers (Rimes et al., 2018). While a few studies have investigated the perceived social support of bisexual women with women of other sexual orientations, findings have been inconsistent. Ross and colleagues (2012) conducted a study with a sample of lesbian and bisexual women who identified as either trying to become pregnant or parenting an infant and found that bisexual women were significantly less likely to report social support compared to lesbian women, especially those who identified as having sexual activity with a male partner in the past 5 years. Conversely, Sigurvinsdottir and Ullman (2016) assessed feelings of social support in a sample of female sexual assault survivors and found that while bisexual women reported significantly less social support than *heterosexual* women, there was no significant difference in perceived social support when comparing bisexual and *lesbian* women. In addition, the authors assessed the role of social support as a mediator for the relationship between sexual orientation and sexual assault-related symptoms of PTSD. Though social support did not mediate this relationship, the authors noted that social support may play a role in lesbian and bisexual women's symptoms of PTSD related to other traumatic experiences, including traumatic experiences of discrimination.

Posttraumatic Stress

The DSM-5 (American Psychiatric Association, 2013) notes five key criteria sets that an individual must meet for a formal diagnosis of Posttraumatic Stress Disorder (PTSD). First, a person must encounter "actual or threatened death, serious injury, or sexual violence" (p. 271) through direct experience, witnessing the events in-person, learning that a traumatic event occurred to a close family member or friend, or through occupational exposure, which is known as a *Criterion A event*. Additionally, a person

must experience “intrusion symptoms,” such as distressing dreams or memories (Criterion B), which lead to “persistent” avoidance of reminders of the traumatic events (Criterion C; p. 271). To meet the full diagnostic standard, the person must experience “negative alterations” in mood or cognition (p. 271), as well as “marked alterations” in arousal, such as hypervigilance or “self-destructive behavior” (p. 272).

To explain the etiology and maintenance of PTSD symptoms, scholars and clinicians contest that additional cognitive appraisal factors play a role in the relationship between traumatic experiences and posttraumatic stress symptoms. Resick and Schnicke (1992) first proposed *cognitive processing theory*, a Piagetian-derived model that conceptualizes posttraumatic stress as being the result of maladaptive cognitions in five domains: safety, trust, power and control, esteem, and intimacy. In cognitive processing theory, traumatic experiences influence not only views of the self, but also of others and the world overall. While cognitive processing theory and its correlate intervention, *cognitive processing therapy* (CPT) have been validated and used extensively for psychotherapy with a number of populations with trauma exposure (Cusack et al., 2016), CPT was first derived from qualitative analyses of the experiences of sexual assault survivors, particularly women who have experienced sexual violence (Resick & Schnicke, 1992). As a result, the cognitive processing model lends itself to a dynamic, multicultural view of trauma.

Root (1992) categorized experiences of trauma into three categories: direct, indirect, and insidious. Direct traumas include “maliciously perpetrated violence” (p. 239), such as war experiences and assault. Indirect traumas involve being witness to trauma or learning that a loved one or close friend has experienced a traumatic event.

Insidious trauma, however, can be defined as actions that are covertly harmful. The author describes that while acts of insidious trauma typically do not involve overt violence, these experiences often allude to a future escalation toward violent acts. Thus, it appears logical that LGB person's experiences of prejudice, stigma, and discrimination may span across these three categories, with discrimination experiences being a form of either direct, indirect, or insidious trauma—or all three. Overall, the fields of LGB research and trauma research have remained largely separate (Brown & Pantalone, 2011). As a result, many investigations have focused solely on differences in rates of traumatic events between LGB and heterosexual peers (e.g., Clements-Nolle et al., 2018) or have myopic focus on a specific subpopulation (e.g., LGB veterans, LGB youth, LGB asylum seekers). Adding some coherence to the literature, McKay, Lindquist, and Misra (2017) synthesized 102 investigations of LGB victimization through systematic review and concluded that LGB individuals are at increased risk of traumatic experiences compared to heterosexual peers, including sexual-orientation-based victimization throughout the lifespan. Of note, the authors state that rates of anti-LGB victimization have largely remained stable for the past three decades, with family members being more frequent perpetrators of anti-LGB violence than strangers.

Despite a somewhat scattered, broad body of work, each investigation provides understanding into the lived traumatic experiences of LGB people. One striking example is a mixed-methods study conducted by D'Augelli and colleagues (2006), which assessed the relationship between sexual-orientation-related victimization (SOV) and symptoms of posttraumatic stress. The researchers assessed verbal SOV (e.g., "My mom was screaming at me, calling me a 'fucking faggot' and 'cocksucker.' I just cried and cried,"

p. 8), physical SOV (e.g., “I was a wrestler, and another wrestler didn’t like my being gay, so he beat me with a stick and broke my nose,” p. 9), and sexual SOV (e.g., “I was in a conversation at a party and mentioned that I was bi. One of the guys took me into a private room and forced me to have sex,” p. 10). Most participants in the sample (78%) reported verbal SOV, which typically began at age 13 (yet as young as age 6, for some participants). In addition, several participants reported physical SOV (11%) and sexual SOV (9%). While male participants in the study typically reported being victimized by other males, female participants reported being victimized equally by males and females. All the participants reporting sexual SOV identified a male perpetrator, and an overwhelming majority (97%) reported being “very or extremely upset” by the experience, with the rate of PTSD being three times higher for female (15%) than male (4%) participants. In addition, youth with PTSD symptoms were “significantly more upset” about their first experiences of verbal SOV (p. 16).

In line with Root’s (1992) conceptualization, these investigations of direct trauma are supported by a smaller body of work assessing insidious trauma. While some scholars contest the expansion of criteria for the diagnosis of PTSD to include chronic stressors, a number of investigations with LGB samples have shown a consistent relationship between discrimination experiences and symptoms of the disorder (Arnett, 2016; Bandermann, 2014; Beckerman & Auerbach, 2014; Dworkin, Ojalehto, et al., 2018; Mustanski, Andrews, & Puckett, 2016; J. Robinson, 2014; Szymanski & Balsam, 2011). In addition, Alessi, Meyer, and Martin (2013) found that bisexual participants had greater reported symptoms of PTSD than heterosexual or lesbian or gay participants, though this difference was not significant at the .05 level. However, the study is limited by its use of

PTSD criteria from the DSM-IV, as the diagnostic criteria have changed notably in the DSM-5 (Kilpatrick et al., 2013).

Furthermore, a relationship between discrimination experiences and symptoms of PTSD has been documented in a bisexual-only sample. Arnett (2016) conducted a study to determine the relationship between anti-bisexual experiences, symptoms of PTSD, symptoms of depression, and physical health symptoms. Results indicated that even when controlling for traumatic experiences that were not sexual-orientation-related (e.g., accidents or assault), anti-bisexual experiences predicted symptoms of PTSD. Of note, there was a significant indirect effect for PTSD as a mediator for the relationship between anti-bisexual experiences and both depression and physical health. Therefore, symptoms of PTSD may be a critical, under-investigated component of sexual orientation-related discrimination experiences. To fully understand the translation of minority stress experiences to poor mental and physical health outcomes, it may be helpful to frame future investigation through the lens of posttraumatic stress.

Minority Stress as Posttraumatic

From the current research, then, LGB people are susceptible to an additional level of stress in their daily lives through the lens of the minority stress model, and people who have experienced a traumatic event are susceptible to experiencing symptoms of posttraumatic stress through the lens of cognitive processing theory. Then, what can be inferred about the experiences of LGB people when experiencing threatening and discriminatory environments? If policies or cultural shifts develop that strengthen or support heterosexist views, is it possible for LGB individuals to experience *posttraumatic*

minority stress? If so, what impact might posttraumatic minority stress have on bisexual women, who may face both anti-bisexual and sexist discrimination?

In many ways, the minority stress model lends itself to a view of discrimination events as provoking symptoms of posttraumatic stress. Of note is the parallel between Meyer's (2003) conceptualization of the distal to proximal process of minority stress and their correlates in the posttraumatic stress literature. First, Meyer posited that acute and chronic events or conditions occur, which is akin to criterion A of the DSM-5 diagnosis for PTSD. Next, the author proposed that LGB persons anticipate future stigmatizing events, which require "vigilance" (p. 678), approximating the posttraumatic criterion for hypervigilance of surroundings and distrust of persons. Last, Meyer believed that these events would alter the psychological state of LGB persons, who may engage in behaviors that reduce the likelihood of experiencing these events again. For LGB discrimination experiences, this may include sexual orientation concealment. Through a posttraumatic lens, sexual orientation concealment could be seen as avoidance behavior, which parallels the DSM-5 Criterion C for PTSD (avoidance of reminders of the traumatic event). It may be that minority stress serves as a form of posttraumatic stress, allowing the phenomenon to be best described through theories of trauma and PTSD. For bisexual people, and bisexual women especially, this conceptualization may explain the noted differences between lesbian and bisexual women's well-being. From a posttraumatic stress lens, it may be that bisexual women have higher exposure to posttraumatic minority stress.

Dworkin and colleagues (2018) investigated the posttraumatic stress symptoms of sexual minority women with a sample from a larger longitudinal study of participants with a history of trauma exposure. The authors found statistical support for their model,

with posttraumatic cognitions mediating the relationship between the predictors (heterosexist events and criterion A traumatic events) and the criterion (PTSD symptoms). Like many studies, the authors categorized bisexual women and lesbian women under the umbrella of "sexual minority women," though their sample was more representative of bisexuals than many samples of sexual minority women (60.1% bisexual women; 39.9% lesbian women). In addition, the sample skewed young and ethnically homogeneous, with the all participants being aged 18 to 25 and the majority of the sample being White (82.8%).

In a sample of LGB individuals, Ovrebo and colleagues (2018) found that 43.6% of bisexual women participants reported symptoms of posttraumatic stress at a frequency suggesting PTSD. While reported symptom frequency among bisexual women was comparable to lesbian and gay peers in the sample, bisexual women reported experiencing traumatic events significantly more recently. Of note, lesbian women in the sample were significantly more likely to report help-seeking of mental health services compared to bisexual women, with lesbian women also being significantly more likely to disclose their sexual orientation to their therapists. The authors inferred that current research indicating higher rates of help-seeking for women may not apply to those who identify as bisexual.

In a similar vein, as the psychological mediation model merely expounds upon the work of the minority stress model, this theory also lends itself to a conceptualization of minority stress as posttraumatic stress. Szymanski and Balsam (2011) conducted a study with a sample of lesbian women to assess the role of self-esteem as either a moderator or a mediator for the relationship between recent heterosexist discrimination experiences

and symptoms of PTSD. The authors found that self-esteem partially mediated the relationship between discrimination and PTSD symptoms. In sum, not only does the current research highlight a potentially strong link between discrimination experiences and symptoms of posttraumatic stress, but there is also evidence for psychological mediators facilitating this relationship.

Coping with Trauma

Last, it may be that bisexual women's health disparities are not only explained by experiences of discrimination but are in fact the result of several social and psychological processes that increase likelihood of substance abuse as a method of coping with trauma. The following section reviews the literature on alcohol use disorders in sexual minority women. Conceptualizations of problematic alcohol use vary, with several definitions or terms arising to explain various polythetic presentations of alcohol abuse. While the DSM-5 views alcohol abuse as a Substance Use Disorder (SUD) and describes functional impairment as more pressing than a concrete estimate of consumed alcohol, the U.S. Centers for Disease Control and Prevention (CDC) conceptualize "excessive" alcohol use as *binge drinking*, which is crudely estimated at five or more drinks for men and four or more drinks for women in one setting ("CDC - Alcohol and Public Health," 2018). For the purposes of the current study, both conceptualizations appear appropriate, as a person may be able to maintain acceptable functional impairment in one setting (e.g., work environment) yet be at risk for adverse health outcomes from alcohol use (e.g., sleep difficulties; (Ebrahim, Shapiro, Williams, & Fenwick, 2013). Some conceptualizations of alcohol use view neither the consumption nor functional capability as important; instead,

it is the use of alcohol to avoid or control symptoms of distress that is important, particularly for those who have experienced traumatic stress (Debell et al., 2014).

Overall, the link between PTSD symptoms and comorbid alcohol use is well-studied, with approximately 10% of those with PTSD developing problematic drinking behaviors (Debell et al., 2014). In a review of the link between stressful life experiences and alcohol use, Keyes, Hatzenbuehler, and Hasin (2011) summarized the literature on the link between four types of stressful life experiences (including traumatic stress and minority stress) and alcohol use disorder. The authors noted that both objective indicators of discrimination and perception of discrimination predicted alcohol use in sexual minorities. In a recent study of sexual minority men, Banerjee and authors (2018) assessed the relationship between PTSD symptoms, posttraumatic cognitions, and frequency of alcohol intoxication. The authors found a significant direct effect between PTSD symptoms and frequency of alcohol intoxication, with a significant mediation effect of posttraumatic cognitions.

Studies of sexual minority women's alcohol use have primarily focused on psychological distress in general, as opposed to PTSD symptoms, but provide some comparisons. Molina and colleagues (2015) assessed the relationship between minority stress and two alcohol outcome variables (alcohol-related consequences, such as work problems, and binge drinking) in a sample of bisexual women. A sizeable portion (41%) of participants reported binge-drinking, as measured by number of drinks consumed in one week. Number of alcohol-related consequences in the past 30 days ranged from 0 to 6.71, with mean scores varying by relationship status (2.32 for participants with a single female partner, 1.77 for participants with a single male partner, and 2.75 for participants

with multiple partners). Furthermore, the authors found that experiences of binegativity positively related to both alcohol-related consequences and binge drinking, with these relationships being mediated by current intimate relationship status.

Similarly, Veldhuis, Talley, Hancock, Wilsnack, and Hughes (2017) used data from the Chicago Health and Life Experiences of Women to assess the relationship between sexual orientation, mental health, physical health, and alcohol use. The authors used categorical groupings to determine age cohorts for participants in the study and found that across age groups, there was a decline in drinking behavior with increasing age for heterosexual participants, but there was no age-related decline in drinking for lesbian and bisexual participants. The authors attributed this to "crisis competence" (p. 424), asserting that sexual minority women continue to use drinking as a method of coping throughout the lifespan to deal with the effect of minority stress.

While the relationship between social support, PTSD, and alcohol use has not been studied for sexual minority women, Dworkin and authors (2018) found a negative relationship between social support and PTSD symptoms in a sample of sexual assault survivors, with alcohol use moderating the relationship. Women using alcohol to cope with symptoms of PTSD were less likely to have positive social support experience ameliorate the symptoms of PTSD. The directional relationship between PTSD and alcohol use in Dworkin et al.'s study is notable; various investigations conceptualize alcohol use as being a method of coping with PTSD (i.e., a mediator or predictor of symptoms), while others consider PTSD to be a precipitating factor for a propensity to use alcohol (that is, without PTSD symptoms, a person would not be using alcohol to cope). As prior investigation has found PTSD to mediate the relationship between

discrimination experiences and health outcomes (Arnett, 2016), the present study will assess PTSD symptoms as a mediator for alcohol use, though the relationship is likely bidirectional (Ullman, Relyea, Peter-Hagene, & Vasquez, 2013).

Gaps, Contradictions, and Limitations in the Existing Literature

While several select studies have measured the impact of discrimination experiences on the report of posttraumatic stress symptoms in sexual minority individuals, the bulk of LGB health research and the bulk of PTSD research remains separate. Of those studies that have begun to bridge the gap between sexual orientation and trauma research, these studies primarily assess sexual minority women as a group, with lesbian women being categorized in the same group as bisexual women. For discrimination research in particular, this poses a unique problem, as bisexual women are likely to experience unique types of discrimination (Israel & Mohr, 2004). Thus, a significant gap exists in the literature assessing the psychological well-being of bisexual women as separate from the broader category of sexual minority women.

On a systemic level as well, little research addresses the health outcomes of bisexual women. Coulter, Kenst, Bowen, and Scout (2014) reported that when excluding studies investigating HIV/AIDS, only 0.1% of the research funded by the National Institutes of Health addresses the health outcomes of LGBT people. Of note, 6.5% of this funding is allocated to studies investigating the health of transgender people, 13.5% to investigations regarding sexual minority women, and 86.1% to studies with a focus on sexual minority men. Given the disparities between bisexual women and heterosexual and lesbian peers, the lack of attention in psychological research to address the specific

needs of bisexual women as a population is concerning and warrants further investigation.

Linking sexual orientation research with trauma research appears to be key in understanding the unique experiences of bisexual women. Bisexual women may be especially vulnerable to concurrent experiences of trauma and discrimination, given the likelihood of bisexual women to report low levels of outness and high levels of discrimination experiences. While several studies have established a relationship between discrimination and symptoms of posttraumatic stress, a gap exists in the literature to determine how other variables may influence the mechanism of action for discrimination to posttraumatic stress symptoms, particularly in a bisexual-only sample of women. In addition, a gap exists in the research base in merging theories of LGB distress and psychopathology with that of the literature base in posttraumatic stress/PTSD.

Currently, no investigations from within the field of counseling psychology have addressed the relationship between bisexual women's experiences of discrimination, social support, and adverse outcomes (i.e., PTSD symptoms and alcohol use). As a field of study, counseling psychology is uniquely poised to address the intersection of research on bisexual individuals' traumatic stress. Counseling psychology prioritizes understanding the mental health and well-being of individuals with mild to moderate symptom severity, which could provide benefit to bisexual women experiencing posttraumatic stress but not meeting the cutoff for PTSD (Ovrebo et al., 2018). Furthermore, an advantage of counseling psychology is the emphasis on multicultural factors, such as sexual orientation, and their impact on psychological distress, as well as

the influence of universal psychological variables like social support as mediators (Frazier, Tix, & Barron, 2004; Gelso, Nutt Williams, & Fretz, 2014).

Summary

Bisexual women are a population that is understudied and yet at increased risk for a number of negative psychological and health outcomes. Investigations addressing the antecedents of these disparities note that bisexual women may experience discrimination and marginalization based on their sexual orientation while simultaneously objectified and oppressed as the result of patriarchal norms and regimes. Theories positing the nature of psychological distress of LGB persons, such as the minority stress model and psychological mediation framework, parallel with theories positing the functional mechanism of posttraumatic stress. Of note are the significant links in the LGB and trauma literature bases conceptualizing the relationships between traumatic events, social support, and alcohol use (Arnett, 2016; Banerjee et al., 2018; Molina et al., 2015; Ross et al., 2010).

The literature suggests that experiences of discrimination decrease perceived social support for LGB individuals, which leads to an increase in PTSD symptoms. These variables may explain LGB persons' increased likelihood to engage in substance abuse, including use of alcohol as symptom management. Minority stress may be best conceptualized as a form of posttraumatic stress, in that subtle acts of prejudice allude to the ever-present threat for escalation of violence and genocide. However, a gap exists in determining the specific relationships between these variables, as well as the sequential influence of social support and PTSD symptoms on the relationship between discrimination experiences and alcohol use.

Purpose and Hypotheses

The purpose of the current study was to determine the relationship between discrimination experiences, social support, PTSD symptoms, and alcohol use in a sample of bisexual women. Specifically, the current study tested three-path mediation path models of the relationship between anti-bisexual/sexist discrimination events, social support, symptoms of PTSD, and alcohol use, as displayed in Figures 1 and 2.

Hypotheses for the current study are the following:

1. Anti-bisexual Experiences (Figure 1)
    a. Bivariate Relationships
        i. Anti-bisexual experiences of discrimination and social support will have a negative relationship, such that as anti-bisexual experiences increase, social support decreases.
        ii. Anti-bisexual experiences and PTSD symptoms will have a positive relationship, such that as anti-bisexual experiences increase, PTSD symptoms increase.
        iii. Anti-bisexual experiences and alcohol use frequency will have a positive relationship, such that as anti-bisexual experiences increase, alcohol use frequency increases.
        iv. Social support and PTSD symptoms will have a negative relationship, such that as social support decreases, PTSD symptoms will increase.
        v. Social support and alcohol use frequency will have a negative relationship, such that as social support increases, alcohol use

decreases.

vi. PTSD symptoms and alcohol use frequency will have a positive relationship, such that as PTSD symptoms increase, alcohol use frequency increases.

b. Indirect Effects

i. More anti-bisexual experiences will be related to lower levels of social support, which in turn will be related to greater frequency of alcohol use.

ii. More anti-bisexual experiences will lead to increased PTSD symptoms, which in turn will be related to greater frequency of alcohol use.

iii. More anti-bisexual experiences will lead to lower levels of social support, which leads to subsequent increased PTSD symptoms and greater frequency of alcohol use.

2. Sexist Experiences (Figure 2)

a. Bivariate Relationships

i. Sexist experiences of discrimination and social support will have a negative relationship, such that as sexist experiences increase, social support decreases.

ii. Sexist experiences and PTSD symptoms will have a positive relationship, such that as sexist experiences increase, PTSD symptoms increase.

iii. Sexist experiences and alcohol use frequency will have a

positive relationship, such that as sexist experiences increase, alcohol use frequency increases.

iv. Social support and alcohol use frequency will have a negative relationship, such that as social support decreases, alcohol use frequency increases.

v. Social support and PTSD symptoms will have a negative relationship, such that as social support decreases, PTSD symptoms will increase.

vi. PTSD symptoms and alcohol use frequency will have a positive relationship, such that as PTSD symptoms increase, alcohol use frequency increases.

b. Indirect Effects

i. More sexist experiences will be related to lower levels of social support, which in turn will be related to greater frequency of alcohol use.

ii. More sexist experiences will lead to increased PTSD symptoms, which in turn will be related to greater frequency of alcohol use.

iii. More sexist experiences will lead to lower levels of social support, which leads to subsequent increase in PTSD symptoms and greater frequency of alcohol use.

Chapter III
Methodology

Procedure

The current study utilized archival data as part of a larger project assessing bisexual women's experiences of discrimination, as well as other psychological variables (e.g., self-esteem and depression). This project was approved by the Institutional Review Board at the University of Houston on October 25, 2017 (IRB ID: STUDY00000573). The study inclusion criteria included being 18+ years of age, identifying as bisexual (or another non-monosexual identity, such as queer or pansexual), and identifying as a woman (transgender or cisgender). Data collection was completed in approximately 4 weeks, at which time the survey was closed.

Participants were initially recruited through distribution of the recruitment flyer through social media (i.e., Tumblr, Facebook, and Twitter). All participants were offered the opportunity to enter a raffle for a $50 gift card to Amazon.com. Participants who joined the raffle were asked for their email address to follow-up. Email addresses were kept separate from survey responses. Participants accessed the survey through the website Qualtrics.com (a secure, online platform for data collection) via the hyperlink contained in the recruitment flyer. When first accessing the survey, participants were presented with informed consent about their participation. Survey measures were presented in random order to participants, and all participants were asked to complete all of the measures listed below. Approximately 479 persons accessed the survey, 264 of which were eligible to participate. Initially, exclusion criteria were set up to be too restrictive, potentially creating a disparity between the number of accesses and the number of eligible

participants. This issue was addressed within approximately 2 days, and sample size was met in approximately 2 weeks.

Participants

Of the 264 participants who completed the survey, 256 responded to one or more of the measures below and were included in the current study. Demographic measures were collected for these participants (i.e., $n = 256$), including race, income, disability status, and relationship status. Table 1 provides frequency and percentage data for all demographic measures. The mean age of the sample was 23.4 ($SD = 4.32$) and the sample was primarily White ($n = 193$, 75.39%). Across sexual orientation, the majority identified only as bisexual (57.8%), with 29% identifying as both bisexual and another non-monosexual identity, and 13.3% of the sample identified only with a non-monosexual identity other than bisexual. Approximately half identified as single or casually dating ($n = 145$; 56.6%), with the additional 43.4% identifying as being in a relationship or married. Of those who indicated being in a relationship or married, most indicated the gender of their partner(s) was male (74.08%, $n = 83$). For gender identity, 25.4% ($n = 65$) of participants identified as gender non-conforming (e.g., genderqueer, bigender) or transgender, which is significantly higher than estimates in the general population of 0.6% (Flores, Herman, Gates, & Brown, 2016).

Measures

Anti-bisexual discrimination. *Anti-bisexual discrimination experiences* were measured using The Anti-Bisexual Experiences Scale (Brewster & Moradi, 2010). Participants were asked to rate 17 items listing experiences of discrimination related to bisexual identity from lesbian/gay and heterosexual sources. The measure consists of

three subscales: Sexual Orientation Instability ("People have acted as if my sexual orientation is just a transition to a gay/lesbian orientation"), Interpersonal Hostility (e.g., "People have not wanted to be my friend because I am bisexual"), and Sexual Irresponsibility (e.g., "People have treated me as if I am obsessed with sex because I am bisexual"). The three subscales are measured through parallel items (i.e., "had this experience with lesbian/gay people" and "had this experience with straight people"). Respondents selected responses from a range of 1 (*never*) to 6 (*almost all of the time*) indicating situational frequency. In addition, the measure can be used as a total score from all sources of discrimination and averaged, which was the method used for the current study. Discriminant and convergent validity were demonstrated by low correlations with impression management and high correlations with stigma consciousness during scale development. Reliability for the archival sample was Cronbach's alpha of .96.

Sexist discrimination. *Sexist discrimination events* were measured using The Daily Sexist Events Scale (Swim, Cohen, & Hyers, 1998). Participants were asked to complete 25 items describing sexist events they may have experienced over the past 6 months (e.g., "heard someone express general dislike or resentment of women," "had sexist comments made about parts of my body or clothing"). Responses were scored on a 5-point scale from 1 (*never*) to 5 (*2+ times per week*). Higher scores indicated more frequent experiences of sexist discrimination. For the current study, item averages were used, which is consistent with published guidelines for the scale. Exploratory factor analysis and daily diary studies have provided content and construct validity for the measure (Swim, Hyers, Cohen, & Ferguson, 2001). The measure has been found to

positively correlate with anger and depression and negatively correlate with self-esteem (Swim et al., 1998). Furthermore, the measure has been used in a sample of sexual minority women and significant relationships were found between sexist discrimination and psychological distress (Szymanski & Henrichs-Beck, 2014). The reliability of the archival sample was Cronbach's alpha of .93.

Social support. Social support was measured using the MOS Social Support Survey (Sherbourne & Stewart, 1991), which assesses feelings of social connection, including assistance and companionship. Participants rate 19 items from a scale of 1 (*none of the time*) to 5 (*all of the time*). Example items include "someone who hugs you" and "someone whose advice you really want." To provide standardization for path analysis, mean scores were calculated for the current study as opposed to published guidelines for a summed score, with higher mean scores indicating higher reported levels of social support. The measure has demonstrated acceptable internal consistency reliability (Cronbach's alpha of .97 in scale development). In addition, the measure has demonstrated discriminant and convergent validity through high correlations with measures of emotional ties, loneliness, family and marital functioning, and mental health, as well as low correlations with measures of physical health status (e.g., pain intensity; Sherbourne & Stewart, 1991). Reliability for the archival sample was Cronbach's alpha of .95.

PTSD symptoms. Symptoms of PTSD were measured using the PCL-5 (Blevins, Weathers, Davis, Witte, & Domino, 2015), which assesses symptoms of posttraumatic stress disorder as described by the *Diagnostic and Statistical Manual of Mental Disorders – 5th edition* (DSM-5). To provide metric standardization for path analysis,

item scores were averaged, which is inconsistent with published guidelines for the measure. Higher mean scores indicated greater symptom severity of PTSD. Participants responded regarding symptoms in the past month, with scale anchors from 0 (*not at all*) to 4 (*extremely*). Items were categorized based on symptom clusters described in the DSM-5, including intrusion symptoms (e.g., "repeated, disturbing dreams of the stressful experience") and avoidance (e.g., "avoiding memories, thoughts, or feelings related to the stressful experience"). During scale development, items had acceptable levels of test-retest reliability and internal consistency. Discriminant validity has been evidenced by low correlations with measures of depression, anxiety, and borderline personality disorder, and convergent validity has been evidenced by high correlations with other measures assessing PTSD symptoms (Blevins et al., 2015). In addition, the measure has been used in prior investigations of bisexual women's PTSD symptoms (Ovrebo et al., 2018). Reliability for the archival sample was Cronbach's alpha of .93.

Alcohol use. Alcohol use was measured using the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Fuente, & Grant, 1993), which screens for problematic alcohol drinking and alcohol dependence. The measure consists of 8 items assessing consumption of alcohol in the past year (e.g., "How often do you have six or more drinks on one occasion?") and 2 items assessing problematic alcohol use during or before the past year (e.g., "Have you or someone else been injured as a result of your drinking?"). Item 1 ("How often do you have a drink containing alcohol?") is measured from 0 (*never*) to 5 (*4 or more times a week*). Item 2 ("How many standard drinks containing alcohol do you have on a typical day when drinking?") is measured with anchors from 0 (*1 or 2*) to 5 (*10 or more*). Items 3 to 8 are measured on a

scale from 0 (*never*) to 5 (daily or almost daily). Items 9 and 10 ("Have you or someone else been injured as a result of your drinking?" and "Has a relative or friend, doctor or other health worker been concerned about your alcohol use?") were measured through three scale anchors: 0 (*No*), 2 (*Yes, but not in the past year*) and 4 (*Yes, during the past year*). The measure can be calculated as a total score, with higher scores indicating greater reporting of alcohol use. Factor analysis indicated that the measure had sufficient specificity and sensitivity to screen for problematic drinking and alcoholism (Saunders et al., 1993). In addition, the measure has shown convergent validity through correlation to other measures of alcohol use, including biochemical measures (Allen, Litten, Fertig, & Babor, 1997). Due to an error in the survey creation for the archival data set, item 7 was excluded ("During the past year, how often have you had a feeling of guilt or remorse after drinking?"); as a result, the AUDIT-C was used for the current study, which utilizes the first three items for analysis. For the current study, scores were averaged to provide metric standardization for path analysis. Higher mean scores indicated greater endorsement of problematic alcohol use. The AUDIT-C has demonstrated comparable psychometric properties to the full AUDIT measure (Dawson, Grant, Stinson, & Zhou, 2005), with sufficient specificity and sensitivity for alcohol use disorder in a sample of heterosexual, lesbian, and bisexual female veterans (Lehavot, Williams, Millard, Bradley, & Simpson, 2016). Reliability of the AUDIT-C for the archival sample was Cronbach's alpha of .71.

Chapter IV

Results

Correlations Between Predictors, Mediators, and Outcome Variable

Bivariate correlations between variables, as well as means, standard deviations and percentage of missing data, are displayed in Table 2. Participants' reported anti-bisexual experiences were comparable to other samples of bisexual women utilizing the measure. Dyar and colleagues (2014) reported means for individual subscales of the Anti-Bisexual Experiences Scale ranging from 1.85 to 2.71 (*SD* = .93 – 1.21), while Lambe and colleagues (2017) reported a mean of 2.41 (*SD* = 1.13) for anti-bisexual discrimination experiences from lesbian/gay peers and 2.58 (*SD* = 1.01) from heterosexual peers. Reported sexist events were comparable to samples of sexual minority women, with Szymanski and Owens (2009) reporting a mean of 2.26 (*SD* = .72) and Szymanski and Henrichs-Beck (2014) reporting a mean of 2.36 (*SD* = .75) for the measure in samples of SMW participants. For social support, participants reported a comparable mean score to other samples of bisexual people, with Flanders, Shuler, Desnoyers, and VanKim (2019) reporting a mean score of 3.20 (*SD* = .57) for a sample of bisexual youth of color. To provide comparison with other samples, summed scores were calculated for PTSD symptoms, social support, and alcohol use. On average, participants reported symptoms of posttraumatic stress above the suggested clinical cutoff of 33 for a provisional diagnosis of posttraumatic stress disorder (*M* = 53.99, *SD* = 16.96; Blevins, Weathers, Davis, Witte, & Domino, 2015). For social support, participants on average reported a summed score of 71.14 (*SD* = 16.42), which is comparable to Ross and colleagues' (2012) finding of *M* = 78.7 with a sample of bisexual women. Of the

participants who endorsed current alcohol use, 45.0% met criteria for problematic alcohol use, which is comparable to 38.0% found in prior investigation with a sample of sexual minority women (Lehavot et al., 2016; Saunders et al., 1993).

Bivariate correlations indicated that both predictors (i.e., anti-bisexual experiences and sexist experiences) were significantly positively correlated with one another. Social support was not significantly correlated with either predictor. Symptoms of PTSD were significantly positively correlated with both predictors and significantly negatively correlated with social support. Alcohol use was only significantly positively correlated with sexist experiences and was not significantly correlated with anti-bisexual experiences, social support, or PTSD symptoms.

Demographic Individual Differences

One-way multivariate analyses of variance (MANOVA) were conducted to evaluate the potential for extraneous variable influence or individual differences (i.e., race, gender identity, and sexual orientation) in scores. Between-groups analysis included race/ethnicity (White participants versus participants of color), transgender identity (cisgender, or non-transgender, participants versus transgender participants), and sexual orientation (bisexual-only versus bisexual and another orientation versus only another orientation). Analyses were conducted using SPSS version 26.0. While all participants completed demographic measures at the beginning of the survey, cases with missing data (i.e., incomplete data for either the predictors, mediators, or criterion variable) were automatically deleted listwise in SPSS, leading to a decrease in sample size (n = 194) for the MANOVA analyses exploring demographic differences.

Differences across race/ethnicity groups. A one-way MANOVA was conducted to compare individual differences in race/ethnicity on the predictor, mediator, and outcome variables. Due to the majority of the sample identifying as White, participants were grouped into two categories: White participants (n = 150) and participants of color (i.e., Asian, Black, Hispanic, and Multiracial participants; n = 44). Results are displayed in Table 3. There was no significant difference between groups in anti-bisexual experiences, sexist experiences, PTSD symptoms, or alcohol use. A difference between groups in social support neared significance (F(1, 194) = 3.544, p = .06, partial η^2 = .018, White participants > participants of color). As a result, race/ethnicity was not included as a covariate in further analyses.

Differences across gender identity groups. A one-way MANOVA was conducted to compare individual differences in gender identity on the predictor, mediator, and outcome variables. Participants were grouped into the categories of cisgender (i.e., non-transgender, n = 161) and transgender/gender nonconforming (n = 33). Results are displayed in Table 4. There was no significant difference between groups in anti-bisexual experiences or social support; however, results neared significance for sexist experiences (F(1, 194) = 1.65, p = .07, partial η^2 = .017, transgender > cisgender) and alcohol use (F(1, 194) = 1.32, p = .09, partial η^2 = .015, cisgender > transgender). In addition, groups differed significantly in symptoms of PTSD (F(1, 194) = 6.24, p = .003, partial η^2 = .045), with transgender participants reporting significantly greater PTSD symptoms than cisgender participants. As a result, gender identity was included as a binary covariate in subsequent path analyses.

Differences across sexual orientation groups. A one-way MANOVA was conducted to compare group means by sexual orientation on the predictor, mediator, and outcome variables. Results are displayed in Table 5. Participants were grouped into three categories: participants who identified their sexual orientation only as bisexual (n = 107), participants who identified their sexual orientation only as another multisexual orientation (e.g., pansexual or queer; n = 26), and participants who identified their sexual orientation as both bisexual and another multisexual identity (n = 61). There was no significant difference between groups in anti-bisexual experiences, sexist experiences, social support, PTSD symptoms, or alcohol use. Consequently, sexual orientation was not included as a covariate in further analyses, and post-hoc analyses were not conducted to measure differences between groups.

Three-Path Mediation Models

To measure the direct and indirect relationships between study variables, path analyses were conducted. Given the multiple mediating relationships identified in the hypotheses, path analysis was determined to be the optimal method for measuring indirect effects. To test the models, path analyses were conducted using the software Mplus version 8.1.

Due to issues with multicollinearity (correlation of r = .547 between anti-bisexual experiences and sexist experiences), separate three-path models were analyzed for the predictors, as shown in Figures 1 and 2. Missing data for study measures were handled using full information maximum likelihood.

For both three-path models, inclusion of gender identity (i.e., cisgender versus transgender participants) as a binary covariate led to model non-identification, as

indicated by a non-positive definite first-order derivative product matrix. This form of model non-identification is common with the inclusion of a binary predictor in path analysis, given the relationship between mean and variance for binary predictors: variance = mean * (1 – mean) (e.g., Lunney, 1970).To address this issue, labels and model constraints were created to specify the association between the mean and variance of the binary covariate (i.e., gender identity). The model coefficients of the original and restricted/constrained path models were compared, and no difference was found, allowing for interpretation of the original models despite the non-identification error message. Therefore, the model was run including the binary covariate and the following results include interpretation of path models controlling for gender identity.

Anti-bisexual experiences. The model tested for Figure 1 included anti-bisexual experiences as the predictor variable, social support and PTSD symptoms as the mediating variables, and alcohol use as the criterion variable. An unrestricted model was run. The saturated model had perfect model fit; thus, model fit statistics are not reported. Full-information maximum likelihood was utilized, leading to a sample of $N = 253$ for path analysis.

Model coefficients for the unrestricted model are displayed in Table 6. The relationship between social support and anti-bisexual experiences was found to not be significant. The relationship between PTSD symptoms and anti-bisexual experiences was found to be significant (coefficient = .406, $SE = .056$, $p = .000$) as well as the relationship between PTSD symptoms and social support (coefficient = -.235, $SE = .058$, $p = .000$). The relationship between alcohol use and anti-bisexual experiences, alcohol use and social support, and alcohol use and PTSD were found to not be significant. For indirect

effects, the relationship between anti-bisexual experiences through social support and PTSD symptoms in serial (i.e., the three-path relationship) was found to not be significant. The indirect effect of social support on alcohol use through PTSD symptomswas found to not be significant. The indirect effect of anti-bisexual experiences on PTSD symptoms through social support was found to not be significant.

Sexist experiences. The model tested for Figure 2 included sexist experiences as the predictor variable, social support and PTSD symptoms as the mediators, and alcohol use as the criterion variable. An unrestricted model was analyzed. The saturated model had perfect model fit; thus, model fit statistics are not reported. Full-information maximum likelihood was utilized, leading to a sample of $N = 253$ for path analysis.

Standardized model coefficients for the unrestricted model are displayed in Table 7. The relationship between social support and sexist experiences was found to be not significant. The relationship between PTSD symptoms and sexist experiences was significant (coefficient = .448, $SE = .056$, $p = .000$). In addition, the relationship between PTSD symptoms and social support was significant (coefficient = -.217, $SE = .056$, $p = .000$). The relationship between alcohol use and sexist experiences was significant (coefficient = .182, $SE = .079$, $p < .05$). The relationship between alcohol use and PTSD symptoms, as well as the relationship between alcohol use and social support, were found to not be significant. For indirect effects, the relationship between sexist experiences and alcohol use through social support and PTSD symptoms in serial (i.e., the three-path relationship) was found to not be significant. The indirect effect of social support on alcohol use through PTSD symptoms was found to not be significant. The indirect effect

of sexist experiences on PTSD symptoms through social support was found to not be significant.

Chapter V

Discussion

The current study examined the relationships between discrimination experiences (i.e., anti-bisexual and sexist experiences), social support, PTSD symptoms, and alcohol use in a sample of bisexual women. Previous studies have investigated some connections between these constructs and have found support for a number of relationships between these variables in isolation. For example, a relationship has been found between discrimination experiences (both anti-bisexual and sexist experiences) and PTSD symptoms (Arnett, 2016; Szymanski & Balsam, 2011). In addition, PTSD and social support significantly relate to one another for trauma-exposed individuals (e.g., Dar, Iqbal, Prakash, & Paul, 2018; Dworkin, Ojalehto, Bedard-Gilligan, Cadigan, & Kaysen, 2018; Stanley et al., 2018). Further, a relationship exists between anti-bisexual/sexist experiences of discrimination and alcohol use (Molina et al., 2015; Zucker & Landry, 2007), as well as between PTSD symptoms and alcohol use (Banerjee et al., 2018). Additionally, current literature indicates disparities in social support and alcohol use between bisexual individuals and peers of other sexual orientations. Bisexual people report decreased social support compared to heterosexual or lesbian and gay peers (Rimes et al., 2018), and bisexual women report greater alcohol use than heterosexual or lesbian peers (Veldhuis et al., 2017). However, a gap exists in determining the directionality, order, and significance of these relationships in a sample of bisexual women.

The goal of the present study was to measure the relationship between bisexual women's reported discrimination experiences (i.e., anti-bisexual and sexist experiences), social support, PTSD symptoms, and alcohol use. Using anti-bisexual experiences and sexist experiences as predictors, 3-path models were analyzed to assess the indirect

effects between anti-bisexual/sexist experiences, social support, PTSD symptoms, and alcohol use, respectively. Anti-bisexual experiences were hypothesized to have a negative relationship with social support, a positive relationship with PTSD symptoms, and a positive relationship with alcohol use. In parallel, sexist experiences were hypothesized to have a negative relationship with social support, a positive relationship with PTSD symptoms, and a positive relationship with alcohol use. For both models, social support was hypothesized to negatively relate to PTSD symptoms and alcohol use, and PTSD symptoms were hypothesized to positively relate to alcohol use. Finally, indirect relationships were hypothesized for both mediating models. For anti-bisexual experiences, it was hypothesized that a greater report of anti-bisexual experiences would be related to lower levels of social support, which would consequently relate to greater alcohol use frequency. Next, it was hypothesized that greater anti-bisexual experiences would lead to increased PTSD symptoms, which would subsequently relate to greater alcohol use frequency. Last, a three-path relationship was hypothesized, such that greater anti-bisexual experiences lead to lower levels of social support, leading further to an increase in PTSD symptoms and subsequently greater alcohol use frequency.

These relationships were similarly hypothesized using sexist experiences as a predictor variable. Sexist experiences were hypothesized to lead to lower levels of social support, which would then relate to greater frequency of alcohol use. Second, an increase in sexist experiences would lead to increased PTSD symptoms, which subsequently would relate to greater frequency of alcohol use. Last, greater sexist experiences would lead to lower levels of social support, leading to an increase in PTSD symptoms and greater alcohol use frequency.

Summary of Findings

According to the bivariate relationships, the predictors of the current study (i.e., anti-bisexual experiences and sexist experiences) were significantly, positively related to one another. Pearson's *r* indicated that approximately 30% of the variance in anti-bisexual experiences can be explained by sexist experiences, and vice versa. This finding supports previous conceptualizations of prejudice and oppression as connected, or intersectional (Crenshaw, 1991). Bisexual women who report greater experiences of anti-bisexual prejudice, in turn, may be more likely to experience sexism in their social environments. Further, it is possible that acts of prejudice targeting a person's gender or sexual orientation are linked. For example, sexist experiences involving attitudes about women as being inferior to men may be predicated upon societal expectations for individuals that dictate binary conceptualizations of gender and restrictive conceptualizations of sexual orientation (i.e., a person can only be either a man or a woman and only attracted to the "opposite" gender).

According to the bivariate relationships and model parameters, social support was found to not be significantly related to either predictor (i.e., anti-bisexual experiences and sexist experiences). This finding suggests that neither anti-bisexual experiences, nor sexist experiences, relate directly to perceived social support. A lack of significant findings may indicate that social support is not implicated in the relationship between experiences of prejudice and adverse outcomes.

However, as participants reported decreased social support, PTSD symptoms were found to increase, both at the bivariate level and in both path model analyses. Therefore, while social support may not directly relate to experiences of prejudice, this

psychological construct appears important in predicting bisexual women's symptoms of posttraumatic stress. Given the cross-sectional nature of the data, it is possible that, among bisexual women, social support leads to increased PTSD symptoms or vice-versa. Additionally, it is possible that the relationship between social support and PTSD symptoms may function bidirectionally. Lower levels of perceived social support may lead to increased PTSD symptoms, which in turn leads to lower levels of social support. This longitudinal relationship is supported by findings from populations with high trauma exposure, including veterans and sexual assault survivors (Benotsch et al., 2000; Ullman & Peter-Hagene, 2016). Of note is the concept of *loss spiral*, or a longitudinal impact of symptoms of PTSD on social support that further exacerbates PTSD symptomatology (Hobfoll, 1989). This conceptualization of the relationship between social support and PTSD symptoms appears to best explain the relationship found in the current study. Similar to prior empirical study of the outcomes and impact of PTSD, bisexual women with symptoms of posttraumatic stress may experience decreased relational satisfaction that leads to a worsening of symptoms.

Further, PTSD symptoms were significantly positively correlated with both predictors (i.e., anti-bisexual and sexist experiences) in both bivariate correlations and path model analyses. Approximately 18% of the variance in PTSD symptoms could be explained by anti-bisexual experiences, with 23.5% of the variance in PTSD symptoms being explained by sexist experiences. Given the correlations between these experiences of prejudice, these percentages are not additive; however, these estimates support a significant link between experiences of prejudice and trauma-related sequelae for bisexual women. It is reasonable to infer that these experiences of prejudice may serve as

traumatic events in themselves or are reminders of past traumatic events that lead to a greater likelihood of PTSD symptom presentation or recurrence.

For the relationship between anti-bisexual experiences and PTSD symptoms, it appears likely that an individual reporting anti-bisexual prejudice is more likely to report symptoms of posttraumatic stress. Recent media coverage of violence against sexual minority women (Mezzofioere, 2019) and threats calling for "execution" of LGBTQ people (Ellis & Watts, 2019) highlight the continued prevalence of threats of violence targeting all individuals with diverse sexual orientations. The significant relationship between anti-bisexual experiences and reported PTSD symptoms provides empirical support for these recent anecdotal experiences. Bisexual women who experience sexual orientation-based prejudice are in turn more likely to report PTSD symptoms, which could include hypervigilance, maladaptive cognitions related to traumatic events, or recurring memories of traumatic events.

In parallel, results indicated a significant, positive relationship between sexist experiences and PTSD symptoms. The relationship between sexist experiences and PTSD symptoms in the current study is supported by previous empirical work with women of other sexual orientations (Dworkin, Gilmore, et al., 2018; Szymanski & Balsam, 2011). The current study provides evidence that bisexual women who experience higher levels of sexist experiences are more likely to report symptoms of PTSD. Consequently, bisexual women may experience forms of gender-based prejudice that trigger memories of traumatic experiences related to past violence. According to the Rape, Abuse, and Incest National Network (RAINN, 2019), 1 in 6 women have been sexually assaulted in their lifetime, with 54% of sexual assault victims being between the ages of 18 and 34.

This information may be particularly relevant for bisexual women of younger age cohorts, such as the participants of the current study.

Alcohol use was found to have a significant, positive relationship with sexist experiences but did not have a significant relationship with anti-bisexual experiences, social support, or PTSD symptoms. The lack of a significant relationship in the current study between anti-bisexual experiences and alcohol use conflicts with findings from prior investigation (Molina et al., 2015; Veldhuis et al., 2017). Further, the results of the current study contradict previous findings of a link between PTSD symptoms and alcohol use for individuals with trauma exposure (Debell et al., 2014; Hawn et al., 2018). Using the correction for attenuation, it can be assumed that the findings of the current study indicate a potential difference between bisexual women and trauma survivors of other genders or sexual orientations; for example, the relationship between PTSD symptoms and alcohol use yielded an attenuated coefficient of 0.042 (original correlation 0.034), indicating a lack of correlation even when correcting for measurement error.

MANOVA analyses indicated significant differences in reported symptoms of PTSD between transgender and cisgender participants; that is, transgender women in the sample reported higher PTSD symptoms than cisgender women. This finding is supported by research indicating a high frequency of prejudice and violence specifically targeting transgender women, including a higher risk for sexual violence for transgender and gender non-conforming individuals than those who are cisgender or gender conforming (RAINN, 2019). In addition, there was a near-significant difference between transgender and cisgender participants in reported sexist experiences and alcohol use.

These results suggest that participants who experience further marginalization based on gender identity may experience higher levels of PTSD symptoms.

In contrast, participants' scores on the predictor, mediator, and outcome variables did not differ based on race/ethnicity, when comparing White participants to participants of color. Prior research indicates a relationship between race-related prejudice and PTSD symptoms (Carter, 2007; Chou, Asnaani, & Hofmann, 2012). As a result, the lack of significant difference in the current study contradicts prior empirical work; however, the limited sample size and racial homogeneity of the sample may be a contributing factor for this result. Similarly, the predictor, mediator, and outcome variables did not differ based on participants' reported sexual orientation. Participants reporting their sexual orientation as being only bisexual reported similar values for study variables compared to individuals who identified with another sexual orientation or with multiple sexual orientations. As a result, participants' conceptualization of their sexual orientation did not lead to differing levels of anti-bisexual experiences, sexist experiences, social support, PTSD symptoms, or alcohol use.

Indirect relationships between the predictors, mediators, and outcome variable were found to not be significant. As a result, while many of the relationships found in Figures 1 and 2 were supported, there was no evidence for a sequential path between predictor, mediator, and outcome variables. This finding contradicts conceptualizations of psychosocial mediators as indicated by Hatzenbuehler (2009). The current research with a bisexual-only sample of women did not support Hatzenbuehler's conceptualization of psychosocial mediators in the relationship between minority stress and mental health/behavioral outcomes. It is uncertain if the lack of significant findings occurs in

isolation in this sample, or if Hatzenbuehler's model does not apply to all bisexual women.

Limitations

The present study uniquely contributed to current empirical work by modeling the relationships between prejudice experiences and psychosocial outcomes in a sample of bisexual women. However, the study is limited by a few factors. First, participants were recruited through convenience sampling via internet advertisement. It is possible that individuals with limited internet access or limited connection to resources for bisexual women may not have been able to participate in the study. Furthermore, participants questioning their sexual orientation or participants who feel uncomfortable disclosing their sexual orientation may have chosen not to participate in the current study. Additionally, participant demographic statistics indicate homogeneity that may limit the generalizability of study findings. The majority of the sample identified as White (75.4%, n = 193), and the mean age of the sample skewed young (M = 23.4, SD = 4.32). It is unknown if study results would fully generalize to bisexual women of color and/or women of varying age cohorts.

In a similar vein, given the goal of the current study to measure potentially uncomfortable experiences and symptoms related to adverse events, the study is limited by the possibility of attrition. It is possible that individuals experiencing significant acts of prejudice or trauma may have opted out of the study before or during completion. Research indicates that individuals with greater symptom severity are more likely to terminate research participation early (Lamers et al., 2012). As a result, bisexual women who have experienced significantly distressing experiences of sexism, anti-bisexual

prejudice, or PTSD symptoms may have opted out of the study before or during participation. Study results may be limited by these potential participants opting out of the study. Indeed, the potentially stressful nature of the study may be a contributing factor to missing data percentages found for study variables.

In addition, a few issues with study design limit the applicability of study results. First, when providing participants with a measure of PTSD symptoms, participants were not asked to specify a traumatic event that connected with their reported symptoms (i.e., a Criterion A event). As a result, participants may have reported PTSD symptoms related to events outside of the purpose of the intended study (i.e., anti-bisexual and/or sexist experiences). Therefore, participants' reported PTSD symptoms may be better explained by traumatic events that are separate from experiences of prejudice or discrimination, and not captured in the current study. Second, the measurement of alcohol use through the AUDIT-C serves as a limitation for the present study and may explain the lack of significant findings in comparison to prior studies. Given the empirical support for the relationship between alcohol use and discrimination experiences (Molina et al., 2015; Veldhuis et al., 2017; Zucker & Landry, 2007), alcohol use was expected to relate to anti-bisexual and sexist discrimination experiences for the current study; however, these relationships were found to not be significant. Though the AUDIT-C has demonstrated sufficient reliability and validity in prior inquiry (e.g., Dawson, Grant, Stinson, & Zhou, 2005), the use of a three-item measure for a relational path model may account for the lack of significant findings in the current study. With greater specification in measurement, results may have supported study hypotheses relating to alcohol use frequency as a criterion variable.

A final measurement limitation is the suboptimal level of power for the current study. Post-hoc Monte Carlo simulations were used to estimate the power of each model (Thoemmes, MacKinnon, & Reiser, 2010). For the model with anti-bisexual experiences as a predictor (Figure 1), the power for to detect direct and indirect effects was found to be suboptimal (0.592 and 0.1, respectively). The model with sexist experiences (Figure 2) was found to have adequate power to detect the direct effect (1.000); however, the power for total indirect effects was suboptimal (0.15).While a number of hypotheses regarding direct relationships were supported, none of the hypotheses regarding indirect effects were found to be significant. It is possible that the low level of power contributed to the lack of significant findings for indirect effects. With increased power (e.g., through recruitment of additional participants), results nearing significance may have supported the alternative hypotheses of the current study.,

Directions for Future Research

While the present study uniquely contributes to the small research base examining bisexual women's experiences of prejudice and consequent psychosocial sequelae, further research is needed to better understand bisexual women as a population. Results of the current study highlighted the importance of assessing bisexual women's experiences of gender- and sexual-orientation-based prejudice and subsequent psychological and behavioral outcomes. For example, the current study found a significant link between sexist experiences and alcohol use, which is supported by prior work with women of other sexual orientations; however, alcohol use was found to not relate to anti-bisexual experiences, which contradicts empirical literature relating heterosexism to alcohol use (Molina et al., 2015; Veldhuis et al., 2017).

The current study found a significant, positive relationship between anti-bisexual experiences and sexist experiences as predictor variables. This finding provides further support for the intersectional conceptualization of prejudice (Crenshaw, 1991). Significant differences in PTSD symptoms between transgender and cisgender participants provide further support for this conceptualization of intersectional prejudice. Therefore, it would be beneficial for future researchers to assess the relationship between the prejudice experiences measured in the current study and other forms of prejudice. For example, it can be hypothesized that for transgender bisexual women, a positive relationship exists between sexist experiences, anti-bisexual experiences, and anti-transgender experiences. In turn, further inquiry into intersecting forms of marginalization would provide better understanding of interconnected themes between these forms of prejudice, though this may be best captured qualitatively.

On the other hand, social support was found to have no correlation to either anti-bisexual or sexist experiences. In addition, social support did not mediate the relationship between prejudice experiences and PTSD symptoms. Few studies have been conducted that assess the role of social support as a mediator between predictors of minority distress and psychological distress, with a study of bisexual women reporting similar findings to that of the current study (Sigurvinsdottir & Ullman, 2016). Further inquiry may better explain the lack of significant relationship between social support and prejudice experiences. In the current study social support was measured as a global construct, as opposed to assessing specific relationships (e.g., romantic or family relationships). Prior inquiry has determined that various types of social support have varying impacts on well-being for sexual minority individuals, including sexual minority women (e.g., Beals,

Peplau, & Gable, 2009; Burton, Bonanno, & Hatzenbuehler, 2014; Molina et al., 2015). Therefore, inquiry regarding relationship quality and outcomes related to experiences of prejudice are needed. It is possible that bisexual women's social support network consists of both affirming and unsupportive individuals, which could be validated by studies with additional measures of relational constructs and support networks.

Similarly, the significant relationships between both predictors and PTSD symptoms indicates a need for further investigation to understand the antecedents and mediating mechanisms of bisexual women's PTSD symptoms. To address the limitation of the current study in Criterion A measurement, future inquiry would benefit by measuring the specific impact of gender and sexual-orientation based violence on bisexual women's PTSD symptoms. Subsequently, future research would benefit from longitudinal approaches that further probe the reported bidirectional relationship between social support and PTSD symptoms for bisexual women. Though social support was found to not relate to experiences of either anti-bisexual or sexist prejudice, a significant negative relationship emerged between social support and PTSD symptoms, which may be bidirectional. Given the use of cross-sectional data in the current study, it is unknown if the conceptualization of social support and PTSD symptoms as a "loss spiral" applies to the relational experiences of bisexual women with PTSD. While correlational study would not prove causality between these psychosocial variables, longitudinal findings could provide support for a bidirectional conceptualization of social support and PTSD symptoms for bisexual women.

Results indicated a significant relationship between sexist experiences and alcohol use, but no relationship was found between anti-bisexual experiences and alcohol use. It

is possible that bisexual women utilize different coping strategies to manage varying forms of prejudice-related stress. Alternatively, the limited variability in participant responses due to the three-item AUDIT-C as a measure for alcohol use in the present study may best explain this finding. As a result, future research would benefit by utilizing more thorough, structured assessment of alcohol use. In addition, the present study did not assess bisexual women's reported use of other substances. Previous research has indicated a significantly greater use of substances such as marijuana for bisexual women compared to both heterosexual and lesbian peers (Trocki, Drabble, & Midanik, 2009), but is unknown if this use is correlated with prejudice experiences. Future research addressing this gap would provide new knowledge about bisexual women's substance use and potential methods for intervention.

At the present time, the sequential relationship between prejudice experiences, social support, PTSD symptoms, and alcohol use is unknown. The current study found no significant indirect effects; that is, neither social support nor PTSD symptoms served as mediators for the associations between prejudice experiences and alcohol use displayed in Figures 1 and 2. These hypothesized mediating relationships contrast a number of findings in minority stress literature that suggest a mediating relationship between minority stress, psychosocial variables, and adverse outcomes (e.g., Hatzenbuehler, 2009). Future inquiry could address the lack of significant findings in a few ways. It could be helpful to determine if other psychological mediators in Hatzenbuehler's model (2009), such as self-esteem or coping strategies, are more significant mediators of the relationship between prejudice experiences and PTSD symptoms or alcohol use. Additionally, assessment of other adverse outcomes, such as global measures of

psychological distress, may produce findings in line with Hatzenbuehler's model. Given the limited number of empirical studies with bisexual women participants, the opportunity for future inquiry with additional psychosocial variables is substantial.

The findings of the current study highlight the unique identity challenges for bisexual women including gender- and sexual-orientation-based prejudice, but a gap exists in determining the relationship between internalized prejudice and psychological distress. The current study measured the relationship between overt anti-bisexual experiences and psychosocial outcomes, but it is unknown if internalized forms of oppression may better explain the known disparities in well-being between bisexual women and women of other sexual orientations. Future investigation may benefit from examining more of these internalized (i.e., proximal) forms of minority stress than external (i.e., distal) forms, as these may best explain disparities in bisexual women's' well-being. For example, it is possible that internalized binegativity or identity concealment (i.e., hiding one's sexual orientation) may be better predictors of social support and alcohol use than anti-bisexual experiences.

Finally, research benefiting diverse bisexual women, including bisexual women of color and transgender bisexual women, is of significant importance for future inquiry. Transgender women in the sample reported significantly greater PTSD symptoms than cisgender women. Given the high reported rates of violence against transgender women, future work should assess the relationship between prejudice experiences and psychological outcomes for transgender women. It seems likely that experiences of anti-transgender prejudice may similarly relate to anti-bisexual experiences, sexist experiences, and PTSD symptoms. These relationships may provide insight into a

number of reported disparities for transgender individuals, including increased rates of anxiety, depression, and suicidality (e.g., Adams, Hitomi, & Moody, 2017; Bouman et al., 2017; Fredriksen-Goldsen et al., 2014). Conversely, it was found that participants in the current study did not differ on the predictor, mediator, or outcome variables based on race/ethnicity, when comparing participants of color and White participants. Given the inconsistency of this finding with other empirical work, future inquiry would benefit from further comparisons of the experiences of bisexual women of color and White bisexual women, as it is likely that race and ethnicity play a key role in both the frequency of experiencing prejudice and the manifestation of distress from these adverse experiences.

Clinical and Training Implications

The findings of the current study provide not only advances in understanding bisexual women's experiences of prejudice, but also garner insight into implications for clinical practice, such as affirmative care for bisexual women and deeper understanding of the relationship between various forms of prejudice against marginalized individuals.Chin (2013), a poet and social justice activist, is credited for the phrase, "All oppression is connected." This statement highlights a number of relationships from the current study that apply to clinical practice. The present study found a significant relationship between anti-bisexual and sexist experiences. In addition, results indicated that bisexual women of diverse gender identity and expression may experience further marginalization and adverse outcomes related to prejudice and stigma. Thus, it is important to note that prejudice based on sexual orientation, gender, and gender identity may be similarly rooted and likely connect to other forms of prejudice and victimization

that were not addressed in the present study, such as ageism, racism, or classism. Clinicians would be advised to utilize this interconnected view of oppression and marginalization in their clinical practice. Through understanding the origins of oppression, clinicians may enhance their conceptualization of distress for clients with diverse identities. In turn, clients may be better able to gain insight regarding the etiology of prejudice-related distress as being rooted in social systems of power, which would facilitate novel exploration for empowerment and ways of understanding adverse experiences of prejudice.

The significant bivariate relationship between anti-bisexual and sexist experiences provides insight into the relationship between these convergent forms of discrimination that are additionally relevant for practice and clinical training. Findings from the current study indicated that bisexual women who experience sexist discrimination in their environment are similarly more likely to experience anti-bisexual discrimination. As a result, bisexual women clients who report experiences of one form of prejudice may in turn experience the other, or both. Clinicians would benefit from exploration of the association between prejudice experiences with clients. In addition, it is important that graduate programs educate trainees on the commonalities between sexist and anti-bisexual experiences, specifically. As these types of discrimination appear rooted in implicit devaluing of women and femininity, trainees would benefit from an understanding of how diverse identities intersect, and the historical roots of sexism and heterosexism in clients' social environment.

Further, the current study provides further support for a conceptualization of sexual orientation-based stigmatization as inherently traumatic. Clinicians working with

lesbian, gay, and bisexual individuals would benefit from a conceptualization of this stigma as a "trigger" for past traumatic experiences for LGB clients. This is particularly relevant for LGB individuals who live in unsupportive climates, such as LGB clients with rejecting family structures or those who live in states with anti-LGB legislative policies. These forms of discrimination not only are restrictive, but also may be harbingers of violence for LGB people. This is supported by broader work indicating greater bullying and victimization of LGB high school students after the passage of anti-LGB legislation in California (known as Proposition 8; Hatzenbuehler, Shen, Vandewater, & Russell, 2019). Clinicians providing therapy to LGB individuals would benefit from Socratic exploration of these prejudice-based events, as hypervigilance surrounding LGB discrimination may originate from legitimate concerns about sexual-orientation-based violence.

Consequently, the current study supports these broader findings regarding LGB individuals' traumatic victimization with a sample of bisexual women. The significant relationships between anti-bisexual experiences and sexist experiences with PTSD symptoms indicates a need for clinicians working with bisexual women in practice to be aware that these experiences of prejudice may be the etiology for, or exacerbate, clients' reported symptoms of PTSD. While the current study did not assess gender- or sexual-orientation-based violence as Criterion A traumatic events, the connection between prejudice experiences and PTSD symptoms is substantial. Further, these findings highlight the need for potential multicultural adaptations for evidence-based PTSD treatments. To date, current "gold-standard" treatments for symptoms of PTSD have not been validated in randomized controlled trials with women of diverse sexual orientations.

As a result, it is unknown if evidence-based treatment for PTSD, such as Cognitive Processing Therapy and Prolonged Exposure, are of comparable efficacy for bisexual women compared to women of other sexual orientations. Clinicians are advised to tailor these interventions to suit the specific needs of bisexual women in their practice.

Further, the current study supported previous empirical work indicating a negative relationship between social support and PTSD symptoms. As a result, bisexual women who present with symptoms of posttraumatic stress may also report relational difficulties with peers, family members, or romantic partners. Though the current study was nonexperimental in design, it is possible that interventions addressing bisexual womens' PTSD symptoms may alleviate problems with social support, and vice-versa.

In a similar vein, findings from the current study provide avenues for tailoring additional modalities of treatment (i.e., couples and group therapy) to the needs of bisexual women clients. Of note, approximately 30% of the participants in the study identified as being in a relationship with a male partner. These participants may "pass," or appear heterosexual. The implications for clinical practice are apparent, as bisexual women's sexual orientation may be overlooked or minimized by romantic partners, close others, or even therapists. It is recommended that clinicians include assessment of sexual orientation during intake, such as through initial paperwork or structured interview. This may be particularly important for couples counseling, where clients may be assumed to only be attracted to individuals who are of the same gender of their partner. In regard to the variables of the current study, bisexual women seeking treatment for symptoms of PTSD may benefit from couples counseling or group therapy, given the established link between social support and PTSD symptoms.

Summary and Conclusions

The purpose of the current study was to examine the relationship between experiences of discrimination, social support, PTSD symptoms, and alcohol use in a sample of bisexual women. Results suggested significant bivariate relationships between both anti-bisexual and sexist experiences, as well as between these experiences of prejudice and PTSD symptoms. Social support and PTSD symptoms were found to be related at the bivariate level. Further, alcohol use was found to significantly relate to sexist experiences. Path analyses supported these bivariate findings; however, indirect relationships between the predictors, mediators, and outcome variable were found to not be significant.

Future research should continue to examine the antecedents and mediating factors of bisexual women's psychological distress and substance use. Research on bisexual women as a population is limited; as such, researchers should further probe the internalized components of biphobia and anti-bisexual prejudice that may impact bisexual women's well-being. Information gained from the current study and future inquiry will facilitate clinicians in providing affirmative care for bisexual women in various modalities of treatment. Clinicians can best serve clients who identify as bisexual women through providing psychological services that are trauma-informed and view bisexual women's experiences of discrimination as complex, interconnected, and rooted in violence and stigmatization. Similarly, graduate programs would benefit from training therapists who are educated about the shared origin of prejudice relating to gender and sexual orientation. Affirmative, culturally-informed care is particularly of need for

bisexual women clients with intersecting diverse identities, such as bisexual women who identify as transgender or gender non-conforming.

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Appendix A:

Figures and Tables

Figure 1. Hypothesized three-path mediation model in which social support and posttraumatic stress sequentially mediate the relationships between anti-bisexual discrimination experiences and alcohol use.

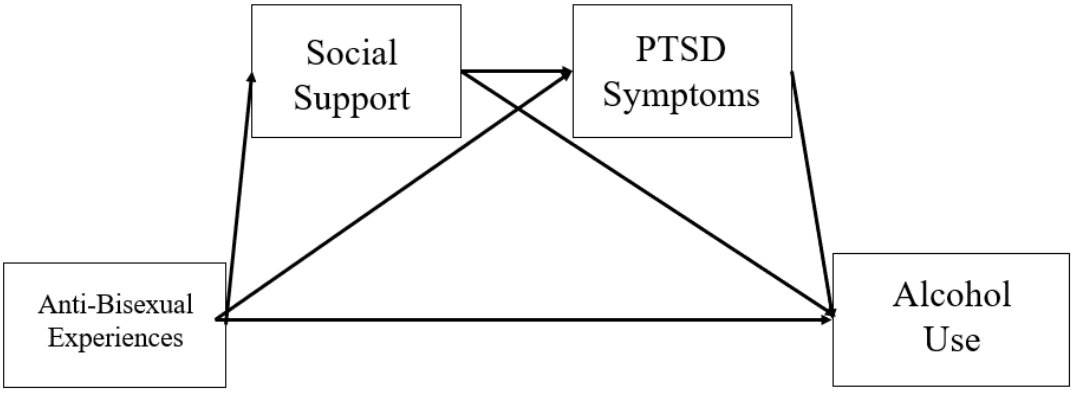

Figure 2. Hypothesized three-path mediation model in which social support and posttraumatic stress sequentially mediate the relationships between sexist discrimination experiences and alcohol use.

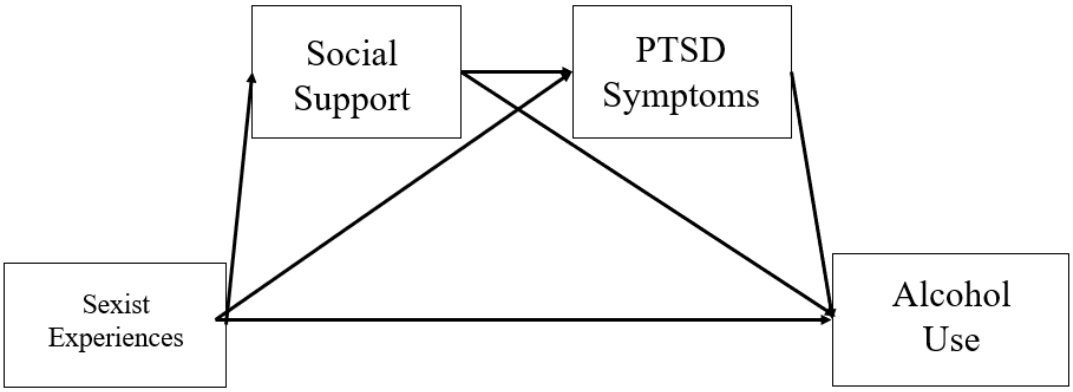

Table 1

Demographic Characteristics (N = 256)

Variable	*n*	%
Gender Identity*		
2-spirited	1	0.39
Agender	10	3.91
Bigender	1	0.39
Female	242	94.53
Genderfluid	25	9.77
Genderqueer	23	8.98
Trans*	5	1.95
Cisgender	114	44.53
Race/Ethnicity		
White	193	75.39
Latinx	14	5.47
Black	9	3.52
Asian	13	5.08
Multiracial	22	8.59
Other	5	1.95
Sexual Orientation*		
2-spirited	1	0.39
Asexual	14	5.47
Biaffectionate	4	1.56
Bisensual	7	2.73
Bisexual (only)	148	57.81
Bisexual (and 1+ other identities)	74	28.91
Fluid	10	3.91
Pansexual	39	15.23
Queer	57	22.27
Questioning, or not sure	10	3.91
Other	6	2.34
Household Income		
Below $10,000	36	14.1
$10,001-$15,000	33	12.9
$15,001-$25,000	28	10.9
$25,001-$50,000	61	23.8
$50,001-$75,000	41	16.0
$75,001-$100,000	26	10.2
$100,001-$150,000	20	7.8
More than $150,000	8	3.1
Missing	3	1.2
Highest Level of Education Completed		
Less than high school diploma or its equivalent	4	1.6
Certificate of high school equivalency or GED	5	2.9

High school diploma	94	36.7
Trade certificate or diploma	10	3.9
University certificate/diploma below the bachelor's level (e.g., associate's degree)	26	10.2
Bachelor's degree (e.g., B.A. or B.S)	87	34.0
University certificate, diploma or degree at the master's level (e.g., M.B.A., M.A.)	28	10.9
University certificate, diploma or degree at the doctoral level (e.g., Ph.D., J.D., or MD)	2	0.8
Missing	0	0
Relationship Status		
Single	125	48.8
Casually dating	20	7.8
In a committed relationship	84	32.8
Multiple committed relationships	2	0.8
Married	25	9.8
Missing	0	0
Primary Partner's Gender (for *n* = 111 who were partnered)		
Woman	13	5.1
Man	83	32.4
Trans/non-binary†	12	4.7
2+ partners of different gender	3	1.2
Disability Status		
Has a disability	69	27.0
Does not have a disability	187	73.0
Missing	0	0

Note. All percentages based on denominator of 256.
*Demographic variables denoted with an asterisk include non-mutually-exclusive options, so percentages may total more than 100% and values may total more than 256.

Table 2

Bivariate Correlations and Descriptive Statistics for Study Measures

Variable	1	2	3	4	5
1. Anti-Bisexual Experiences	-				
2. Sexist Experiences	.547**	-			
3. Social Support	-.057	-.082	-		
4. PTSD Symptoms	.429**	.485**	-.254**	-	
5. Alcohol Use	.069	.139*	-.007	.034	-
Mean	2.27	2.81	3.74	2.69	0.98
SD	.84	.74	.86	.855	0.71
Range	1-5.18	1.17-4.8	1-5	1.05-4.68	0-3
Percentage Missing	15.6	15.2	13.3	12.1	12.5

Note: *$p < .05$, **$p < .01$, ***$p < .001$.

Table 3

Multiple Analysis of Variance for Race and Ethnicity (White vs. Participants of Color)

Measure	*F*	*df*	*p*	Partial η^2
Anti-bisexual Experiences	1.732	1,194	0.19	0.009
Sexist Experiences	0.67	1,194	0.414	0.003
Social Support	3.544	1,194	0.061	0.018
PTSD symptoms	0.159	1,194	0.69	0.001
Alcohol Use	0.771	1,194	0.381	0.004

Table 4

Multiple Analysis of Variance for Gender Identity (Cisgender vs. Transgender Participants)

Measure	*F*	*df*	*p*	Partial η^2
Anti-bisexual Experiences	2.141	1,194	0.15	0.011
Sexist Experiences	3.225	1,194	0.07	0.017
Social Support	0.14	1,194	0.71	0.001
PTSD symptoms	9.066	1,194	0.003	0.045
Alcohol Use	2.909	1,194	0.09	0.015

Table 5

Multiple Analysis of Variance for Sexual Orientation (Bisexual-only; Bisexual and plus; Plus-only)

Measure	*F*	*df*	*p*	Partial η^2
Anti-bisexual Experiences	0.342	2,194	0.711	0.004
Sexist Experiences	0.554	2,194	0.576	0.006
Social Support	0.651	2,194	0.523	0.007
PTSD symptoms	0.683	2,194	0.506	0.007
Alcohol Use	0.04	2,194	0.961	0

Table 6.

Standardized Model Coefficients for Figure 1

	Consequent								
	M_1 (Social Support)			M_2 (PTSD Symptoms)			Y (Alcohol Use)		
Antecedent	Coeff.	*SE*	*p*	Coeff.	*SE*	*p*	Coeff.	*SE*	*p*
X_1 (Anti-Bisexual Experiences)	-.050	.070	.474	.406	.056	.000	.058	.080	.468
M_1 (Social Support)	--	--	--	-.235	.058	.000	.013	.073	.862
M_2 (PTSD Symptoms)	--	--	--	--	--	--	.050	.083	.550

Table 7.
Standardized Model Coefficients for Figure 2

	Consequent								
	M_1 (Social Support)			M_2 (PTSD Symptoms)			Y (Alcohol Use)		
Antecedent	Coeff.	*SE*	*p*	Coeff.	*SE*	*p*	Coeff.	*SE*	*p*
X_1 (Sexist Experiences)	-.089	.070	.202	.448	.056	.000	.182	.079	.022
M_1 (Social Support)	---	---	---	-.217	.056	.000	.004	.072	.952
M_2 (PTSD Symptoms)	--	--	--	---	---	---	-.018	.084	.828