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Testing a Model of Binegativity, Drinking-to-Cope Motives, Alcohol Use, and Sexual Coercion Among Self-Identified Bisexual Women

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Abstract

In the present study, we tested a sequential mediation model whereby binegativity was associated with sexual coercion through drinking to cope motives and alcohol use. Data were examined from 224 self-identified bisexual women (M age = 22.79; SD = 3.44) who took part in an online survey. Participants reported binegativity, alcohol use, drinking to cope motivations, and sexual coercion experiences for the previous 30 days. A total of 48.0% of the sample (n = 108) experienced sexual coercion in the past 30 days. Sequential mediation indicated more experiences of binegativity were associated with greater drinking to cope motives, which in turn, related to greater alcohol frequency and greater likelihood of sexual coercion. Alcohol quantity was not a significant mediator. Results suggest the importance of studying the impact of binegativity on bisexual women, as well as developing prevention programs that consider how this form of discrimination may contribute to drinking to cope motives, more frequent alcohol use, and increased risk for sexual coercion.

Keywords

binegativity; drinking to cope motives; alcohol use; sexual coercion; bisexual women

With clear evidence that bisexual women are more likely to report sexual victimization than lesbian (Walters, Chen, & Breiding, 2013) or heterosexual (Ford & Soto-Marquez, 2016; Johnson, Matthews, & Napper, 2016; Murchison, Boyd, & Pachankis, 2016; Walters et al.,

2013) women, there is a need to identify variables that contribute to our understanding of sexual violence risk among bisexual women. Stress associated with being a member of a marginalized minority population, such as discrimination, may lead to drinking to cope and greater alcohol use (Hatzenbuehler, 2009; Meyer, 2003). Hazardous alcohol use has been associated with sexual victimization among heterosexual (Parks, Hsieh, Bradizza, & Romosz, 2008) and bisexual (Kelley et al., in press) women. In the present study, we tested a single integrated model examining aspects of two approaches: minority stress theory (e.g., Meyer, 2003) and the self-medication model (Cooper, 1994). According to minority stress theory, stigma and discrimination associated with sexual orientation result in negative mental health outcomes (Meyer, 2003). The self-medication model states that a person may engage in substance use to relieve negative mood states (Khantzian, 1987). This integrated model examined in the current study is similar to the psychological mediation framework proposed by Hatzenbuehler (2009) and may provide the first step of a comprehensive explanation for the relationships between binegativity, drinking to cope motives, alcohol use, and sexual coercion among young adult self-identified bisexual women.

Sexual Coercion among Bisexual Women

Sexual coercion is defined as attempts to induce or force another to engage in sexual activity, whether successful or not, and includes verbal pressure, persistent efforts of sexual arousal, and encouragement to use alcohol or drugs (Struckman-Johnson, Struckman-Johnson, & Anderson, 2003). Our rationale for examining sexual coercion is that although this form of sexual violence has received less attention than rape or attempted rape, it is at least twice as common (e.g., Black et al., 2011). In fact, studies have shown more than 1 in 2 heterosexual couples report some form of sexual coercion (Brousseau et al., 2011; O'Leary & Williams, 2006). More specifically, Brousseau reported 45% of couples reported female victimization, 30% reported male victimization, and 20% reported reciprocal sexual coercion. Moreover, O'Leary and Williams reported up to 42.8% of the couples they examined reported female sexual coercion victimization and 21.4% reported male sexual coercion victimization. Further, when sexual coercion is defined as acts that do not include physical force, as many as three in four young adult women report sexual coercion (Abbey, BeShears, Clinton-Sherrod, & McAuslan, 2004). The consequences of sexual coercion include anger, resentment, self-blame, intrusive thoughts, depressive symptoms, posttraumatic stress disorder (PTSD) symptoms, and life disruption (Crown & Roberts, 2007; Livingston, Buddie, Testa, & VanZile-Tamsen, 2004; Salwen, Solano, & O'Leary, 2015). Thus, while sexual victimization incidents that do not involve physical force may be viewed as less serious (DeGue & DiLillo, 2005), they are frequent among young women and may have serious negative consequences for victims' psychological health.

The Contribution of Binegativity to Sexual Coercion

Minority Stress Theory (MST) posits that stigma and discrimination associated with sexual orientation result in a hostile environment that may have negative outcomes for mental health including psychological distress (Meyer, 2003). Despite important differences, lesbian and bisexual women are typically examined as a single group. Bisexual women report many more negative mental health and alcohol use problems than heterosexual women and in

some cases, lesbian women (e.g., see Flanders, 2015 for a discussion). Further, some forms of stigma and discrimination differ for lesbian and bisexual women. For instance, due to their sexual attraction to both men and women, bisexual women may experience 'double discrimination' (i.e., binegativity), that is, discrimination from both the heterosexual and sexual minority communities (Brewster & Moradi, 2010; DeCapua, 2017). Additionally, the media often portrays bisexual women as sexually promiscuous (Nadal et al., 2011) which may influence stereotypes in society about bisexual women. These negative stereotypes may impact social interactions and relationships of bisexual women with other individuals.

The MST posits that bisexual stress, prejudice, and discrimination are partly responsible for disparities (i.e., mental health problems, hazardous alcohol use) observed among bisexual women. In support of this argument, in a community sample of bisexual women, binegativity from the sexual minority community was associated with depressive symptoms (Dyar, Feinstein, & London, 2014). Further, compared to lesbian women and gay men, bisexual men and women reported greater internalized negativity about their sexual identity (Hequembourg & Dearing, 2013). In terms of alcohol use, the MST and the self-medication model may explain the high drinking levels of bisexual women (Coker, Austin, & Schuster, 2010; Drabble, Trocki, Hughes, Korcha, & Lown, 2013; Goldberg, Strutz, Herring, & Halpern, 2013; Gonzales & Henning-Smith, 2017; Hughes, Aranda, Birkett, & Marshal, 2014; Parnes, Rahm-Knigge, & Conner, 2017). The self-medication model states that a person will use a substance (e.g., alcohol) for temporary relief from distress (Khantzian, 1987), and has been widely supported in the literature (e.g., Khantzian & Albanese, 2008). For example, studies have found a direct link between discrimination or stress and alcohol use (e.g., Fossos, Kaysen, Neighbors, Lindgren, & Hove, 2011; Kelley et al., 2013; Yeater, Montanaro, & Bryan, 2015). Therefore, MST coupled with the self-medication model suggests that bisexual women may drink alcohol to cope with binegativity.

Hatzenbuehler (2009) extended MST by developing an integrative psychological mediation framework that includes a pathway from discrimination to psychopathology incorporating mechanisms such as coping or emotion dysregulation. That is, Hatzenbuehler altered the focus to understanding processes that confer greater mental health risks. One proposed mediator of the pathway between discrimination and stigma and psychopathology may be drinking to cope motives. Specifically, he argued that experiencing discrimination may result in maladaptive coping which can lead to negative outcomes. Consistent with the psychological mediation framework, binegativity may be associated with consequences of alcohol use via drinking to cope motives. Drinking to cope motives involve alcohol use to avoid or regulate negative emotions (Cooper, Frone, Russell, & Mudar, 1995). Over time, maladaptive coping mechanisms, such as drinking, may result in negative consequences.

In a study of heterosexual college students, discrimination predicted alcohol-related problems through its influence on drinking to cope motives and negative affect (Hatzenbuehler, Corbin, & Fromme, 2011). Therefore, binegativity may elicit drinking to cope motives which may result in greater alcohol problems. In a seminal study of lesbian and bisexual women, discrimination mediated the relationship between sexual minority status (lesbian or bisexual) and dating violence for bisexual women; however, alcohol use was not a significant mediator (Martin-Story & Fromme, 2017). The association between

discrimination and dating violence was not significant for lesbian women. However, Martin-Story and Fromme examined discrimination and alcohol use as simultaneous mediators rather than a sequential pattern. Additionally, dating violence occurs between romantic partners and may be less common than sexual coercion where the perpetrator may not be known to the victim. It could be that discrimination, alcohol use, and victimization occur in sequential order for bisexual women. That is, binegativity may increase negative affect that bisexual women attempt to alleviate by drinking. Thus, drinking to cope may mediate the association between binegativity and alcohol use. In turn, due to the well-established relationship between drinking and sexual assault, greater alcohol use may contribute to sexual coercion.

Strong associations exist between alcohol use and sexual assault in general samples (Abbey, 2002a; Mouilso et al., 2012). For instance, in a sample of heterosexual women, 70% of unwanted sexual interactions involved alcohol use by both respondents (Crown & Roberts, 2007). Further, in a sample of heterosexual college women who experienced a sexual assault in which substances were consumed, 96% reported that they had been using alcohol prior to the event (Lawyer, Resnick, Bakanic, Burkett, & Kilpatrick, 2010). Although the relationship between alcohol use and sexual assault has been widely established among heterosexual women, this association is underexplored among bisexual women despite the fact that bisexual women report more binge drinking and more alcohol-related consequences than lesbian (Coker et al., 2010; Gonzales & Henning-Smith, 2017; Hughes et al., 2014; Parnes et al., 2017) or heterosexual (Drabble et al., 2013; Goldberg et al., 2013; Gonzales & Henning-Smith, 2017; see Talley et al., 2016 for a review) women. Further, bisexual women report more sexual violence than heterosexual or lesbian women (e.g., Walters et al., 2013). In addition, large national datasets, such as the National Epidemiologic Survey on Alcohol and Related Conditions and the National Survey on Drug Use and Health, find that alcohol use and alcohol quantity peak during early adulthood (Delker, Brown, & Hasin, 2016); sexual victimization also peaks in young adulthood (Breiding, 2014). For the reasons listed, examination of the aforementioned variables of interest among young bisexual women may be especially warranted.

Current Study

The current study had several research questions and hypotheses. First, the associations between binegativity, alcohol use (frequency and quantity), drinking to cope motivations, and sexual coercion were examined. Consistent with the self-medication model, it was hypothesized that binegativity would be positively correlated with past 30 day alcohol use. Further, it was also hypothesized that women who experienced sexual coercion would drink more, have greater drinking to cope motivations, and report experiencing more binegativity in the past 30 days. A second aim of the current study was to test a sequential integrated model to explain the association between binegativity and sexual coercion. An integrated model of MST (Meyer, 2003) and the self-medication model (Khantzian, 1987) are incorporated in the current study to explain alcohol use and subsequent sexual coercion. Specifically, based on the psychological mediation framework proposed by Hatzenbuehler (2009), binegativity may result in drinking to cope motives, which in turn may lead to greater alcohol use and sexual coercion. Therefore, drinking to cope motives and alcohol use

were tested as sequential mediators of the relationship between binegativity and sexual coercion. It was hypothesized that in the past 30 days, bisexual women who experienced more binegativity would report greater drinking to cope motives which would predict their alcohol use that in turn, would contribute to experiences of sexual coercion. Separate models were tested for frequency of alcohol use and alcohol quantity.

Method

Participants and Procedure

A total of 225 bisexual women completed the survey. Data from one respondent who completed less than half the survey were deleted prior to analyses. Thus, the final sample consisted of $n = 224$ self-identified bisexual women between the ages of 18 – 30 (M age = 22.79, $SD = 3.44$), who reported drinking and engaging in sexual behaviors during the past 30 days. Demographic information, displayed in Table 1, shows that the majority of participants were White (57.6%, $n = 129$), 28.6% ($n = 64$) were Black, 4.9% ($n = 11$) were Asian, 0.9% ($n = 2$) were American Indian/Alaskan Native, 0.4% ($n = 1$) were Native Hawaiian/Pacific Islander, and 7.6% ($n = 17$) were another race (e.g., more than one race). Additionally, the majority of the sample was not Hispanic/Latino (87.1%, $n = 195$), in a relationship or married (53.7%, $n = 117$), completed at least some college (75.4%, $n = 169$), and had an annual income under \$20,000 (65.2%, $n = 146$). Participants were recruited from online platforms (e.g., Craigslist, Facebook, Tumblr, Reddit) and the Department of Psychology research participant pool. To be eligible for the online survey, participants must have been (1) female; (2) 18 to 30 years of age; (3) identify as bisexual; (4) report 1 binge drinking episode in the past 30 days (defined as 4 or more standard drinks); and (5) report engaging in sexual behavior in the past 30 days. After establishing eligibility, participants were redirected to an online survey where they reviewed the informed consent form and then completed a survey (approximately 30 minutes to complete). Survey participants received research credit (students in the research pool only) or were entered into a raffle to win one of twenty \$20 online gift cards. Nearly half of the sample indicated that they were students at the participating institution, and preferred to receive research credit (i.e., recruited via the Department of Psychology research participant pool). All procedures were approved by the participating university's Institutional Review Board.

Materials

Binegativity.—The Anti-Bisexual Experiences Survey (ABES; Brewster & Moradi, 2010) is a 17-item measure that was used to examine experiences of binegativity in the past 30 days. The ABES assesses anti-bisexual experiences (e.g., “People have acted as if my sexual orientation is just a transition to a gay/lesbian orientation”; “People have stereotyped me as having many sexual partners without emotional commitments”; and “People have not wanted to be my friend because I identify as bisexual”). Participants responded to each item using a 6-point response scale to indicate how often they experienced binegativity in the past 30 days where 1 = *Never* and 6 = *Almost all of the time*. The total score reflects the sum of the individual items. Previous research has found the ABES to have good internal consistency, test-retest reliability, convergent validity, and discriminant validity (Brewster & Moradi, 2010). Cronbach alpha for the current study was $\alpha = .96$.

Alcohol use.—The Daily Drinking Questionnaire (DDQ; Collins, Park, & Marlatt, 1985) was used to examine alcohol use for a typical week (used to calculate quantity). To assess alcohol use frequency, participants indicated how many days in the last 30 days they drank alcohol. Frequency was scored as the number of days they reported consuming alcohol out of the past 30 days. To assess alcohol use quantity, participants indicated how many standard drinks they consumed on each day of a typical week. The total number of drinks consumed during a typical week was divided by how many days they reported any drinking in a typical week to calculate average drinks per drinking day (i.e., quantity). The DDQ has been widely used (e.g., Lau-Barraco & Linden, 2014; Mallett, Bachrach, & Turrisi, 2008).

Drinking to cope motives.—The Drinking Motives Questionnaire (DMQ; Cooper, 1994) was used to examine motives for drinking in the past 30 days. In the present study, coping motives was the only type of motives assessed (e.g., “In the past 30 days, how often would you drink to forget about your problems.”). Participants responded to five questions using a 5-point scale to indicate how often they would drink for coping reasons where 1 = *Almost never/never* and 5 = *Almost always/always*. The score for coping motives reflects the sum of the individual items. The DMQ has shown good reliability, internal consistency, and predictive validity (Cooper, 1994). Cronbach alpha for the current study was $\alpha = .93$.

Sexual coercion.—A modified version of the Sexual Coercion Tactics Scale (SCTS; Struckman-Johnson et al., 2003) was used to measure sexual coercion incidents in the past 30 days. The original 13-item SCTS includes two questions about being taken advantage of when high or drunk, and purposefully being given drugs or alcohol. For the current study, these questions were modified to ask about alcohol and drugs separately (e.g., “Have you been taken advantage of when high?”, “Have you been taken advantage of when drunk?”). Therefore, the modified measure for the current study included 15 questions about tactics used against the woman to engage in unwanted sexual contact. Three questions ask about sexual arousal tactics (e.g., “Continued to kiss and touch you to arouse you”, “Removed their clothing to arouse you”), eight items ask about emotional manipulation tactics (e.g., “Threatened to break up with you”, “Told you a lie of some kind (e.g., how much they liked you)”, and “Told you they would blackmail you”), and as noted previously, four questions ask about substance use (drugs or alcohol) tactics. Participants selected *yes* or *no* as to whether or not the event happened in their lifetime. For any items they endorsed occurring in their lifetime, participants were asked if the tactic occurred in the past 30 days (0 = *no*, 1 = *yes*). Because sexual coercion events may have involved the use of multiple tactics (i.e., a higher score could reflect a single event), and because of the high proportion of participants reporting no sexual coercion, sexual coercion was dichotomously coded as 1 (*at least one sexual coercion incident in the past 30 days*) or 0 (*no sexual coercion incident in the past 30 days*).

Data Analysis

Inspection of the data revealed that all variables were normally distributed. Pearson correlations (see Table 1) were conducted to examine the relationship between alcohol use variables (frequency and quantity), drinking to cope motives, and binegativity (ABES). Independent samples *t*-tests (see Table 2) were conducted to examine differences on alcohol

use, drinking to cope motives, and binegativity between women who experienced sexual coercion in the past 30 days and those who had not. Finally, *Mplus* (version 8; Muthén & Muthén, 1998–2017) was used to test the proposed sequential mediation model. As shown in Figure 1, we proposed a model where binegativity was examined as a predictor of drinking to cope motives, alcohol use, and sexual coercion. Further, drinking to cope motives were modeled as predictors of alcohol use (frequency or quantity) and sexual coercion. Lastly, alcohol use (frequency or quantity) was modeled as a predictor of sexual coercion. Models were computed separately for alcohol frequency and alcohol quantity. Maximum likelihood estimation was used to account for missing data. There was limited missing data. Specifically, 0.003% of data were missing overall, with less than 2% of data missing for any single item. The significance of the indirect effects of binegativity on outcomes was assessed using 95% bias-corrected bootstrapped confidence intervals via 10,000 replications. Significance was determined by confidence intervals that did not contain 0.

Results

Bivariate Associations between Binegativity, Alcohol Use, Drinking to Cope Motives, and Sexual Coercion

Table 2 displays means, standard deviations, and correlations between the variables of interest. Drinking to cope motives were positively correlated with alcohol frequency ($r = .44$, $p < .001$) and binegativity ($r = .28$, $p < .001$). Alcohol frequency was positively correlated with binegativity ($r = .20$, $p = .006$).

A total of 107 participants (47.8%) reported sexual coercion within the past 30 days. As shown in Table 3, independent samples *t*-tests indicated that, compared to participants who had not experienced sexual coercion in the past 30 days, participants who had experienced sexual coercion in the past 30 days reported drinking more frequently, greater drinking to cope motives, and higher binegativity. There were no significant differences on alcohol quantity.

Mediation Analyses

Alcohol frequency.—As shown in Table 4, sequential mediation was significant for binegativity predicting drinking to cope motives, which in turn predicted alcohol frequency and sexual coercion, $\beta = 0.02$, 95% CI: [0.002, 0.05]. Specifically, binegativity predicted drinking to cope motives, $\beta = 0.28$, 95% CI: [0.15, 0.41], drinking to cope motives predicted alcohol frequency, $\beta = 0.38$, 95% CI: [0.26, 0.50], and alcohol frequency predicted sexual coercion in the past 30 days, $\beta = 0.19$, 95% CI: [0.03, 0.35]. Binegativity was also significantly associated with sexual coercion in the past 30 days, $\beta = 0.17$, 95% CI: [0.02, 0.32].

Table 4 also shows that when controlling for drinking to cope motives, binegativity was not directly associated with alcohol frequency, $\beta = 0.09$, 95% CI: [−0.04, 0.22].

Alcohol quantity.—As shown in Table 4, sequential mediation was not significant for binegativity predicting drinking to cope motives, alcohol quantity and sexual coercion, $\beta = 0.000$, 95% CI: [−0.01, 0.003]. Although, binegativity predicted drinking to cope motives, β

= 0.28, 95% CI: [0.15, 0.41], drinking to cope motives did not predict alcohol quantity, $\beta = 0.02$, 95% CI: [-0.10, 0.14]. Additionally, alcohol quantity did not predict sexual coercion in the past 30 days, $\beta = -0.07$, 95% CI: [-0.22, 0.08]. Binegativity was significantly directly associated with sexual coercion in the past 30 days, $\beta = 0.20$, 95% CI: [0.05, 0.34].

Table 4 also shows that when controlling for drinking to cope motives, binegativity was directly associated with alcohol quantity, $\beta = 0.13$, 95% CI: [0.02, 0.26].

Discussion

Despite high rates of sexual assault (e.g., Walters et al., 2013) and alcohol use (e.g., Gonzales & Henning-Smith, 2017; see Talley et al., 2016 for a review) among bisexual women, few studies have sought to test models that explain how binegativity operates to create risk for sexual assault among bisexual women. In the present study, we examined binegativity and sexual coercion among young women who identify as bisexual. Specifically, consistent with Hatzenbuehler's psychological mediation framework (2009), drinking to cope motives was included as a mediator between binegativity and alcohol use. In turn, alcohol use was hypothesized to contribute to sexual coercion. Integrating the self-medication model, we also examined whether binegativity would have a direct effect on alcohol use and contribute to sexual coercion. Consistent with our hypotheses, results supported an integrated model combining MST (Meyer, 2003) and the self-mediation model (Khantzian, 1987), which is in line with the psychological mediation framework (Hatzenbuehler, 2009).

These results extend previous research in important ways. First, they contribute to the growing body of research and suggest anti-bisexual prejudice is a legitimate concern among young self-identified bisexual women. Related to this point, these results support the importance of examinations focused on bisexual women, without grouping them in with other sexual minority women. When bisexual women are examined separately, researchers may identify unique experiences (e.g., binegativity) that are related to drinking frequency. Second, Hatzenbuehler (2009) discusses the importance of understanding how stigma-related stressors "get under the skin" and lead to psychopathology (p. 208). Our results support within-group studies (e.g., Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008) and show that perceived binegativity is associated with more frequent alcohol use. However, when taking into account drinking to cope motives, binegativity was not associated with alcohol frequency which is contradictory to self-medication models of alcohol use. Therefore, the relationship between binegativity and alcohol frequency may be a complex process that should consider emotion regulation and coping strategies as proposed by the psychological mediation framework. Specifically, results of the current study support the notion that binegativity may prompt drinking to cope motives which are associated with frequency of alcohol use. In turn, more frequent drinking may increase the risk of sexual coercion. Results are particularly notable given that all participants reported binge drinking in the past 30 days.

Our findings support the relevance of coping motives as a mechanism which may be viewed as normative among the sexual minority community. Thus, among the sexual minority

community, when experiencing psychological distress, drinking to cope motives may be perceived as normative behavior. Finally, more globally, our results support a growing body of research that shows drinking to cope motives as a mechanism linking sexual victimization and alcohol use (e.g., Grayson & Nolen-Hoeksema, 2005; Kaysen et al., 2007).

Although the test of the integrated model was supported when frequency of alcohol use was included in the sequential model, alcohol quantity was not associated with past 30 day sexual coercion. In part, the lack of sequential mediation when alcohol quantity was included in the model may reflect that all participants reported binge drinking in the past 30 days. As such, there may not have been as much variability in our measure of alcohol quantity. In addition, the average number of standard drinks consumed per week exceeds NIH NIAAA guidelines for recommended alcohol use (National Institute on Alcohol Abuse and Alcoholism, 2017). Thus, among young self-identified bisexual women who engage in risky alcohol use, more frequent alcohol use, but not greater quantity of alcohol use, may increase sexual coercion risk. Another explanation for why alcohol quantity did not mediate the association between drinking to cope motives and sexual coercion may be attributed to the coping strategies that sexual minority women use to alleviate negative moods. A recent qualitative study of lesbian, bisexual, and queer women revealed that the most common reason for drinking to cope was discrimination (McNair et al., 2016). Discrimination may lead to drinking to cope motives that same day, and in turn, more frequent alcohol use. Regardless of how much bisexual women drink, the frequency of drinking may vary as a function of how often they experience binegativity. In contrast, it is possible that self-identified bisexual women who consume greater quantities of alcohol use may have different reasons for drinking.

Men also may misperceive the sexual intentions of women who drink as being more interested in engaging in sexual behaviors (Abbey, 2002b; Zawacki, Abbey, Buck, McAuslan, & Clinton-Sherrod, 2003). Further, a common misperception that is particularly portrayed through the media is that bisexual women are sexually promiscuous (Nadal et al., 2011). Although beyond the scope of the current study, alcohol use, regardless of amount, may increase bisexual women's risk of sexual coercion due to the norms that men hold about women who drink, and particularly bisexual women. If bisexual women drink more frequently in part to alleviate negative mood associated with binegativity, this also may increase risk for sexual coercion.

Study Limitations and Future Directions

Findings must be considered in light of several limitations. Participants in the present study were required to report at least one binge drinking episode in the past 30 days and nearly half reported currently being a student. As such, generalizability of findings to relatively lighter drinkers or nonstudents is limited. Participants recalled past 30 day binegativity, alcohol use, and sexual behaviors. This methodology may have introduced recall biases (Ekholm, 2004; Gmel & Daeppen, 2007). Further, given the cross-sectional nature of the data, causal assumptions of these relationships cannot be made. The sequencing of events related to binegativity, alcohol use, and sexual coercion is unknown. Thus, a daily diary investigation would yield more firm conclusions about the temporality of our study

variables. Future studies should attempt to examine these variables longitudinally via more sophisticated data collection methods such as a daily diary studies (Shiffman, 2009). A daily design might reduce the potential for recall bias and provide a more fine-grained understanding of the time-based ordering of the associations. In addition, we did not assess for other forms of sexual assault such as forced sexual behavior, attempted rape, or completed rape. It is possible that sexual coercion also may be associated with other forms of sexual assault that were not examined.

Further, we grouped participants together who self-identified as bisexual; however, the term bisexual includes a diverse group of individuals (e.g., Flanders, 2017). In addition, we did not invite other out-groups, such as bisexual men, or participants who identify as transgender or 'other'. Also, our intention was to examine alcohol use as related to sexual coercion among young bisexual women who engage in binge drinking. Thus, our findings must be considered in light of our inclusion criteria and are likely to generalize to young bisexual women who self-identify as bisexual, are likely to be dating men, and by definition may be at greater risk as a function of their alcohol risk behavior. Similarly, we examined a 30-day window which may have advantages in terms of the reduction of recall bias, but at the cost of including only those who currently self-identity as bisexual and report past 30-day alcohol use and sexual behavior. Such a short timeframe will not include many individuals and not capture life-course changes in sexual identity that may be associated with variables of interest (see Bauer & Brennan, 2013 for a discussion). Clearly, additional research is needed in this area.

Conclusions and Clinical Implications

In the present study, we found support for an integrated model similar to Hatzenbuehler's (2009) psychological mediation framework in that experiences of binegativity among bisexual women was associated with drinking to cope motives, which contributed to more frequent alcohol use. In turn, more frequent alcohol use contributed greater risk for sexual coercion. In contrast, the average quantity of alcohol use did not mediate the association between drinking to cope motives and sexual coercion. By definition, all participants were binge drinkers, thus, quantity of alcohol use did not appear to contribute additional risk for sexual coercion among women who engage in risky alcohol use. Future micro-longitudinal research is needed to examine temporal associations between sexual coercion and alcohol-related behaviors and coping motives.

It is possible that young bisexual women who are at particular risk for sexual victimization may benefit from prevention attempts that address drinking to cope and alcohol use. Specifically, prevention programs should focus on enhancing emotion regulation skills among bisexual women due to the high likelihood of experiencing binegativity. By increasing the strategies that bisexual women use to cope with binegativity, they may reduce their drinking and subsequent sexual coercion and assault. Additionally, it is equally important to reduce discrimination against bisexual women. Policies should continue to be implemented that discourage discrimination against bisexual individuals. Further, large campaigns aimed at correcting misperceptions about bisexual women may have a large impact on changing negative stereotypes about bisexual women. Thus, findings from the

current study suggest that addressing binegativity may have important psychological benefits and also decrease the risk of sexual violence among bisexual women.

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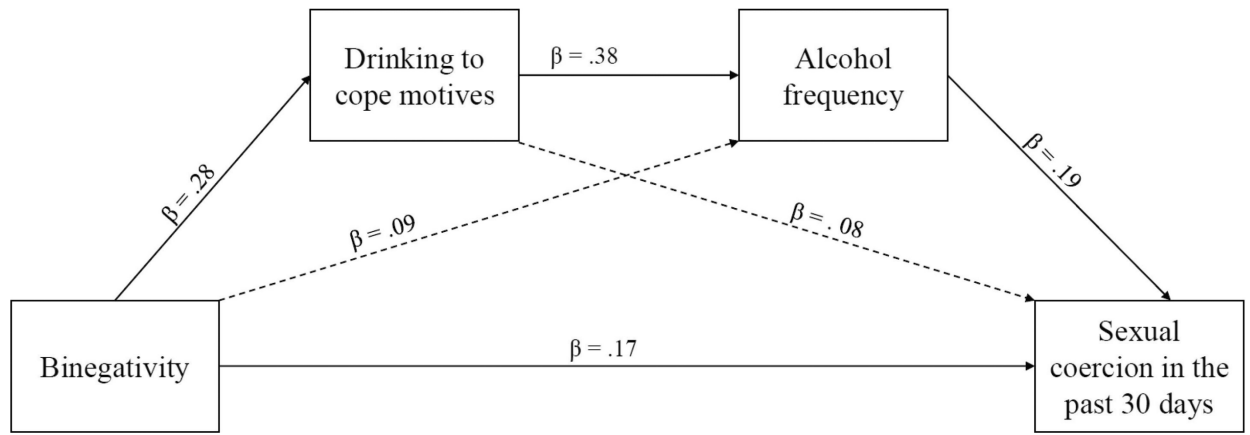


Figure 1. Model tested. Note that sexual coercion was coded dichotomously (0 = no, 1 = yes) Solid lines indicate paths that are significant and dashed lines indicate paths that are not significant

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Table 1

Demographic Information (N = 179)

	Total sample N = 224	Yes sexual coercion n = 107 (48.0%)	No sexual coercion n = 116 (52.0%)
Age <i>M</i> (<i>SD</i>)	22.79 (3.44)	23.27 (3.76)	22.36 (3.10)
Race <i>n</i> (%)			
White	129 (57.6%)	60 (56.1%)	68 (58.6%)
Black	64 (28.6%)	32 (29.9%)	32 (27.6%)
Asian	11 (4.9%)	7 (6.5%)	4 (3.4%)
American Indian/Alaskan Native	2 (0.9%)	0 (0.0%)	2 (1.7%)
Native Hawaiian/Pacific Islander	1 (0.4%)	1 (0.9%)	0 (0.0%)
Other	17 (7.6%)	7 (6.5%)	10 (8.6%)
Hispanic <i>n</i> (%)	29 (12.9%)	12 (11.2%)	17 (14.7%)
Relationship <i>n</i> (%)			
Single	132 (58.9%)	71 (66.4%)	60 (51.7%)
In a relationship/married	86 (38.4%)	30 (28.0%)	56 (48.3%)
Other	6 (2.7%)	6 (5.6%)	0 (0.0%)
Highest education ^a <i>n</i> (%)			
> High school diploma	1 (0.4%)	0 (0.0%)	1 (0.9%)
High school diploma/GED	53 (23.7%)	25 (23.4%)	28 (24.1%)
Some college	103 (46.0%)	49 (45.8%)	54 (46.6%)
Bachelor's degree	49 (21.9%)	27 (25.2%)	21 (18.1%)
Some graduate school	8 (3.6%)	1 (0.9%)	7 (6.0%)
Graduate degree	9 (4.0%)	4 (3.7%)	5 (4.3%)
Income <i>n</i> (%)			
\$9,999	109 (48.7%)	42 (39.3%)	66 (56.9%)
\$10,000 – \$19,999	37 (16.5%)	20 (18.7%)	17 (14.7%)
\$20,000 – \$29,999	31 (13.8%)	18 (16.8%)	13 (11.2%)
\$30,000 – \$39,999	21 (9.4%)	17 (15.9%)	4 (3.4%)
\$40,000 +	26 (11.6%)	10 (9.3%)	16 (13.8%)
Occupation ^b <i>n</i> (%)			
Student	144 (64.3%)	67 (62.6%)	77 (66.4%)
Employed	126 (56.3%)	72 (67.3%)	54 (46.6%)
Unemployed	20 (8.9%)	8 (7.5%)	11 (9.5%)
Other	6 (2.7%)	2 (1.9%)	4 (3.4%)

^a = missing data;

^b = groups are not mutually exclusive;

one value missing for sexual coercion due to missing data

Means, Standard Deviations, and Correlations between Alcohol Use, Drinking to Cope Motives, Binegativity, and Sexual Coercion

Table 2

	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.
1. Alcohol frequency	11.79	7.57	--				
2. Alcohol quantity	3.69	2.02	-.10	--			
3. DCM	12.53	6.25	.41***	.06	--		
4. Binegativity	48.16	21.94	.20**	.14*	.28***	--	
5. Sexual coercion ^a	--	--	.22**	-.03	.18**	.21**	--

Note. DCM = drinking to cope motives.

^a = Sexual coercion was coded dichotomously (0 = no, 1 = yes). For this reason, the mean and standard deviation are not reported.

† $p < .10$;

** $p < .01$;

*** $p < .001$.

Table 3
Differences between Sexual Coercion Experiences on Binegativity, Alcohol Use, and Drinking to Cope Motives

	Yes sexual coercion <i>n</i> = 107 (48.0%)	No sexual coercion <i>n</i> = 116 (52.0%)	<i>t</i>	df	<i>p</i>
	M (SD)	M (SD)			
Alcohol frequency	13.44 (7.89)	10.11 (6.75)	-3.37	209.41	.001**
Alcohol quantity	3.64 (1.78)	3.76 (2.22)	-0.41	221	.679
Drinking to cope motives	13.66 (6.52)	11.41 (5.76)	-2.72	212.20	.007**
Binegativity	52.80 (23.84)	43.78 (19.21)	-3.10	203.67	.002*

* *p* < .01;

** *p* < .001.

Table 4
Standardized Coefficients of Direct Effects and Indirect Effects of the Sequential Mediation

Indirect effects	β	SE	95% CI
Binegativity → DCM	0.28	0.07	[0.15, 0.41]
Binegativity → Alcohol frequency	0.09	0.07	[-0.04, 0.22]
Binegativity → Sexual coercion	0.17	0.08	[0.02, 0.32]
DCM → Alcohol frequency	0.38	0.06	[0.26, 0.50]
DCM → Sexual coercion	0.08	0.09	[-0.09, 0.25]
Alcohol frequency → Sexual coercion	0.19	0.08	[0.03, 0.35]
Binegativity → DCM → Alcohol frequency → Sexual coercion	0.02	0.01	[0.002, 0.05]
<hr/>			
Binegativity → DCM	0.28	0.07	[0.15, 0.41]
Binegativity → Alcohol quantity	0.13	0.06	[0.02, 0.26]
Binegativity → Sexual coercion	0.20	0.07	[0.05, 0.34]
DCM → Alcohol quantity	0.02	0.06	[-0.10, 0.14]
DCM → Sexual coercion	0.15	0.08	[0.002, 0.30]
Alcohol quantity → Sexual coercion	-0.07	0.08	[-0.22, 0.08]
Binegativity → DCM → Alcohol frequency → Sexual coercion	0.00	0.002	[-0.01, 0.003]

Note. DCM = drinking to cope motives. Standardized coefficients and associated standard errors are presented. Bold values are significant at the $p < .05$ level based on 95% bootstrap confidence intervals with 10,000 replications.