



Published in final edited form as:

Psychol Women Q. 2016 ; 40(4): 564–581. doi:10.1177/0361684316662603.

Pathways to Hazardous Drinking Among Racially and Socioeconomically Diverse Lesbian Women: Sexual Minority Stress, Rumination, Social Isolation, and Drinking to Cope

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Abstract

Lesbian women engage in more hazardous drinking than heterosexual women yet we know relatively little about what explains this disparity. In the present study, race, socioeconomic status, minority stress, general psychological processes and distress were examined as pathways to hazardous drinking among young (18-35 years) Black and non-Hispanic White lesbian women. We used the psychological mediation framework adaptation of minority stress theory and the reserve capacity model as theoretical underpinnings of the conceptual model in the current study. Self-identified lesbian participants ($N= 867$) completed a one-time online survey that assessed race, socioeconomic status, perceived sexual minority discrimination, proximal minority stress (concealment, internalized homophobia, lack of connection to lesbian community), rumination, social isolation, psychological distress, drinking to cope, and hazardous drinking. Cross-sectional results demonstrated that being Black was associated with hazardous drinking via sequential mediators of rumination, psychological distress, and drinking to cope. Socioeconomic status was associated with hazardous drinking via sequential mediators of sexual minority discrimination, proximal minority stress, rumination, social isolation, psychological distress, and drinking to cope. Understanding these pathways can aid researchers and clinicians studying and working with lesbians who are at risk for hazardous drinking.

Keywords

lesbianism; alcohol drinking patterns; social stress; stress management; sociocultural factors; socioeconomic status; racial and ethnic differences

It is well documented in both national probability samples (e.g., Drabble, Midanik, & Trocki, 2005; McCabe, Hughes, Bostwick, West, & Boyd, 2009; Wilsnack et al., 2008) and large convenience samples (e.g., Hughes, 2011; Wilsnack et al., 2008) that lesbian women experience increased risk for hazardous drinking (i.e., drinking that leads to alcohol-related problems) compared to heterosexual women. Greater alcohol use and misuse among lesbian women, compared to heterosexual women, is a consistent finding across sampling methods, sample characteristics, and research methodology. Yet, we know relatively little about what explains this increased risk among lesbian women. Consistent with the Institute of Medicine's (2011) recommendation that aspects of diversity be examined for a more complete understanding of LGBT health, the purpose of this study was to test a conceptual model of pathways to hazardous drinking among young Black and non-Hispanic White lesbians (18-35 years old) currently in a relationship with a woman. Women who were in a romantic relationship with another woman were recruited as part of a larger project that examined sexual minority stress, alcohol use, and intimate partner violence. Findings associated with intimate partner violence and discrepant alcohol use among lesbian women gleaned from this dataset have been reported elsewhere (Kelley, Lewis, & Mason, 2015; Lewis et al., 2015; Lewis, Mason, Winstead, & Kelley, 2016).

We used Hatzenbuehler's (2009) psychological mediation framework applied to Meyer's (2003) minority stress model and the reserve capacity perspective on socio-economic status (SES) to create a conceptual model for examining race and SES as contributors to hazardous alcohol use in a lesbian sample. We developed a mediational model to test whether first, socio-demographic characteristics (e.g., race, SES) are associated with sexual minority discrimination; second, whether sexual minority discrimination and SES are related to proximal minority stress (i.e., internalized homophobia, concealment, and lack of connection to the lesbian community) and general psychological processes (i.e., rumination, social isolation); and finally, whether these constructs, in addition to drinking to cope with negative affect, are associated with hazardous drinking among lesbian women (see Figure 1).

Minority Stress, Psychological Distress, and Alcohol Use

In his minority stress model, Meyer (2003) posits that stressors resulting from marginalization and stigmatized status are associated with negative mental health outcomes. Specifically, both distal (i.e., actual sexual minority discrimination and harassment) and proximal (e.g., internalized homophobia and concealment of sexual identity) are considered to be predictors of negative outcomes. Expanding on this notion, Hatzenbuehler (2009) argued that distal stigma-related stressors are related to negative mental health outcomes via a mediated path that includes both proximal minority stress, i.e., group-specific processes (e.g., internalized stigma, identity concealment) and general psychological processes (e.g., coping/emotional regulation, social/interpersonal components, cognitive factors).

Researchers have examined a variety of components of the minority stress model related to alcohol-use outcomes. For example, workplace harassment was associated with increased alcohol consumption and alcohol-related problems in a sample of lesbian/bisexual women (Nawyn, Richman, Rospenda, & Hughes, 2000). In addition, odds of past year substance-use disorder were almost 4 times greater for lesbian, gay, and bisexual (LGB) individuals who reported discrimination based on gender, sexual orientation, and race compared to those who did not report discrimination (McCabe, Bostwick, Hughes, West, & Boyd, 2010). Also, in a qualitative study, sexual minority women identified homophobia as a stressor that they associated with alcohol use; participants also noted the importance of friend, family, and community support as coping resources (Condit, Kitaji, Drabble, & Trocki, 2011).

Researchers have also identified underlying mechanisms of the association between minority stress and increased alcohol use. For example, in a cross-sectional analysis with a sample of sexual minority women, Lehavot & Simoni (2011) reported that social-psychological resources (i.e., social support and spirituality) mediated the association between sexual minority stressors (i.e., LGB victimization, internalized homophobia, and concealment of sexual identity) and both mental health problems (i.e., depression and anxiety) and substance use (i.e., alcohol, drugs, and tobacco). Also, in a large sample of college students (including ethnic minority and LGB students), Hatzenbuehler and colleagues (2011) found that discrimination was longitudinally associated with alcohol-related problems via negative affect and drinking to cope. This pathway was similar for ethnic minority and non-minority college students; the sample size did not permit comparison involving LGB and non-LGB students (Hatzenbuehler, Corbin, & Fromme, 2011).

Race, SES, and Minority Stress

While the negative impact of sexual minority stress is well substantiated and there is support for Hatzenbuehler's (2009) ideas about possible mediators, little is known about how demographic characteristics such as race and SES are associated with sexual minority stress and alcohol outcomes among lesbian women. A review of the extant literature documents the connections between sexual minority stress and alcohol outcomes, associations between race and alcohol outcomes, as well as relations between sexual minority stress and race. Below, we delineate a rationale for examining the associations between minority stress, race, and SES among lesbian women.

Race, sexual minority stress, and alcohol use

Collins (2002) has argued that Black lesbians are the ultimate threat to what is considered “normal” or “good.” Collins notes that “Black lesbians are not White, male, or heterosexual and generally are not affluent” (p. 168). In fact, in a recent meta-analysis, minority statuses of race, sex, and sexual orientation were each associated with poorer psychological well-being. Also, Black sexual minority women compared to White sexual minority women, reported more discrimination, which was then associated with poorer well-being (Calabrese, Meyer, Overstreet, Hale, & Hansen, 2015). Also, Black lesbian, gay, bisexual and transgender (LGBT) individuals may experience more psychological distress and emotional disorders (Balsam, Molina, Beadnell, Simoni, & Walters, 2011; King et al., 2008;

O'Donnell, Meyer, & Schwartz, 2011) than White LGBT individuals. If race contributes to greater sexual minority stress, and racial minority status leads to stress, which adversely affects mental and physical health (Berger & Sarnyai, 2015), then we expect race to contribute to the mediators associated with hazardous drinking.

Researchers examining the association of race and alcohol misuse have found mixed results. In samples in which sexual orientation has not been assessed or described (hereafter referred to as general population samples which are assumed to be predominantly, but not exclusively, heterosexual), odds for an alcohol use disorder were lower among Blacks compared to Whites (Gilman et al., 2008; Pacek, Malcolm, & Martins, 2012). Although disadvantaged status and increased exposure to stressors experienced by ethnic minority individuals might theoretically increase psychiatric problems, researchers have reported lower rates of internalized psychiatric disorders (e.g., depression, anxiety) among Blacks compared to Whites (e.g., Breslau et al., 2006). These unexpected patterns have been termed the “minority paradox” (Williams, 2001). Keyes and colleagues (2012) further described this paradox for alcohol misuse, noting that perceived discrimination is positively associated with alcohol consumption and problems in within group studies with Blacks (e.g., McLaughlin, Hatzenbuehler, & Keyes, 2010; Taylor & Jackson, 1990; Yen, Ragland, Birgit, & Fisher, 1999), even though between group differences suggest that race/ethnicity may protect against alcohol misuse (Keyes et al., 2012). Others have suggested that ethnic identity (i.e., a sense of pride associated with belonging to a minority group) serves as a protective factor that reduces psychiatric risk (Burnett-Zeigler, Bohnert, & Ilgen, 2013). Therefore, it is important to consider both racial/ethnic differences as well as individuals' perceptions of discrimination and stigmatization.

Although the intersection of multiple marginalized identities might suggest that lesbian women of color would experience more distress, here too findings are mixed in regard to ethnic differences in psychological distress among lesbians. For example, in one recent study African-American lesbians were more likely to report depression (based on self-report to items consistent with DSM-5 criteria) compared to Caucasians (Aranda et al., 2015). In contrast, others have reported that African-American lesbian women were less depressed compared to White lesbian women (Bostwick, Hughes, & Johnson, 2005).

In an examination of ethnicity and alcohol use and misuse among lesbian women, Hughes et al. (2006) found a mixed picture, depending on the time frame. Reporting on the past 12 months, Black lesbian women were more likely than White lesbian women to report heavy drinking, potential symptoms of alcohol dependence, and adverse alcohol-related consequences. When lifetime indicators were considered, however, the pattern reversed; Black lesbian women were less likely to report lifetime adverse alcohol-related consequences or potential alcohol dependence symptoms (Hughes et al., 2006). The authors suggested that Black women may experience more tolerant attitudes toward drinking; perhaps moderating their view of lifetime consequences, or alternatively a critical social environment for White women may support self-perceptions of more negative consequences.

SES and the reserve capacity model

Low SES may create stressful environments that are ultimately associated with negative health outcomes (Gallo & Matthews, 2003). Based on their reserve capacity model, Gallo and Matthews (2003) hypothesized that low SES leads to decreased reserve capacity, which may be conceptualized as inter- and intra-personal resources, and low reserve capacity leads to negative emotional experiences which then explain negative health behaviors. In an empirical test of the reserve capacity model among 401 women age 42-50 years old in the general population, lower SES was associated with lower reserve capacity, and in turn, lower reserve capacity was associated with negative emotions; results support the reserve capacity model (Matthews, Rääkkönen, Gallo, & Kuller, 2008).

In a meta-analysis, occupation and income were significantly related to relative risk of alcohol-related mortality for women (and men) (Probst, Roerecke, Behrendt, & Rehm, 2015). In a recent review of SES and sexual minority stress, McGarrity (2014) noted that SES has typically been relegated to a control variable/covariate in research rather than considered in terms of its potential important association with health. Further, McGarrity noted, "...SES may provide an important context for understanding the impact of these [sexual minority] stressors on [LGB] health" (p. 392). She concluded that research on SES and discrimination has yielded mixed findings with some support for the reserve capacity model. Applying the reserve capacity model to sexual minority women, we posited that lower SES would be associated with increased perceived sexual minority discrimination and decreased inter- and intra-personal resources and consequently more distress and hazardous drinking.

Little is known about the association of SES and alcohol misuse among lesbian women, although in one study less education was related to binge drinking in a sample of urban gay men and lesbians (Chappin, Tross, Sanchez, Dermatis, & Galanter, 2010). In another study of sexual minority women, however, income and education were unrelated to alcohol abuse (Lehavot & Simoni, 2011). In light of these mixed findings concerning the associations among minority identities (e.g., sexual, race), SES (e.g., education, income) and problematic outcomes (e.g., distress, alcohol misuse) we argue that there are complexities that have not yet been modeled or tested. Frequently, samples have too few sexual minority or ethnic minority participants or too few participants with both minority statuses to allow for the statistical analyses of interest. In the current study with a large sample of self-identified lesbians, we were able to examine race and SES as well as targeted psychological variables, including perceived sexual minority discrimination, in a model based on Meyer's (2003) and Hatzenbuehler's (2009) views on minority stress.

Mediating Variables: Proximal Minority Stress, Rumination, Social Isolation

Meyer (2003) distinguishes between distal stressors, such as sexual minority discrimination and victimization, and proximal stressors, such as identity concealment and self-stigmatization (i.e., internalized homophobia or internalized heterosexism). Applied to alcohol use and misuse, findings have been mixed, with most studies suggesting a positive association between internalized homophobia and alcohol misuse (Amadio, 2006; Brubaker, Garrett, & Dew, 2009; Hequembourg & Dearing, 2013; Lehavot & Simoni, 2011). In

addition to bivariate associations, social-psychological resources partially mediated the association between internalized homophobia and substance abuse (Lehavot & Simoni, 2011).

Concealment of sexual identity is another sexual minority stressor that may be related to alcohol use and associated problems. Relatively little empirical work has examined this link, although concealment was related to sexual minority women's substance abuse (including alcohol, drugs, and tobacco) via social psychological resources (Lehavot & Simoni, 2011). Also, more disclosure of sexual identity to family and peers differentiated social drinkers from binge/heavy drinkers in a sample of gay and lesbian Italian young adults (Baiocco, D'Alessio, & Laghi, 2010).

Models of ethnic and sexual minority stress include a place for psychological resources, or lack thereof, that an individual has for coping with stressors. Researchers have conceptualized rumination as a maladaptive response style that is associated with fixating on problems and negative feelings without taking action (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). In general population samples, rumination is associated with dysphoria (Nolen-Hoeksema et al., 2008) and hazardous drinking (Caselli, Bortolai, Leoni, Rovetto, & Spada, 2008). Rumination is an important mediator of the stress-negative affect association in minority individuals. Specifically, rumination mediated the positive association between sexual orientation uncertainty and depressive symptoms in LGB individuals (Borders, Guillén, & Meyer, 2014) and between perceived ethnic discrimination and psychological distress in ethnic minority individuals (Borders & Liang, 2011). Rumination also mediated the positive association between discrimination and psychological distress among LGB and African-American participants (Hatzenbuehler et al., 2009)

Another potential mediator of the minority stress-alcohol outcome association relates to social connections. Social support may serve to decrease negative health outcomes. Yet, the experiences of discrimination and stigmatization may be associated with social isolation as individuals with concealed stigmas fear rejection from others, thereby reducing the opportunity to access social support (Hatzenbuehler, 2009; Pachankis, 2007). For instance, in a daily diary study, social isolation mediated the positive association between stigma-related stress and psychological distress among LGB individuals (Hatzenbuehler et al., 2009).

Drinking to Cope with Negative Affect

Mood and anxiety disorders frequently co-occur with alcohol misuse, both in the general population (e.g., Grant et al., 2004) and among sexual minority women (Bostwick et al., 2005). The self-medication hypothesis (Khantzian, 1995) suggests that substance use is a coping strategy to reduce psychological distress. Drinking to cope is a drinking motive in which alcohol is used "to escape, avoid, or otherwise regulate negative emotions" (Cooper, Frone, Russell, & Mudar, 1995, p. 991). In a study of college students, including LGB students, discrimination was positively associated with alcohol-related problems via a sequential pathway of negative affect and coping motives (Hatzenbuehler et al., 2011). Given lesbian women's increased rates of psychological distress and alcohol use/misuse it is

important to consider the potential role that drinking to cope with negative affect serves in explaining the association between sexual minority discrimination and alcohol use outcomes.

Intersectionality

While we do not have a sample in which race, class, gender, and sexual orientation are each represented at different levels, the present data provide a somewhat rare opportunity to address multiple social statuses within a female sexual minority sample. The idea of considering multiple statuses, rather than each (e.g., race or sexual orientation or gender) separately has become increasingly valued and has been labeled intersectionality. The notion that an individual does not separate one identity (being Black) from another (being lesbian) is fundamental. The challenges for quantitative research on intersectionality, however, are complex (Bowleg, 2012; Else-Quest & Hyde, 2016). First, samples of minority groups large enough to create subsamples with sufficient power for statistical analyses are rare. Furthermore, deciding how to address issues of intersectionality are not clearly spelled out. While there is a substantial Black feminist literature in multiple disciplines exploring the intersections of race, gender, class, and/or sexual orientation, the research literature addressing this topic is sparse (Bowleg, 2008). The use of the term “intersectionality” in the research literature appears to carry a variety of meanings. According to Bowleg (2008), “it is virtually impossible, particularly in quantitative research, to ask questions about intersectionality that are not inherently additive” (p. 314). For example, we can ask: Do race and SES contribute to hazardous drinking in a sample of lesbian women? We address this question in our study. In the mediational model proposed, both race and SES are entered as initial predictors of mediators that are associated with stress, rumination, social isolation, distress, drinking to cope, and hazardous drinking. Shared variance of race and SES is removed in the structural equation model (SEM) and we can examine each independently as a contributor to hazardous drinking. However, intersectionality also conveys the idea that the combination of statuses may yield outcomes that are more than the sum of the parts and “confers a unique experience,” making “investigation of statistical interactions in quantitative intersectionality research . . . both vital and necessary” (Bowleg, p. 319). Thus, it is important to ask: Does the interaction of race and SES predict hazardous drinking above and beyond the influence of each separately; that is, does the combination of having a minority racial status and lower SES create an even greater likelihood of experiencing discrimination and/or psychological distress than is the case with these variables as individual predictors? It is important to note that the additive model explored here was not developed to answer this question. However, towards the goal of advancing the science with the data in hand, we also explored supplemental analyses to examine how this question might be addressed.

Study Aims

In the current study we tested a conceptual model of hazardous drinking among Black and non-Hispanic White lesbian women. Our model is based on Hatzenbuehler's (2009) psychological mediation framework extension of minority stress theory and the reserve capacity model. In previous studies, researchers typically control for socio-demographic

variables which may mask the important contribution of SES and race as contributors to alcohol misuse among lesbian women. In the current study, we predicted that racial minority and lower SES status would be associated with increased perceptions of sexual minority discrimination and that lower SES also would be associated with rumination and social isolation; that perceived sexual minority discrimination would be associated with proximal minority stress, which in combination with rumination and social isolation, is associated with psychological distress, drinking to cope, and hazardous drinking (see Figure 1). The test of our model fills a gap in the literature regarding potential underlying mechanisms that may explain the increased rates of hazardous drinking among lesbians.

Towards the goal of addressing intersectionality, the viability of additional exploratory models was also explored. Specifically, we used a multigroup approach to compare the model for the non-Hispanic White lesbian women to the model for the Black lesbians. We also considered, but were not able to test, a model in which an interaction term was created for race and SES.

Method

Participants and Procedure

Self-identified lesbian women ($N = 1051$), recruited from online panels established by six market research firms, completed the online survey. The online panel members were Panel members, who had been recruited to participate in online surveys in exchange for incentives were initially invited to join a panel in a variety of ways, such as ads on popular websites and e-mail or postal invitations. One firm coordinated all data collection during 2012-2013 and participants received incentives consistent with their panel. Appropriate levels of incentives were determined by each panel based on the length of the survey and estimated time of completion. Panel members redeemed points or rewards for gift cards in a variety of categories (e.g., online shopping sites, restaurants, airlines) or donate them as charitable contributions. The firm managing the data collection utilized relevant ID digital fingerprinting technology to ensure that respondents do not complete the survey more than once. The median time for survey completion was 27 minutes.

Eligible participants: 1) initially self-identified as lesbian, 2) were between 18 and 35 years of age, 3) were in a current romantic relationship with another woman for at least three months, and 4) reported physically seeing their partner at least once a month. For the current study, we included only non-Hispanic White and Black participants in order to examine the effect of race in the model. The participants who were removed included 52 Hispanic White women, 45 Hispanic women who were neither White nor Black, 69 non-Hispanic women who were neither White nor Black, and 17 women who did not report either their race, ethnicity, or both. One person was also removed because they chose “retired” for occupation. These exclusions resulted in a final $N = 867$ participants for analysis. Black and non-Hispanic White participants were compared to those panel members who identified as other races/ethnicities or who did not answer the questions about race/ethnicity; there were no significant differences on any study variables.

Participants were geographically diverse by region of the U.S.: East ($n = 219$, 25%), Midwest ($n = 220$, 25%), South ($n = 244$, 28%), West ($n = 184$, 21%), and all 50 states and the District of the Columbia were represented. The only two states that represented greater than five percent of the total sample were California (9%) and Texas (6%).

A number of quality checks were employed to substantiate the validity of the data. Any participant who completed the survey in less than 12 minutes was considered a “speeder” and removed from the dataset. Participants who displayed a predictable pattern of responding were also removed from the dataset. Finally, respondents who displayed illogical responses (i.e., responded they were a lesbian when they entered the survey, but later when asked about sexual identity endorsed another option) or who did not correctly answer questions designed to assess attention to the survey items, were also removed from the dataset. These quality checks resulted in approximately 16% ($n = 236$) of the participants of the larger original sample ($n = 1470$) obtained by the market research firm, being removed prior to delivery of the dataset to the researchers. The research was approved by a university institutional review board.

Measures

Demographic questionnaire—In the demographic questionnaire, participants provided their age, race, educational level, income, and occupation. Eighty-eight percent of the participants identified as non-Hispanic/White ($n = 758$) and 12 percent of the participants identified as Black ($n = 109$). In terms of education, a majority of the participants were college educated: associate's degree (8.7%, $n = 76$); bachelor's degree (37.7%, $n = 330$); master's degree (21.4%, $n = 187$); doctoral/professional degree (5.4%, $n = 47$). The remaining participants reported: high school graduate (5.4%, $n = 47$); some college (21.3%, $n = 186$). Two participants did not report their educational level. Mean age was 28.75 years ($SD = 4.3$ years). Participants' occupation was assessed using broad U.S. Census categories. Reported occupational categories were coded as follows: (1) unemployed/homemaker/student ($n = 196$, 23%); (2) labor ($n = 24$, 3%); (3) service ($n = 120$, 14%); (4) technical/sales/administrative ($n = 121$, 14%); (5) managerial/professional ($n = 403$, 46%).

Sexual minority discrimination—Participants responded to a single item, with face validity, that asked them to indicate how often they experienced discrimination because they were assumed to be lesbian in the past 12 months on a scale from 1 (*never*) to 5 (*very often*). This item was based on the assessment of discrimination used in the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) described by others (e.g., McCabe et al., 2010; Bostwick, Boyd, Hughes, West, & McCabe, 2014; McLaughlin et al., 2010). Although these authors administered multiple items to assess the frequency of experiencing specific types of discrimination, for numerous analyses they collapsed these individual items into a dichotomous measure of past year discrimination for lesbian, gay, and bisexual (LGB) individuals as well as ethnic minority individuals. Previous researchers who assessed sexual minority discrimination in a similar fashion found that that 31% of LGB individuals who experienced sexual minority discrimination reported past year substance-use disorder compared to 18% of those who did not report any discrimination (McCabe et al., 2010).

Lesbian Internalized Homophobia Scale Short Form (S-LIHS; Piggott, 2004)—

The 39-item S-LIHS assessed facets of proximal minority stress. We used the 16-item Public Identification as a Lesbian subscale (PIL; “It is important for me to conceal the fact that I am a lesbian from my family”) to measure concealment, the 6-item Personal Feelings About Being a Lesbian subscale (PFL; “I hate myself for being attracted to other women”) subscale to measure internalized homophobia, and the 8-item Connection to the Lesbian Community - Interaction subscale (CLC-INT; “Social situations with other lesbians make me feel uncomfortable”) to measure connection to lesbian community in terms of comfort in social situations, importance of having social support from other lesbians, and interactions with other lesbians. Higher scores represent more concealment of sexual orientation, more internalized homophobia, and less connection to the lesbian community. Piggott (2004) demonstrated good psychometric properties for the S-LIHS. The Cronbach's alphas in the current study were .90, .67, and .81 for PIL, PFL, and CLC-INT, respectively. Removing the item “I don't feel disappointment in myself for being a lesbian” from the PFL scale increased the alpha to .70. Results were identical when the item was included and removed. Thus, we did not remove the item.

Friendship Scale (FS; Hawthorne, 2006)—The FS was used to measure social isolation. The FS included six items and participants responded to items on a 5-point scale with responses ranging from 1 (*almost always*) to 5 (*not at all*) with higher scores indicating more social isolation. A sample item is, “I feel isolated from other people.” Mason and Lewis (2015) demonstrated validity of the FS with positive correlations with negative affect among lesbian and bisexual women. The Cronbach's alpha in the current study was .82.

Response Styles Questionnaire – Brooding subscale (Treyner, Gonzalez, & Nolen-Hoeksema, 2003)—Rumination was assessed with the 5-item Brooding subscale of the Responses Styles Questionnaire. Participants reported how often during the past 90 days they experienced thoughts such as, “What am I doing to deserve this?” and “Why do I always react this way?” using a 4-point scale ranging from 1 (*almost never*) to 4 (*almost always*). In a previous sample of sexual minority women, Lewis, Milletich, Derlega, & Padilla (2014) demonstrated that the Brooding subscale has adequate reliability. Also, the Brooding subscale was significantly associated with psychological distress and stigma-related stress evidencing the validity of the measure (Hatzenbuehler et al., 2009). The Cronbach's alpha in the current study was .85.

Positive and Negative Affect Schedule – Negative Affect (PANAS - NA; Watson, Clark, & Tellegen, 1988)—Five items from the PANAS- NA were selected to measure negative affect. Respondents rated the degree to which they felt distressed, upset, shamed, nervous, and afraid during the past 90 days from 1 (*very slightly/not at all*) to 5 (*extremely*). Higher scores indicated more negative affect. The PANAS has been associated with other measures of negative affect among sexual minority individuals (Lewis et al., 2014; Weiss & Hope, 2011). The Cronbach's alpha in the current study was .82.

Drinking Motives Questionnaire (DMQ; Cooper, 1994)—The 5-item DMQ – Coping subscale measured the amount of time participants drink to cope (e.g., “To cheer up when

you are in a bad mood” and “To forget about your problems.”). Participants responded to items using a scale ranging from 1 (*almost never/never*) to 5 (*all of the time*). Higher scores indicate more drinking to cope. The Coping subscale of the DMQ is associated with both heavy drinking and drinking problems (Cooper, 1994). The Cronbach's alpha in the current study was .88.

Alcohol Use Disorders Identification Test (AUDIT; Babor, Higgins-Biddle, Saunders, & Monteiro, 2001)—The AUDIT has 10-items; the first 8 items are scored 0 (*never*) to 4 (*4 or more times a week*); the last 2 items are scored 0 (*no*), 2 (*yes, but no in the last year*), or 4 (*yes, during the last year*). The AUDIT attempts to assess three components of alcohol use disorders: hazardous use (e.g., frequency), dependence symptoms (e.g., morning drinking), and harmful drinking (e.g., blackouts). Different response scales are used to assess more frequently occurring events and rare events. Because the infrequent events are particularly indicative of problematic drinking, they are also assigned more points.

A score of 6 or higher on the AUDIT has been suggested as indicative of possible problematic alcohol use (Reinert & Allen, 2007). In the current study approximately 30% of the sample screened positive for problematic alcohol use. For the SEM analyses, the AUDIT was used as a continuous variable with higher scores indicating more hazardous drinking. The AUDIT is routinely used as a continuous measure to assess alcohol-related risk (e.g., Carey, Carey, & Chandra, 2003; Gaya, Zuardi, Loueiro, & Crippa, 2009; McCambridge & Day, 2008). The continuous AUDIT score reflects a person's total level of alcohol-related risk (Babor et al., 2001). The AUDIT has been strongly associated with other measures of problematic drinking (Hays & Merz, 1995) and has adequate reliability and validity as a unidimensional instrument (Carey et al., 2003). The Cronbach's alpha for the current study was .81.

Data Analysis Strategy

In preliminary analyses, we used *t*-tests to compare Black and White women on study variables. Race was dummy coded as 0 = White and 1 = Black. Structural equation modeling (SEM) with Mplus 7.1 (Muthén & Muthén, 2013) was used to analyze the hypothesized model (see Figure 1). The data were analyzed for missing data patterns revealing 0.86% of data points as missing. Approximately 91% of respondents had complete data for all items. Missing data were handled through full information maximum-likelihood estimation. We used a two-step procedure to test the hypothesized model. We first tested a measurement model to demonstrate appropriate fit of the latent variables. After confirming the measurement model, we fit the hypothesized structural model. In the structural model, exogenous variables (race, income, education, and occupation) were allowed to freely correlate. The following model fit indices were used as guidelines in evaluating model fit: comparative fit index (CFI) .95, Tucker-Lewis index (TLI) .95, root mean square error of approximation (RMSEA) .06, and standardized root mean square residual (SRMR) .08 (Hu & Bentler, 1999). Modification indices were examined to determine paths that should be added or removed. Significance testing was done using 95% bias-corrected (BC) confidence intervals (CIs) generated from 5,000 bootstrap samples for both direct and indirect effects. If the confidence interval did not include 0, then the path was significant. Finally, we

conducted an exploratory analysis to determine whether our dataset could handle multigroup analyses to test for intersectionality. We also considered creating a multiplicative variable (Race x SES) as an alternative strategy to examining intersectionality. However, given the likely small effect associated with the interaction between race and SES (see Durand, 2013 for a discussion of why interaction effects are typically smaller than main effects) and the relatively small effects for race and SES for the current study, we concluded that power was insufficient to attempt this analysis. An interaction term is a reasonable approach to a quantitative investigation of intersectionality (Else-Quest and Hyde, 2016); however, as groups defined by multiple statuses become small, the problem of adequate statistical power to conduct these analyses will be common. Such is the case with our sample; therefore we did not test for the interaction effect.

Results

Preliminary Analyses

Comparisons of Black and White women on study variables are displayed in Table 1. Black women reported significantly lower education, income, and hazardous drinking. Black women also reported greater social isolation, rumination, and drinking to cope motives. Descriptive statistics and bivariate correlations are displayed in Table 2.

Two latent variables were constructed and a measurement model was fitted. A formative latent variable was developed for SES. A formative latent variable is created by using a weighted sum of several indicators that cause or form the construct (i.e., the indicators cause the latent construct; Coltman, Devinney, Midgley, & Venaik, 2008). Education, income, and occupation were used as formative indicators of SES. Occupation was dummy coded with unemployed/homemaker/student as the reference group, creating 4 dummy occupation indicators. A reflective latent variable was created for proximal minority stress. A reflective latent variable is an existing or underlying construct that causes the observed indicators (Coltman et al., 2008). Personal Feelings About Being a Lesbian, Public Identification as a Lesbian, and Connection to the Lesbian Community - Interaction subscales were used as reflective indicators of proximal minority stress. The measurement model demonstrated good model fit, $\chi^2(12) = 25.23, p = .01, CFI = .98, TLI = .96, RMSEA = .04,$ and $SRMR = .02$. Standardized factor loadings for the minority stress latent variable were .88, .65, and .52 for Public Identification as a Lesbian, Personal Feelings About Being a Lesbian, and Connection to the Lesbian Community - Interaction, respectively.

Main Analyses

The initial structural model had fair model fit, $\chi^2(75) = 206.96, p < .001, CFI = .94, TLI = .92, RMSEA = .05,$ and $SRMR = .04$. To improve model fit, based on the modification indices we added a path from rumination to drinking to cope ($MI = 37.58$). Adding this path improved the model fit, $\chi^2(74) = 168.34, p < .001, CFI = .96, TLI = .94, RMSEA = .04,$ and $SRMR = .03$. Examination of the modification indices also indicated a path from social isolation to drinking to cope ($MI = 10.63$). Adding this path resulted in good model fit, $\chi^2(73) = 157.81, p < .001, CFI = .96, TLI = .95, RMSEA = .04,$ and $SRMR = .03$. Adding paths from rumination and social isolation is theoretically sound as drinking to cope motives

are employed to avoid, escape, or regulate negative emotions (see review by Kuntsche, Knibbe, Gmel, & Engels, 2005), in this case, brooding and loneliness.

Our inspection of the modification indices also recommended we add a path from race to rumination ($MI = 10.02$). In our original model we hypothesized that Black race would be associated with sexual minority discrimination which would then be associated with proximal minority stress and negative coping. The path from race to sexual minority stress was not supported in the model. In the absence of this path, there is reason to consider the association of race with negative psychological outcomes (e.g., O'Donnell et al., 2011). The addition of this path resulted in excellent model fit, $\chi^2(72) = 147.63, p < .001, CFI = .97, TLI = .95, RMSEA = .04, \text{ and } SRMR = .03$. No other paths were recommended to be added. The final model explained 26% of the variance in problem alcohol use, 26% of the variance in drinking to cope, 52% of the variance in psychological distress, 18% of the variance in rumination, 19% of the variance in social isolation, 3% of the variance in proximal minority stress, and 4% of the variance in sexual minority discrimination.

BC confidence intervals are presented in Table 3 and 4 for direct and indirect effects, respectively. Black race was associated with more rumination. Lower SES was associated with greater sexual minority discrimination, rumination, and social isolation. Sexual minority discrimination was positively related to proximal minority stress, rumination, and social isolation. Proximal minority stress was positively associated with rumination and social isolation. Rumination and social isolation were positively related to psychological distress and drinking to cope and psychological distress was positively associated with drinking to cope. Drinking to cope was directly related to hazardous drinking. After taking into account all of the psychosocial variables, there was still a small, negative relation between Black race and hazardous drinking. Indirect effects revealed a significant total indirect effect from SES to hazardous drinking and Black race to hazardous drinking. Based on these indirect effects, we suggest that these psychosocial variables are mediators of associations between SES and hazardous drinking and race and hazardous drinking.

Exploratory Analysis

We explored the possibility that the model would vary for Black and White lesbian women via multigroup analysis. This approach involves examining the model separately by a grouping variable (i.e., race). Power to conduct structural equation modeling (SEM) varies greatly but typically more people are required as models get more complex (Wolf, Harrington, Clark, & Miller, 2013). Our sample size for the White group was adequate for such an approach, but the sample size for the Black group was much smaller ($n = 109$). As a result, when we attempted to run the multigroup SEM for the full model, we were not able to adequately calculate a formative latent SES variable for the Black group, which we attribute to low statistical power. In order to simplify the SES latent variable, it was necessary to remove occupation as an indicator, leaving only Income and Education as indicators of SES. Although this decision was conceptually justifiable (see Sirin, 2005), two indicators for a latent variable is less than ideal (see Weston & Gore, 2006). Moreover, use of two indicators could create a misspecified model. Consequently, the analyses below are presented with caution.

We used a chi-square difference test to test for factorial invariance across the two groups by comparing the chi-square from the model with all parameters allowed to be unequal across groups and the chi-square from the model with only the factor loadings constrained to be equal across groups. The chi-square was significant, $\chi^2(17) = 40.14, p = .001$, suggesting that allowing the path estimates to be different for Black women and White women provides a better fit to the data. We then used chi-square difference tests to compare the fully unconstrained model to a model allowing one path to be constrained at a time. At each step, if the model with the constrained path was not significantly worse than the unconstrained model, the path was constrained. If the constrained model was significantly worse than the unconstrained model, then the path was kept unconstrained. After completion of this procedure, the final model had four paths that were allowed to differ between Black women and White women including the paths from social isolation to psychological distress, psychological distress to drinking to cope, social isolation to drinking to cope, and drinking to cope to hazardous alcohol use. All other paths were constrained to equality between groups. This model did not significantly differ from the fully unconstrained model, $\chi^2(13) = 7.12, p = .90$. Social isolation was unrelated to psychological distress among Black women and positively related among White women. Social isolation was weakly related to drinking to cope among White women ($\beta = .08$) yet strongly related among Black women ($\beta = .37$). Psychological distress was positively related to drinking to cope among White women and unrelated among Black women. Drinking to cope was more strongly related to hazardous alcohol use among White women compared to Black women ($\beta = .52$ versus $.38$)

Discussion

With a sample size large enough to consider important social statuses in addition to sexual identity, we tested a model that examined the additive influence of race (i.e., Black and non-Hispanic White) and SES on perceived sexual minority discrimination, minority stress, rumination, social isolation, psychological distress, drinking to cope and hazardous drinking. Using Meyer's (2003) and Hatzenbuehler's (2009) conceptualizations of minority stress, we hypothesized that distal minority stress (perceived sexual minority discrimination) would be associated with group-specific processes (proximal sexual minority stress) and psychological processes (i.e., rumination and social isolation), and that these would be associated with negative mental health outcomes. As expected, perceived sexual minority discrimination was positively related to proximal sexual minority stress, defined as concealment, lack of connection to the lesbian community, and internalized homophobia and to social isolation and rumination. Social isolation and rumination fully mediated the relation between minority stress and psychological distress suggesting that lesbian women use these maladaptive coping strategies when they experience minority stress and these coping strategies are associated with psychological distress. Consistent with previous research (Hatzenbuehler et al., 2011), psychological distress was associated with drinking to cope. Drinking to cope represents an individual's use of alcohol to relax, forget problems, and manage feelings of nervousness or dysphoria; it is related to both heavy drinking and drinking problems (Carey & Correia, 1997; Cooper, 1994), as it was in this study.

Overall, we found strong empirical support for minority stress theory (Meyer, 2003) and Hatzenbuehler's (2009) psychological mediation framework in this sample of young adult

Black and White lesbian women. Consistent with minority stress theory, distal and proximal sexual minority stressors were associated with negative outcomes such as psychological distress and hazardous drinking, mediated by maladaptive coping. In line with Hatzenbuehler's work that focused on underlying mechanisms of these associations, perceived sexual minority discrimination was associated with hazardous drinking via the theoretically expected path of proximal minority stress, maladaptive coping, psychological distress, and drinking to cope. In addition, we found evidence that young adult women drink to cope not only with psychological distress (as expected), but also to manage other negative emotional experiences such as rumination/brooding and social isolation/loneliness.

In order to obtain a complete understanding of LGBT health, authors of the IOM (2011) report encourage consideration of multiple identities and the impact of various types of diversity (including SES and race) on health status. As these socio-demographic variables are seldom examined in models of minority stress, including them in our conceptual model represents an important contribution to the empirical literature on sexual minority stress and health outcomes among lesbian women.

It is noteworthy that SES had more links to the mediators contributing to hazardous drinking (sexual orientation distress, social isolation, rumination) than race. Matthews and Gallo (2011) mapped the pathway of low SES to poor physical health through the accumulation of stress and its associated distress. The current model leading from SES to hazardous drinking includes similar constructs. Women of lower SES status were more likely to report discrimination based on their sexual minority status. The connection between education, a component of SES, and more accepting attitudes toward same-sex relationships is well established (Ohlander, Batalova, & Treas, 2005). As others have noted, (e.g., Hatzenbuehler, 2009) distal sexual minority discrimination was linked to proximal sexual minority stress and maladaptive coping. The reserve capacity model (Gallo & Matthews, 2003) suggests that low SES environments are stressful and low SES is also associated with fewer tangible, interpersonal, and intrapersonal resources. Therefore, in our model we hypothesized that SES would be associated not only with more perceived sexual minority discrimination but also with rumination and social isolation. In support of the reserve capacity model, SES was significantly directly related to social isolation and rumination as well as indirectly related through sexual minority discrimination. Our findings indicate that consideration of both reserve capacity and minority stress are important in understanding lesbian women's hazardous alcohol use.

SES was negatively associated with sexual minority discrimination whereas race was not related to perceived sexual minority discrimination. In other words, lesbian women of higher SES reported less sexual minority discrimination. To our knowledge ours is the first study to create a composite SES variable that permits consideration of income, education, and occupation. Our findings are consistent with previous research in which income was negatively associated with discrimination among gay and bisexual men (Gamarel et al., 2012), although education was unrelated to discrimination in this sample. Previous researchers who found a positive association between perceived discrimination and income, reported that when education was controlled, income and discrimination were negatively related (Forman et al. 1997). Taken together, our findings suggest that low SES (defined in

terms of education, occupation, and income) is important in understanding lesbian's women sexual minority stress, distress, and hazardous drinking.

In regard to race, being Black in this lesbian sample was not directly related to experiences of sexual minority discrimination (which was indirectly related to hazardous drinking). It may be that these women make distinctions between sources of discrimination and do not experience their racial minority status as contributing to discrimination due to their sexual orientation. Consistent with this finding, Calabrese et al. (2015) found that Black and White lesbian women did not significantly differ in reported sexual minority discrimination. On the other hand, our single item discrimination measure may have limited our ability to capture variability in perceived discrimination, thus attenuating the association between race and sexual minority discrimination.

Although we did not find that race was directly associated with sexual minority discrimination, being Black was associated with greater rumination which was then indirectly associated with more hazardous drinking. In other words, in our sample, Black lesbians were more likely to engage in ruminative thinking which in turn was associated with emotional distress and finally associated with hazardous drinking. Our results are consistent with Hatzenbueler et al. (2009), who reported that rumination mediates the relation between discrimination and psychological distress for African Americans. It is possible that for these Black lesbian women, it is racial minority discrimination and proximal racial minority stress, not assessed in this study, which link to rumination. In a recent study with emerging adults, rumination was found to mediate the relationship between perceived racial discrimination and depressive symptoms in a sample of ethnic/minority participants but not among White participants (Miranda, Polanco-Roma, Tsypes, & Valderrama, 2013). In future research, both sexual minority and racial discrimination should be examined in exploring the stressors that affect Black lesbians.

On the other hand, in addition to all of the indirect paths between race and hazardous drinking, there is also a significant, though small, direct path between race and hazardous drinking indicating that as predicted in our model, Black lesbian women reported less hazardous drinking compared to White lesbian women. Cultural factors play a large role in drinking, and drinking norms vary widely among ethnic groups (Chartier & Caetano, 2010). Our findings are consistent with national data demonstrating that Black women are less likely than White women to be drinkers and, among drinkers, slightly less likely to be weekly or daily heavy drinkers (Chartier & Caetano, 2010). In opposition to our results, Hughes et al. (2006) found that Black lesbian women were more likely than White lesbian women to report heavy drinking, drinking consequences and symptoms of dependence. But their sample was older than ours and the direct effect of race on drinking in their analysis did not control for SES. Taken together, being Black itself may reduce the risk of hazardous drinking (cf. Chartier & Caetano, 2010), while it is possible that stressors associated with minority racial status may increase the risk of hazardous drinking. Our findings highlight the importance of considering multiple statuses in gaining a more complete understanding of alcohol use among lesbian women. While it is critical to dissociate racial status from SES in order to understand the impact of these demographic factors, it is also important to realize that being Black was negatively related to professional status, income, and education. Thus,

the negative outcomes associated with SES are also more likely to be the lived experience of Black lesbians compared to White lesbian women.

Finally, towards the goal of advancing the science examining intersectionality, we considered exploratory analyses. Else-Quest and Hyde (2015) review methods and techniques available for quantitative approaches to studying intersectionality. Our original hypotheses represent multiple main effects, or an additive approach, where we examined the contributions of race and SES to hazardous drinking in a sample of lesbian women. Although we considered examining statistical interaction between race and class, our sample size did not permit the incorporation of an interaction as an additional variable in the model. Similar problems detecting interactions have been described elsewhere (Durand, 2013).

We conducted a multigroup analysis, examining SES and the additional predictors and comparing the SEMs for Black women and White women. Doing so required simplifying the SES latent variable to include only income and education as indicators of SES; thereby limiting identification of the model. Given this limitation and the recognition that the sample size of the group of Black lesbian women is small, exploratory findings from the multigroup analysis suggesting that the overall model for Black lesbian women differed from the model for White lesbian women should be interpreted with great caution. Future research with a larger sample size is needed to understand if indeed psychological distress might be a stronger predictor of drinking to cope for the White women, and social isolation might be a stronger predictor of drinking to cope for the Black women. The difficulties faced in conducting analyses that examine the interaction of race and SES or examine and compare models between groups of Black and White lesbian women highlight the challenges associated with embarking upon quantitative intersectionality research. We recognize the importance of understanding the dynamic interplay of social statuses, such as race, gender, social class, and sexual orientation, but we must also acknowledge that the power (i.e., sample size) that is needed to make these quantitative analyses reliable is difficult to obtain.

Limitations

Although the theoretical basis for our conceptual model suggests it should apply to lesbians of various ages and relationship statuses, our participants were a young adult sample of lesbians in romantic relationships with other women (18-35 years old). Therefore, the degree to which our findings generalize to single and older lesbian women remains an empirical question. It is important in future research to include a wider age range, more varied relationship statuses, as well as race and SES, to gain a fuller picture of patterns of drinking among lesbians.

Race was studied only in terms of Black women compared to White women and we had a relatively small sample of Black lesbian women. The study did not have enough women of other ethnic groups (e.g. Hispanic or Asian) to consider these as comparison groups. Issues of sexual minority discrimination within an ethnic group as well as cultural norms concerning drinking likely affect lesbian women of other ethnicities and these groups deserve our research attention. In addition, this dataset has been used in other analyses (Kelley et al., 2015; Lewis et al., 2015; 2016) which may increase the chance of Type 1 error across studies.

We did not find that race contributed to experiences of discrimination associated with being lesbian. We did not ask about experience of discrimination based on race or SES, however. In future research this would be important to do so. There may be a cumulative effect of discrimination from multiple minority statuses that we did not capture in this study. In fact, lesbian, gay and bisexual respondents who reported both past year sexual orientation discrimination and racial discrimination were more likely to meet diagnostic criteria for a past year mental health disorder (Bostwick et al., 2014). Being Black and lesbian has been referred to as “triple jeopardy,” as a female, and a member of sexual and of racial minorities (Bowleg, Huang, Brooks, Black, & Burkholder, 2003; Greene, 1997). Consistent with this triple jeopardy view, odds of past year substance use disorders were approximately four time greater for lesbian, gay and bisexual adults who experienced three types of discrimination (sexual orientation, gender, racial) compared to those who did not report any discrimination (McCabe et al., 2010).

Authors of the IOM (2011) report on LGBT health emphasize the need for research that incorporates the diversity of sexual minority individuals and considers the additive and interactive effects of multiple identities. Our model examined the additive effects of multiple identities (i.e., racial identity, SES) on hazardous drinking but did not test for an interaction between sexual minority status and race or social class (SES). In addition, as our sample was limited to lesbian women, we could not examine intersectionality related to sexual orientation. Consideration of the interactive effects of multiple statuses is also important to increase our understanding of risk factors for hazardous drinking. Yet, as Bowleg (2012) acknowledges, studying intersectionality is fraught with many theoretical and data analytic challenges.

Our assessment of distal sexual minority stress could have been improved by using a more established measure of perceived discrimination (e.g., the Experiences of Discrimination scale; Krieger & Sidney, 1997). We intentionally assessed discrimination as a very broad perceived frequency of experience but recognize that perceptions of discrimination are not the same as actual experiences of discrimination. Moreover, specific types of distal minority stressors such as experiences of violence and harassment could have been assessed. Various aspects of discrimination experiences could also be assessed such as scope (i.e., number of types of discrimination) and number of bases of discrimination (i.e., number of statuses associated with discrimination (cf. Calabrese et al., 2015). Although they used a substantially different measure of discrimination that included frequency, scope, and number of bases, Calabrese et al. (2015) did find that frequency of self-reported experiences of discrimination was the best predictor of depression and psychological well-being.

Finally, our model was based on the mediational framework, proposed by Hatzenbuehler (2009), which asserts that “the stress associated with stigma activates several changes in general psychological processes that in turn confer risk for psychopathology” (p. 723) and that group-specific processes, or proximal stressors, may also be mediators. But Hatzenbuehler acknowledged that one might also test for “bidirectional relations between the various predictors, mediators, moderators and outcomes” (p. 723). Although we proposed and tested a mediational model, cross-sectional data do not provide a foundation for asserting that the direction of influence is always in the sequence proposed. Hazardous

drinking, for example, may contribute to psychological distress and weaken coping resources. Longitudinal research is needed to establish directionality and test for bidirectionality.

Practice Implications

Previous research demonstrates disparities in alcohol use and alcohol-related problems for lesbian women compared to heterosexual women (e.g., McCabe et al, 2009; Wilsnack et al., 2008). Increased understanding of socio-demographic factors that may confer risk for (or buffer against) hazardous drinking among lesbian women will contribute toward efforts to reduce these disparities and improve lesbian women's health. The research results remind us that lower SES, possibly through reduced resources, make lesbian women more vulnerable in terms of experiences of sexual minority discrimination and more maladaptive coping responses, which are then associated with negative psychological outcomes and finally hazardous drinking. Although Black lesbian women do not report more sexual minority discrimination, they do report greater rumination. When the efficacies of clinical interventions are studied, these data suggest that SES and race both should be taken into account. The research literature on drinking problems among lesbian women is sparse, and the literature that considers these demographic factors is even more sparse. In designing effective interventions that will reach these women, it is important to consider how differences among lesbians affect their experiences. The combination of sexual minority status, race, and lower SES may confer greater risk for alcohol misuse than either marginalized status alone.

Finally, efforts aimed at reducing discrimination and structural stigma, i.e., “societal-level conditions, cultural norms, and institutional policies that constrain the opportunities, resources, and well-being of the stigmatized” (Hatzenbuehler & Link, 2014, p. 2), are also likely to have beneficial health benefits. For example, among both men and women, social policies and attitudes related to homosexuality were related to disparities in illicit drug use (Hatzenbuehler, Jun, Corliss, & Bryn Austin, 2015). Our findings suggest that decreasing structural stigma, and hence associated discrimination, would be associated with less internalized minority stress and potentially less hazardous drinking.

Conclusions

The current study included race and SES as predictors of drinking problems among lesbian women. Both variables had significant direct and indirect effects, predicting drinking problems through distal and proximal minority stress and/or maladaptive coping. We believe that an understanding of how race and SES, in conjunction with sexual minority stress, contribute to lesbian women's hazardous drinking will give us the tools to improve access to treatment, acceptability of treatment, and treatment outcomes.

Acknowledgments

Research reported in this publication was supported by the National Institute on Alcohol Abuse and Alcoholism of the National Institutes of Health under award number R15AA020424 to author RJL (PI). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. The Harris Interactive Service Bureau (HISB) was responsible solely for the data collection in this study. The authors were responsible for the study's design, data analysis, reporting the data, and data interpretation.

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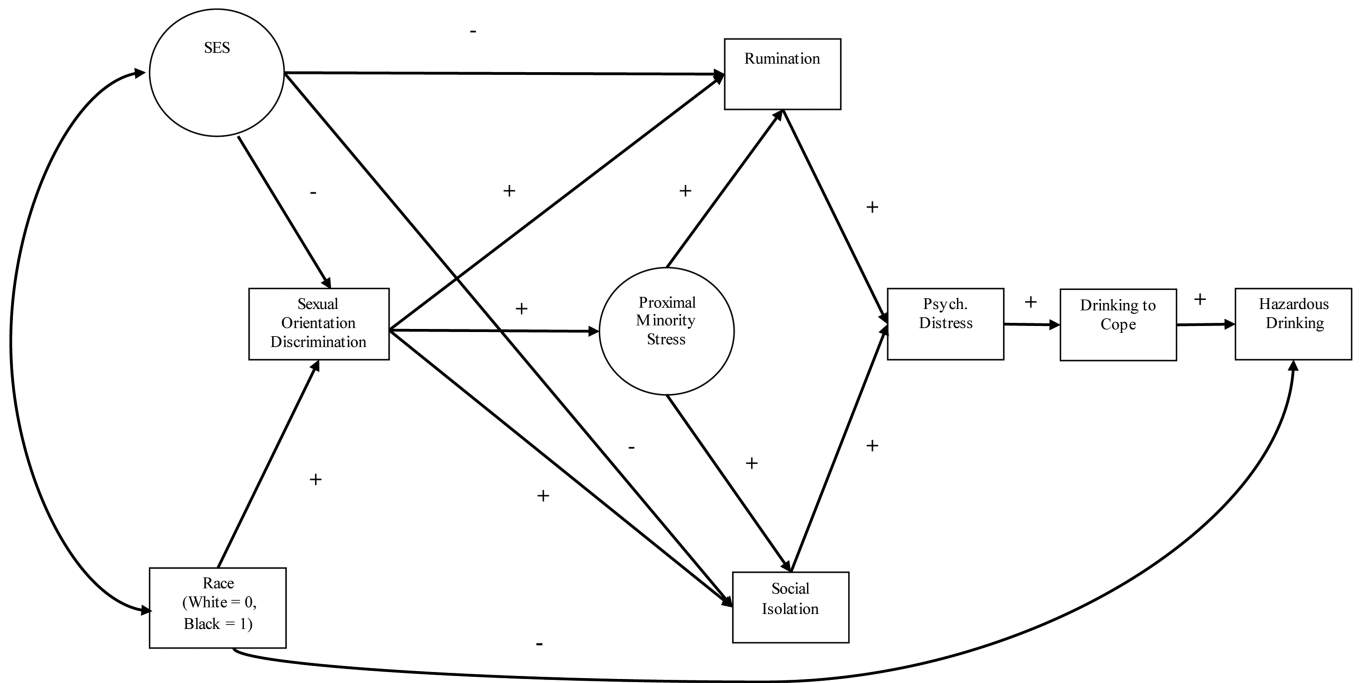


Figure 1. Conceptual model. Hypothesized directions of path coefficients are indicated by + or – signs.

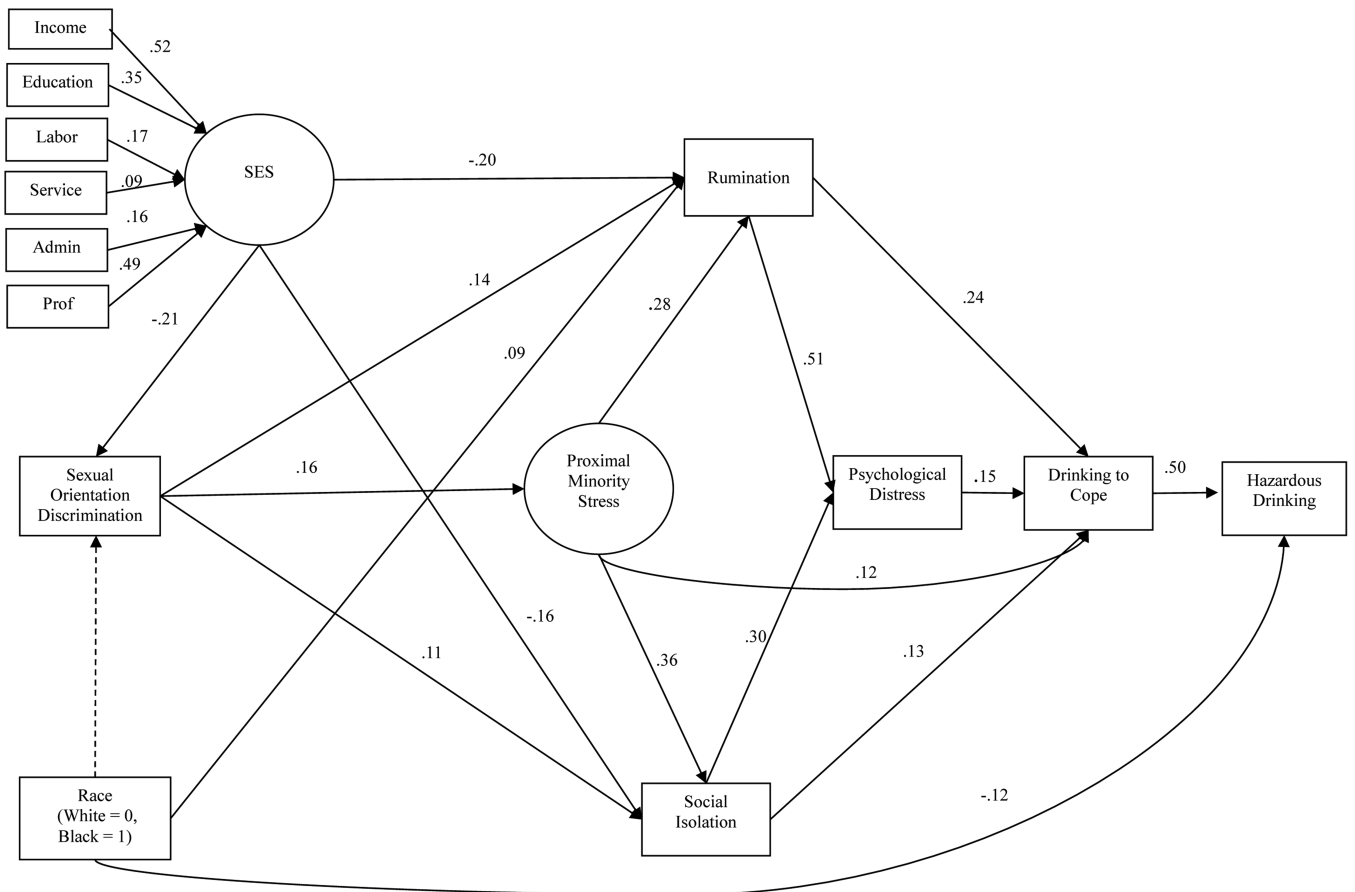


Figure 2. Model with standardized path coefficients. Significance ($p < .05$) was established by bootstrapped confidence intervals that did not include 0. *Solid lines indicate significant pathways, whereas dashed lines indicate non-significant pathways. The indicators for the proximal minority stress latent variable are Personal Feelings as a Lesbian, Public Identification as a Lesbian, and Connection to the Lesbian Community - Interaction; these are not depicted. Rumination and social isolation are correlated but not depicted. All endogenous variables are correlated. Admin = administrative/technical; Prof = professional/managerial.

Table 1

Differences in Study Variables by Race

Variable	Race		<i>t</i>	<i>p</i>	<i>d</i>
	White women <i>M (SE)</i>	Black women <i>M (SE)</i>			
Education	4.71 (.05)	4.28 (.13)	3.21	.001	.32
Income	8.55 (.15)	6.78 (.43)	4.01	< .001	.42
Discrimination	2.11 (.03)	2.27 (.10)	-1.63	.10	-.17
Concealment	31.85 (.54)	32.97 (1.52)	-.74	.46	-.07
Internalized homophobia	9.57 (.18)	9.80 (.43)	-.47	.64	-.05
Lack of connection to lesbian community	29.23 (.43)	29.70 (1.17)	-.39	.70	-.04
Social isolation	10.75 (.14)	12.14 (.36)	-3.63	< .001	-.37
Rumination	9.15 (.12)	10.92 (.39)	-4.36	< .001	-.49
Psychological distress	10.42 (.14)	11.06 (.38)	-1.60	.11	-.16
Drinking to cope	8.52 (.16)	10.03 (.46)	-3.10	.002	-.34
Hazardous drinking	5.02 (.17)	4.12 (.32)	2.50	.01	.23

Table 2

Descriptive Statistics and Correlations of Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Race	-															
2. Labor ^a	.02	-														
3. Service ^a	.02	-.07*	-													
4. Technical ^a	-.001	-.07*	-.16*	-												
5. Professional ^a	-.10*	-.16*	-.38*	-.38*	-											
6. Education	-.11*	-.07*	-.14*	-.09*	.38*	-										
7. Income	-.14*	-.06*	-.16*	-.01*	.45*	.36*	-									
8. Discrimination	.06	.03	.04	-.01	-.15*	-.18*	-.17*	-								
9. Concealment	.02	.04	.04	-.004	-.05	.01	-.04	.14*	-							
10. IH	.08*	-.002	.05	.04	-.07	-.01	.02	.14*	.62*	-						
11. Lack of conn.	-.07	.08*	.01	-.01	-.04	-.09*	-.11*	-.03	.43*	.40*	-					
12. Social isolation	.12*	.001	.11*	.01	-.18*	-.09*	-.20*	.22*	.30*	.22*	.22*	-				
13. Rumination	.18*	.01	.06	.05	-.19*	-.19*	-.22*	.24*	.25*	.26*	.15*	.56*	-			
14. Distress	.06	.001	.05	.03	-.16*	-.11*	-.21*	.23*	.25*	.24*	.13**	.58*	.68*	-		
15. Drinking to cope	.12*	-.02	.04	.03	-.10*	-.09*	-.11*	.18*	.21*	.27*	.09*	.41*	.45*	.42*	-	
16. Hazardous drinking	-.07*	.01	-.04	.03	.002	-.04	-.01	.09*	.05*	.15*	.03*	.15*	.19*	.16*	.50*	-
<i>M</i>	.13	.03	.14	.14	.47	4.65	8.33	2.13	31.99	9.60	29.29	10.93	9.37	10.50	8.71	4.91
<i>SD</i>	-	-	-	-	-	1.32	4.22	0.92	14.82	4.74	11.78	3.77	3.33	3.85	4.34	4.26
Minimum	0	0	0	0	0	2.00	1.00	1.00	15.00	6.00	11.00	6.00	5.00	5.00	5.00	0.00
Maximum	1	1	1	1	1	7.00	17.00	5.00	91.00	39.00	75.00	29.00	20.00	25.00	25.00	34.00
Skewness	-	-	-	-	-	-.31	-.20	.72	1.23	2.15	.68	1.18	1.03	.99	1.56	2.32
Kurtosis	-	-	-	-	-	-.80	-.96	.57	1.41	6.27	.23	1.88	.68	.94	2.05	7.43

Note.

^aReference group is unemployed/student/homemaker; IH = internalized homophobia; Lack of Conn.= lack of connection to lesbian community

* $p < .05$

Table 3

Direct Path Estimates with Bootstrapped SEs and CIs

Path	β	B	SE	95% CI
Race→Discrimination	.01	.03	.10	[-.17, .21]
Race→Rumination	.09	.93	.38	[.20, 1.67]
Race→Hazardous drinking	-.12	-1.63	.38	[-2.34, -.85]
SES→Rumination	-.20	-.08	.03	[-.14, -.03]
SES→Isolation	-.16	-.08	.03	[-.15, -.03]
SES→Discrimination	-.21	-.02	.01	[-.04, -.01]
Discrimination→Rumination	.14	.52	.13	[.27, .80]
Discrimination→Social isolation	.11	.45	.17	[.13, .80]
Discrimination→Proximal minority stress	.16	2.26	.68	[.94, 3.64]
Proximal minority stress→Rumination	.28	.07	.01	[.05, .10]
Proximal minority stress→Social isolation	.36	.11	.02	[.08, .14]
Proximal minority stress→Drinking to cope	.12	.04	.02	[.01, .08]
Rumination→Psychological distress	.51	.59	.04	[.51, .67]
Rumination→Drinking to cope	.24	.31	.07	[.18, .44]
Social isolation→Psychological distress	.30	.31	.04	[.24, .38]
Social isolation→Drinking to cope	.13	.15	.06	[.04, .27]
Psychological distress→Drinking to cope	.15	.17	.05	[.07, .28]
Drinking to cope→Hazardous drinking	.50	.52	.05	[.42, .63]

Note. SES = socioeconomic status; discrimination = sexual minority discrimination.

Table 4

Indirect Path Estimates with Bootstrapped SEs and CIs

Path	β	B	SE	95% CI
Sum of indirect effects from SES to Alcohol	-.06	-.03	.01	[-.06, -.01]
SES → Discrimination → Proximal → Rumination → Distress → Cope → Alcohol	.000	.000	.000	[-.001, .000]
SES → Discrimination → Rumination → Distress → Cope → Alcohol	-.001	-.001	.000	[-.002, .000]
SES → Rumination → Distress → Cope → Alcohol	-.01	-.004	.002	[-.01, -.001]
SES → Discrimination → Proximal → Isolation → Distress → Cope → Alcohol	.000	.000	.000	[.000, .000]
SES → Discrimination → Isolation → Distress → Cope → Alcohol	-.001	.000	.000	[-.001, .000]
SES → Isolation → Distress → Cope → Alcohol	-.004	-.002	.001	[-.01, -.001]
SES → Discrimination → Proximal → Rumination → Cope → Alcohol	-.001	-.001	.000	[-.002, .000]
SES → Discrimination → Rumination → Cope → Alcohol	-.003	-.002	.001	[-.01, -.001]
SES → Rumination → Cope → Alcohol	-.02	-.01	.01	[-.03, -.01]
SES → Discrimination → Proximal → Isolation → Cope → Alcohol	-.001	.000	.000	[-.001, .000]
SES → Discrimination → Isolation → Cope → Alcohol	-.001	-.001	.001	[-.003, .000]
SES → Isolation → Cope → Alcohol	-.01	-.01	.003	[-.02, -.002]
SES → Discrimination → Proximal → Cope → Alcohol	-.002	-.001	.001	[-.004, .000]
Sum of indirect effects from race to alcohol	.01	.20	.13	[-.05, .41]
Race → Rumination → Distress → Cope → Alcohol	.004	.07	.03	[.01, .12]
Race → Rumination → Cope → Alcohol	.01	.21	.08	[.04, .32]

Note. SES = socioeconomic status; discrimination = sexual minority discrimination; proximal = proximal minority stress; isolation = social isolation; distress = psychological distress; cope = drinking to cope; alcohol = hazardous drinking.