



Published in final edited form as:

J Soc Pers Relat. 2019 January 1; 36(1): 244–268. doi:10.1177/0265407517726183.

Relationship Status and Drinking-Related Outcomes in a Community Sample of Lesbian and Bisexual Women

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Abstract

Although marriage tends to be protective against hazardous drinking among women in the general population, few studies have compared drinking rates, levels, or problems based on relationship status among sexual minority women (SMW; lesbian, bisexual). We examined associations between relationship status (committed relationship/cohabiting; committed/not cohabiting; single) and past-year drinking outcomes using data from a diverse sample of 696 SMW interviewed in wave 3 of the 17-year longitudinal Chicago Health and Life Experiences of Women study. The mean age of SMW in the sample was 40.01 ($SD = 14.15$; range 18–82). A little more than one-third (37%) of the sample was white, 36% was African American, and 23% Latina; 4% reported another or multi- race/ethnicity. Compared to SMW in committed cohabiting relationships, single SMW were significantly more likely to be heavy drinkers. SMW in committed non-cohabiting relationships were more likely to report alcohol-related problem consequences, and both single SMW and those in committed non-cohabiting relationships were more likely to report one or more symptoms of potential alcohol dependence. Findings underscore the importance of exploring relationship factors that may influence drinking and drinking-related problems among SMW.

Keywords

lesbian women; bisexual women; alcohol use; hazardous drinking; intimate relationships; same-sex couples

INTRODUCTION

Sexual minority women (SMW; lesbian, bisexual) are two to four times more likely than heterosexual women to be heavy or hazardous drinkers (Drabble, Midanik, & Trocki, 2005; Hughes, Szalacha, & McNair, 2010b; S. C. Wilsnack et al., 2008). Studies that disaggregate analyses of lesbian and bisexual women compared to heterosexuals suggest that risk of hazardous drinking is particularly pronounced among bisexual women (Drabble et al., 2005; S. E. McCabe, Hughes, Bostwick, West, & Boyd, 2009; S. C. Wilsnack et al., 2008). Probability studies that include both SMW and heterosexual women document that heavy drinking is a significant risk factor for accidental injury, liver, brain, and heart diseases, as well as for some forms of cancer among women (Boehmer, Miao, Linkletter, & Clark, 2014; Farmer, Jabson, Bucholz, & Bowen, 2013). Many factors heighten the risk of hazardous drinking among SMW; one of the most well documented of these is excess stress (Keyes, Hatzenbuehler, Grant, & Hasin, 2012), particularly minority stress (Condit, Kataji, Drabble, & Trocki, 2011; Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2014; S. E. McCabe, Bostwick, Hughes, West, & Boyd, 2010; Molina et al., 2015). Meyer's Minority Stress Model (Meyer, 1995; 2003) theorizes that members of minority groups, such as SMW, face additional stressors related to their marginalized status. Higher levels of minority stress increase the risk of multiple adverse psychological and physical health outcomes such as depression, anger, physical symptomology, and unhealthy behaviors such as heavy alcohol use (Hatzenbuehler & Pachankis, 2016; Herek & Garnets, 2007; Hughes, 2011; Keyes et al., 2012; Lewis, Kholodkov, & Derlega, 2012). Although there is a great deal of literature demonstrating that close, intimate relationships are protective against stress-related health problems in the general population, very little research has focused on same-sex female intimate relationships, particularly whether such relationships may protect against hazardous alcohol use (Lewis et al., 2015; Reczek, Liu, & Spiker, 2014).

Relationships and Drinking

Close, intimate relationships provide many benefits and are protective against psychological and physical health problems (Umberson & Montez, 2010). In particular, being in a committed relationship is associated with improved health and more positive health behaviors (Hughes, Szalacha, & McNair, 2010b; Umberson & Montez, 2010). Conversely, relationship stress can create a sense of loss of control, which can be detrimental to mental and physical health; consequently, members of a couple may engage in unhealthy behaviors, such as problematic alcohol use, to cope with negative affect (Kassel, Stroud, & Paronis, 2003; Umberson & Montez, 2010). Relationships have been an important context for studying drinking among heterosexual couples given that partners may select each other due to a match in drinking, or may influence each others' drinking in positive or negative ways (Fischer & Wiersma, 2012). The convergence of drinking behaviors among heterosexuals differs based on gender, and women's drinking appears to be more influenced by their partners than does men's drinking (Reczek, Pudrovska, Carr, Thomeer, & Umberson, 2016). Generally, in heterosexual relationships, committed relationships are protective against hazardous drinking, and alcohol use tends to decrease with age and as individuals get married, begin careers (Dinescu et al., 2016; Fischer & Wiersma, 2012; Liang & Chikritzhs, 2011), and have children (Chilcoat & Breslau, 1996; Leonard & Roberts, 1996; Power,

Rodgers, & Hope, 1999; Umberson, Crosnoe, & Reczek, 2010). It is unclear if similar protections exist in same-sex female relationships.

Relationships and Drinking among SMW

Until 2015, in most states in the U.S. same-sex couples could not legally marry. Because same-sex couples could not legally marry, this limited their options for the formalization and legal recognition of relationships. It also precluded same-sex couples from the potential financial and psychological benefits of marriage. In addition, same-sex female couples are less likely to adhere to traditional heteronormative gender roles, and are less likely to have the responsibilities associated with these roles (e.g., childbearing and childrearing; Hughes, 2005; Hughes, Wilsnack, & Kantor, 2016). However, there is little research on health behaviors within SMW's relationships, and even less on alcohol use within the context of such relationships.

In one of the few studies of relationship status and alcohol use among SMW, Reczek and colleagues (2014) compared same-sex and different-sex couples who were married or cohabiting (Reczek et al., 2014). These investigators found that women in same-sex female relationships had a higher likelihood than women in different-sex relationships of being a heavy drinker irrespective of whether the couple was married or cohabiting. Women in married same-sex relationships had almost double the rate of heavy drinking as women in married different-sex relationships (6.7% compared to 3.8%). The percentage of heavy drinking was even higher among women in same-sex cohabiting relationships (9.7%). The authors did not statistically compare women in same-sex cohabiting versus same-sex married relationships. However, these findings suggest that marriage and cohabiting may not provide the same protections for same-sex female couples as for heterosexual couples. Notably, because the data used did not include sexual identity, Reczek and colleagues could only compare women in same-sex relationships with those in different-sex relationships, and could not examine the associations between relationship status and alcohol use by sexual identity. Furthermore, this study used an existing dataset that contained limited measures of alcohol consumption and no measures of alcohol-related consequences or alcohol dependence symptoms.

Specific Risks for SMW Couples

Although sexual minority and heterosexual couples have many similarities in terms of relationship commitment, intimacy, stresses and strains (Kurdek, 2004; Peplau & Fingerhut, 2007; Rostosky & Riggle, 2016; 2017), same-sex couples experience minority-specific stressors as a result of their stigmatized status (Otis, Rostosky, Riggle, & Hamrin, 2006; Rostosky & Riggle, 2016). Same-sex couples must create relationships in an atmosphere of stigma, often with no models of successful same-sex relationships; must constantly decide whether to disclose their relationship; and must often deal with these stressors in the absence of familial or friend support (Otis et al., 2006). Although same-sex female couples rate their relationships positively, with very high levels of satisfaction (Beals, Impett, & Peplau, 2002), these relationships may be negatively affected by minority stressors (Meyer, 1995; 2003) such as stigma, discrimination, and potential lack of familial or societal acceptance of LGB individuals (Balsam, Beauchaine, Rothblum, & Solomon, 2008; Kurdek, 2004). For

example, Doyle and Molix (2015) conducted a meta-analysis of 35 studies on minority stress and romantic relationships, which examined two components of minority stress: stigma and internalized homophobia (Doyle & Molix, 2015), and found a significant inverse relationship between minority stress and relationship functioning.

Differences by Partner Gender and Sexual Identity

Among SMW, the relationship between minority stress and alcohol use has been well-established; higher levels of stress resulting from discrimination intensifies distress, which leads to an increased risk of substance use (Condit et al., 2011; Keyes et al., 2012; S. E. McCabe et al., 2009). Although stress has significant and negative effects on couple functioning (Rostosky & Riggle, 2016), it is possible that for SMW, being in a committed relationship may also buffer the effects of stigma and discrimination (Rostosky & Riggle, 2016). Little is known, however, whether these buffers may function differently among SMW based on the gender of the partner.

SMW who are in relationships with men also appear to experience minority stress. For example, bisexual women, even those in different-sex relationships, experience stigma, discrimination, and invisibility (e.g., they may be more hesitant to disclose their sexual identity and others may presume that they are heterosexual), as well as exclusion and rejection from members of lesbian/gay communities (Dyar, Feinstein, & London, 2014; 2015; Feinstein, Latack, Bhatia, Davila, & Eaton, 2016; Herek, 2002; Molina et al., 2015). Recent research on mental health and relationship status among bisexual men and women demonstrated higher rates of anxiety among bisexual women in relationships compared to single bisexual women (Feinstein et al., 2016). The authors suggested that being in an intimate relationship, irrespective of the sex/gender of the partner, may lead to feelings of erasure of the bisexual identity. In different-sex relationships, bisexual men and women may feel “closeted.” These emotions may make bisexual individuals feel like they have to constantly come out as bisexual, which may increase anxiety about encountering biphobia from LGBTQ and heterosexual communities (Feinstein et al., 2016). In the same study, Feinstein and colleagues found that being in a romantic relationship also served as to buffer the effects of discrimination on mental health among bisexual individuals. One possible explanation for these conflicting findings may be the differential role of cohabiting versus non-cohabiting or dating relationships. The Feinstein study compared those in relationships (married, cohabiting, non-cohabiting, and dating combined) to those who were single, thus could not examine the different types of relationships and their discrete associations with mental health outcomes. Notably, the authors also could not examine differences based on partner gender and whether partner gender — above and beyond sexual identity — may influence health behaviors and health outcomes.

The engagement in healthy behaviors may differ depending on the sex/gender of the partner (Umberson & Kroeger, 2015; Umberson, Thomeer, & Lodge, 2015). In Reczek and Umberson’s 2012 study comparing health behaviors within heterosexual and same-sex relationships, the role of monitoring and shaping the health and health behaviors within heterosexual couples fell to the woman. Yet, in same-sex relationships (both lesbian and gay relationships), partners were more likely to share the health work, or to specialize based on

who had more health expertise (Reczek & Umberson, 2012a). Although women may be more likely to take on a caretaking role in heterosexual relationships due to socialization and hegemonic gender roles, in same-sex female relationships, gender-based divisions of labor seem to be less relevant. Less understood, however, is how gender of partner may influence alcohol consumption among sexual minorities.

Current study

We conducted secondary analyses of data from a community sample of SMW in wave 3 of an 18-year longitudinal study—the Chicago Health and Life Experiences of Women (CHLEW) study—to examine associations between relationship status and hazardous drinking. We compared four indicators of hazardous drinking using three categories of current relationship status: single (not in a committed relationship); committed cohabiting (committed relationship/living with partner or married); and committed non-cohabiting (committed relationship/not living with partner). Much of the previous research on same-sex relationships and health has lacked measures of sexual identity/orientation, and thus focused on married/cohabiting women in same-sex relationships compared to different-sex relationships and single women (both heterosexual and SMW combined). Our categorizations enable us to examine the potential effects of cohabiting or not among women in committed relationships, and to compare women with these relationship statuses to single SMW, allowing a more fine-grained examination of the role of relationship status in risk of hazardous drinking. Specifically, we hypothesized that, consistent with research on heterosexual couples, being in a committed cohabiting relationship is associated with lower risk of hazardous drinking than being single or in a committed non-cohabiting relationship among SMW. We also examined differences in the association between relationship status and drinking by sexual identity (lesbian and bisexual), and by partner gender, and hypothesized that: 1) cohabiting may provide less of a buffer for bisexual women than lesbian women; and 2) that partner gender would not be associated with outcome.

METHODS

Data source

The CHLEW study was designed to replicate and extend the National Study of Health and Life Experiences of Women (NSHLEW), a 20-year longitudinal study of alcohol use among women in the general U.S. population, which was conducted in cooperation with the National Opinion Research Center (R. W. Wilsnack, Kristjanson, Wilsnack, & Crosby, 2006; S. C. Wilsnack, Klassen, & Wilsnack, 1984). To date, the CHLEW researchers have collected three waves of data from women recruited in the greater Chicago metropolitan area (Everett, Hatzenbuehler, & Hughes, 2016a; Hughes et al., 2006). The CHLEW survey includes a broad range of questions related to drinking patterns and drinking-related problems, physical and mental health, and a variety of life experiences—with particular focus on women’s relationships. Each wave of the study has been approved by the Institutional Review Board at the PI’s (Hughes) academic institution.

Sample

In 2000–01, 447 women who self-identified as lesbian and were 18-years or older were recruited from Chicago and the surrounding suburbs using social network and snowball sampling methods and interviewed as part of the baseline study. The wave 2 survey was conducted in 2004–2005 with 384 women (response rate = 86%) and wave 3 in 2010–12 with 354 women (response rate = 79%). In wave 3 a supplemental sample of younger women (ages 18–25), Black and Hispanic women, and bisexual women ($N = 373$) was recruited using a modified version of respondent-driven sampling (Martin, Johnson, & Hughes, 2015). The current study uses wave 3 data only, which includes 353 participants from the original cohort and 373 from the supplemental sample ($N = 726$) interviewed in wave 3 of the CHLEW study. Data for participants who identified as heterosexual ($n = 6$), mostly heterosexual ($n = 8$), transgender ($n = 4$), or “other” ($n = 7$), those with missing data for sexual identity ($n = 2$), and three participants who did not indicate their relationship status were excluded from analyses. Lifetime abstainers ($n = 31$) were also excluded as their drinking would not be expected to change in association with their relationship status, resulting in an analytic sample of 665 SMW.

We retained women reporting different-sex partners in the analytic sample for several reasons. First, research suggests that bisexual, lesbian, and other non-exclusively heterosexual women are at greater risk than heterosexual women for hazardous drinking and alcohol-related problems (Drabble et al., 2005; Hughes, Szalacha, Johnson, Kinnison, et al., 2010a; S. E. McCabe et al., 2009; Vrangalova & Savin-Williams, 2014; S. C. Wilsnack et al., 2008). Second, identity is particularly salient in relation to risk of alcohol-related problems among women (Midanik, Drabble, & Trocki, 2007). Third, even bisexual-identified women in different-sex relationships appear to experience minority stress (Dyar et al., 2014; Feinstein et al., 2016; Herek, 2002; Molina et al., 2015), which is associated with risk of alcohol-related problems (S. E. McCabe et al., 2010). For these reasons, we included women who reported different-sex relationships (one-half of bisexual women [$n = 81$] and a small minority of lesbians [$n = 22$], see Table 1 for details). As described below, we included partner gender as a control variable in multivariate analyses, and conducted stratified analyses to examine the differential associations by partner gender.

Measures

Sexual identity—Participants were asked if they self-identified as: exclusively lesbian, mostly lesbian, bisexual, mostly heterosexual, exclusively heterosexual, transgender, or other. Women who identified as lesbian (exclusively and mostly categories combined) or bisexual were included in the current study. We tested whether “mostly lesbian” women differed significantly on relationship status and all alcohol outcomes in comparison to lesbian women. There were no significant differences in relationship status between mostly lesbian and lesbian women. Mostly lesbian and lesbian women were similar on all alcohol outcomes and the interaction between mostly lesbian and relationship status on alcohol outcomes was not significant, suggesting no differences in the association between relationship status and sexual identity among lesbian compared to mostly lesbian women. Thus, we combined mostly lesbian and lesbian women.

Partner gender—Participants who reported being in committed relationships were asked the gender (male or female) of their partner. Thus, in stratified analyses that examine the associations with partner gender, only participants in committed relationships are included.

Relationship status—Participants indicated whether they were: not in a committed relationship (single), in a committed relationship but not living together (not cohabiting), or in a committed relationship and living together (cohabiting). Because same-sex marriage or civil unions were not yet legal in Illinois when data collection for wave 3 began, there were insufficient numbers of women who reported being married or in a civil union ($n = 60$) to include this as a separate category. Previous research has found no significant differences in alcohol outcomes between same-sex female couples who were married compared to those who were cohabiting (Reczek et al., 2014). In addition, because the CHLEW question about marital status asked whether participants were “currently legally married to a female partner, in a legal civil union, or registered with a state acknowledged registry with a female partner” we were unable to examine marital/civil union status among SMW in relationships with men. Using all alcohol outcomes, we compared women who reported being married with those who reported being in committed relationships and living with their partners and found no significant differences between the two groups (data available upon request). Therefore, we combined married and cohabiting women in all analyses.

Hazardous Drinking—Hazardous drinking was measured using four indicators: heavy drinking, symptoms of potential alcohol dependence, alcohol problem consequences, and heavy episodic drinking (HED; Matthews et al., 2013). We chose to examine multiple outcomes to better understand the landscape of drinking in SMW’s relationships. Individual measures of drinking in this study were designed to replicate measures that have been validated and used in other national studies in the U.S., including the parent study—the National Study of Health and Life Experiences of Women (NSHLEW; R. W. Wilsnack et al., 2006; S. C. Wilsnack et al., 1984) and the National Alcohol Survey (Caetano, Tam, Greenfield, Cherpitel, & Midanik, 1997; Midanik & Greenfield, 2000). The hazardous drinking index has been validated with the CHLEW sample (Riley et al., 2016) and has been used in research comparing sexual minority and heterosexual women (Drabble, Trocki, Hughes, Korcha, & Lown, 2013; Hughes, Szalacha, Johnson, Kinnison, et al., 2010a).

Heavy Drinking (12-month): Participants were asked to indicate the average number of drinks they drank in a typical day when they consumed alcohol, and the number of days that they typically drank in the past year: 5 times a week or more; 3–4 times a week; once or twice a week; 1–3 times a month; 8–11 times in 12 months; 4–7 times in 12 months; 1–3 times in 12 months; never in 12 months. Responses to the quantity and frequency questions were combined to arrive at level of drinking: 0=abstain (no drinks consumed in the previous year; lifetime abstainers were excluded from analyses); 1=light (1–3 drinks per week); 2=moderate (4–7 drinks/week); and 3=heavy drinking (> 7 drinks/week or > than 3 drinks/day). These drinking level definitions are based on current federal guidelines for women (R. W. Wilsnack & Wilsnack, 2016). A dichotomous measure was created to indicate heavy drinking compared to all other categories.

Symptoms of potential alcohol dependence (12-month): Alcohol dependence was constructed as a dichotomous measure that compared participants reporting no alcohol dependence symptoms to those reporting one or more of 5 symptoms (such as inability to stop drinking before becoming intoxicated, and inability to stop or cut down on drinking over time). (Caetano et al., 1997; Matthews et al., 2013; Midanik & Greenfield, 2000; R. W. Wilsnack et al., 2006; S. C. Wilsnack et al., 1984) ($\alpha = .74$).

Alcohol-related problem consequences (12-month): Participants were asked about their past 12-month experience of eight adverse drinking consequences (driving a car while high from alcohol; drinking-related accidents in the home; harmful effects of drinking on housework or chores, or on job or career opportunities; drinking-related problems with partner or children; and starting fights with partner or with people outside the family when drinking; W. B. Clark & Midanik, 1982; Midanik & Greenfield, 2000; S. C. Wilsnack et al., 1984)($\alpha = .65$). A dichotomous measure was created to indicate one or more alcohol-related problems vs. none (Matthews et al., 2013).

Heavy episodic drinking (HED): To ascertain whether participants engaged in heavy episodic drinking we used a question asking about frequency in the past 12 months of consuming six or more drinks in a day. Reports of one or more heavy episodic drinking episodes in the last 12 months (vs. none) were coded as HED (Everett, McCabe, & Hughes, 2016b; Matthews et al., 2013).

Covariates—Covariates included race/ethnicity (white [referent]; African-American, Latina), partner gender (female [referent]; male), age (continuously measured), education (< high school [referent]; high school, some college, bachelor's degree, graduate/professional degree), employment (full-time [referent]; part-time, unemployed-looking, unemployed-not looking); income (< \$20,000 [referent]; \$20,000–39,999, \$40,000–74,999, \$75,000), parental status (any children under 18 living at home-yes; no [referent]), age at first drink (under 16 [referent]; 16 and over), relationship length (continuous, in months), and past year depression (yes; no [referent]). Past 12-month depression (measured categorically [depressed or not], assessed using questions from the Diagnostic Interview Schedule; (Robins & Helzer, 1985)) was added as a covariate to control for the potential effects of depression on alcohol use, given that depression is both a potential predictor and a potential outcome of alcohol use (K. Graham, Massak, Demers, & Rehm, 2007).

Data analysis

Chi-square tests were used to examine differences by sexual identity, race/ethnicity, and relationship status in past year heavy drinking, alcohol dependence symptoms, and alcohol-problem consequences. We fit multivariable logistic regression models to the data that controlled for the effects of demographic characteristics and depression on dichotomous drinking outcomes (heavy drinking, alcohol dependence, and alcohol problems). Covariates were dummy coded and each category was compared to the referent group. All analyses were performed using SPSS version 23 (IBM Corp., Armonk, NY, USA) statistical software. Finally, we examined the interactions between relationship status and partner gender, and relationship status and sexual identity, to examine the potential contributions of partner

gender and sexual identity to the associations between relationship status and hazardous drinking.

RESULTS

Sample Characteristics

Table 1 summarizes the demographic characteristics of the 490 lesbian and 175 bisexual women in the sample, by sexual identity and relationship status. Almost 40% (38.3%) were living with a partner in a committed relationship, 22.6% were in a committed relationship but were not cohabiting, and 39.1% were not in a committed relationship. Of women in committed relationships, 88.9% reported having a female partner and 11.1% reported having a male partner. About a fifth of the sample (19.9%) reported having at least one child under age 18 living at home. Slightly more than 50% of women in the sample were employed full-time, and 17.0% reported working part-time. Less than half of the sample had a college degree (20.9% had a 4-year degree, and 27.5% had a graduate degree). Bisexual women reported significantly lower levels of education and income than lesbian women.

We found significant differences in relationship status based on sexual identity, race/ethnicity, age, education, and income. Compared with bisexual women, lesbian women were significantly less likely to be single (36% vs. 49%) and significantly more likely to be in a committed/cohabiting relationship (44% vs. 23%). White women were significantly more likely to be in committed/cohabiting relationships (51%) than either African American (29%) or Latina (35%) women. Cohabiting women tended to be older, have a graduate degree, and have higher household incomes than either committed/non-cohabiting women or single women.

Relationship Status and Drinking Outcomes

Unadjusted bivariate associations between sexual identity, relationship status, and drinking outcomes are shown in Table 2. To examine the associations between relationship status and the hazardous drinking indicators we used multivariable logistic regression models, controlling for demographic characteristics (Table 3).

In adjusted analyses, single women were two times as likely as their committed cohabiting counterparts to report heavy drinking ($OR = 1.93$, 95%CI: 1.13, 3.29). Compared with SMW in committed cohabiting relationships, both single SMW ($OR = 1.81$, 95%CI: 1.13, 2.89) and those in committed non-cohabiting relationships ($OR = 2.25$, 95%CI: 1.34, 3.78) were significantly more likely to report one or more alcohol problems in the past year. Compared with SMW in committed cohabiting relationships, both single SMW ($OR = 1.83$, 95%CI: 1.11, 2.99) and those in committed non-cohabiting relationships ($OR = 2.11$, 95%CI: 1.23, 3.60) were significantly more likely to report one or more symptoms of potential alcohol dependence in the past year. There were no significant associations between relationship status and heavy episodic drinking.

Interactions—We additionally tested the above models with two interaction terms: relationship status by sexual identity and relationship status by partner gender. We found no significant interaction effects of relationship status by sexual identity in three of the logistic

regression models (heavy drinking, alcohol problems, and HED). However, the relationship status by sexual identity interaction on symptoms of potential alcohol dependence revealed that bisexual women in non-cohabiting relationships were more likely to report one or more symptoms of potential alcohol dependence compared to lesbian women in cohabiting relationships ($OR = 3.513$, 95%CI: 1.13, 10.89). However, single bisexual women were no more likely to report symptoms of alcohol dependence compared to lesbian women in cohabiting relationships ($OR = 1.14$, 95%CI: .41, 3.18). The interaction between relationship status and partner gender was not significant in any of the models.

Relationship Status and Drinking by Sexual Identity and Partner Gender

To better understand the potential differential effects of sexual identity (lesbian, bisexual) and partner gender, we conducted post-hoc stratified analyses. We conducted four separate sets of analyses in which we examined full models separately for lesbian and bisexual women, and then separately for women with female versus male partners. Below we report the results of the final adjusted models, with non-significant covariates removed (data not shown in tables; available upon request).

Sexual Identity—Among lesbian women, controlling for key covariates (age, education, income, employment, and depression), those who were single ($OR = 1.80$, 95%CI: 1.03, 3.15) had an increased likelihood of reporting alcohol problems compared to cohabiting women. There were no additional significant effects of relationship status on drinking outcomes among lesbian women. Controlling for key covariates (age and income), we found that bisexual non-cohabiting women had a 4.5 times higher odds of being heavy drinkers compared to cohabiting women, ($OR = 4.55$, 95%CI: 1.12, 18.45). Non-cohabiting bisexual women had an almost 9 times higher odds ($OR = 8.86$, 95%CI: 2.64, 29.78) and those who were single had a 3.5 times higher odds ($OR = 3.55$, 95%CI: 1.15, 10.98) of reporting potential alcohol dependence compared to cohabiting bisexual women. There were no significant associations between relationship status and either alcohol problems or heavy episodic drinking among bisexual women.

Partner Gender—Controlling for key covariates (age, income, employment, and parental status-children under 18 in the home), we found no effects of relationship status on drinking outcomes among SMW with female partners. There were no significant unadjusted associations between relationship status and drinking outcomes among SMW with male partners. Adjusted associations could not be examined due to the small sample size of SMW with male partners.

DISCUSSION

This is one of the first studies to examine relationship status and alcohol use among SMW. In the current study, being in a committed relationship appeared to be protective against the risk of heavy drinking for both bisexual and lesbian women. Among SMW in our sample, cohabiting was protective against alcohol dependence and alcohol-related problems, even when controlling for other covariates and regardless of partner gender. Notably, little research has examined lesbian and bisexual women's health behaviors, particularly alcohol

use, in the context of intimate relationships. Until recently most SMW did not have the opportunity to be legally married, thus our study combined married and committed cohabiting partners. Although our relationship status variables necessarily differ from prior studies of heterosexuals, a similar principle seems to apply for both: greater commitment is more protective against hazardous drinking.

There are a number of reasons why committed relationships may be protective. First, partners may monitor or regulate each other's health and health behaviors (Umberson & Montez, 2010). Second, couples may co-create social norms for health behaviors (Reczek & Umberson, 2012a; Umberson & Montez, 2010). Third, being in a committed relationship may foster a sense of responsibility for being healthier (Reczek, 2012; Ross & Mirowsky, 2013). Fourth, relationships increase one's sense of coherence, which has positive implications for mental and physical health (Reczek, 2012; Ross & Mirowsky, 2013; Umberson & Montez, 2010).

Findings from the current study underscore the importance of relationships in predicting health outcomes among SMW. Relationships are critically important to health because they provide emotional and psychological benefits and because members of couples influence each other's health behaviors. In forming relationships, some people seek out and choose partners who are similar to themselves (Wiersma-Mosley & Fischer, 2016). Individuals who partner with similar others are less likely to change; if one of the similarities is drinking behaviors, members of the couple may mutually reinforce the other's drinking behaviors (Wiersma-Mosley & Fischer, 2016). Thus, if both drink heavily, this drinking pattern may be reinforced through the relationship. Conversely, some individuals choose partners who are dissimilar, and thus through sharing emotions (e.g., mood convergence or contagion), or socialization processes, one member of the couple may influence the other member to drink more or less (Reczek et al., 2016; Wiersma-Mosley & Fischer, 2016).

Cohabiting may additionally increase the likelihood that couples will support and monitor each other's health behaviors and create norms for health within the relationship (Reczek & Umberson, 2012a; Umberson & Montez, 2010). In a qualitative study, Reczek and Umberson (2012) found that same-sex couples, not unlike different-sex couples, promoted health and healthy behaviors within the relationship (Reczek & Umberson, 2012a). Unlike different-sex couples, however, this health work was not predominantly driven by one member (typically the female in different-sex couples) of the couple. Instead, members of same-sex couples tended to cooperatively and mutually support, monitor, and reinforce each other's health in the relationship. It is possible that this collaborative and mutual health work may buffer external stressors such as stigma and discrimination that disproportionately affect LGB individuals and couples, and this may be most apparent among committed, cohabiting couples.

In our study, single and committed, non-cohabiting SMW were at higher risk than committed, cohabiting SMW for alcohol-related problem consequences and symptoms of potential alcohol dependence. There are several possible reasons for this. As noted previously, committed relationships provide buffers against stress (J. M. Graham & Barnow, 2013; Rostosky & Riggle, 2016), and non-cohabiting couples may have fewer protections

against such stress. Despite being in a committed relationship, SMW in non-cohabiting relationships may be at additional risk of hazardous drinking because their partners are less available to provide emotional support or to monitor their drinking behavior. Further, it is possible that those who are not cohabiting may be less committed. Although income was not associated with hazardous drinking in our study, previous research has found that single and non-cohabiting SMW may be at economic disadvantage, which may increase their overall stress and their likelihood of drinking (Liu, Reczek, & Brown, 2013). Among the women in the current sample, those in cohabiting relationships had higher levels of education, were more likely to be employed, and had higher incomes, all of which likely help to buffer stress.

Another possible explanation for higher levels of hazardous drinking indicators among single SMW is that they may drink more due to relationship changes. There is some evidence that alcohol use varies among single women depending on whether or not they are actively dating. In a qualitative study conducted by Parks (1999), lesbian social drinkers described their drinking as varying distinctively over the course of their intimate relationships; levels of drinking changed with the stages of the relationship (dating versus dissolving) and to match or counter their partner's drinking. For single women in particular, changes in relationship status, contexts, or companions may change their motivations for drinking alcohol. For example, qualitative studies suggest that SMW may be motivated to frequent bars or other drinking contexts when they are single, or seeking community, or dealing with a relationship break-up (Condit et al., 2011; Gruskin, Byrne, Kools, & Altschuler, 2007). Although frequenting bars does not always entail heavier drinking in those contexts (Trocki, Drabble, & Midanik, 2005), coping or mood elevation motivations for bar patronage are associated with problem drinking (Trocki & Drabble, 2008). More research is needed to better understand changes in single SMW's drinking and how these changes may be influenced by dating contexts and romantic partners.

It was notable that in follow up analyses (interaction of sexual identity x relationship status and stratified analyses), we found that bisexual women who were non-cohabiting were more likely to report alcohol dependence symptoms than were committed cohabiting bisexuals and lesbians. Single bisexuals had greater odds of reporting alcohol dependence symptoms than cohabiting bisexuals, whereas single lesbians had greater odds of reporting alcohol problem consequences (but not dependence symptoms) than cohabiting lesbians. These findings are consistent with previous research, which disaggregated lesbian and bisexual women in comparisons to heterosexual women and found that disparities in risk for dependence symptoms were particularly pronounced among bisexual women (Drabble et al., 2005; Hughes, Johnson, Steffen, Wilsnack, & Everett, 2014; Hughes, Szalacha, & McNair, 2010b; Reczek & Umberson, 2012b; S. C. Wilsnack et al., 2008). At the same time, other studies have not found higher odds of alcohol dependence among bisexual women (McCabe et al 2009). Additional research is needed to better understand variations in risk and correlates of risk between bisexual and lesbian women.

Cohabiting may confer special protections against hazardous drinking among bisexual women. It is possible that for bisexual women, being in a committed, cohabiting relationship provides disproportionately greater protections against minority stressors. These findings are consistent with previous research, which disaggregated lesbian and bisexual women in

comparisons to heterosexual women and found that disparities in risk were particularly pronounced among bisexual women—including hazardous drinking, and poorer health outcomes (Drabble et al., 2005; Hughes et al., 2014; Hughes, Szalacha, & McNair, 2010b; S. E. McCabe et al., 2009; S. C. Wilsnack et al., 2008). In general, bisexual women report higher levels of stigma and discrimination related to their identity, as well as bi-phobia/binegativity from both LGBT and heterosexual communities (Chmielewski & Yost, 2013; Dyar et al., 2014; Feinstein & Dyar, 2017; Flanders, Dobinson, & Logie, 2015) and less social support and more life stressors compared to heterosexual women and gay men (Jorm, Korten, Rodgers, & Jacomb, 2002). Both experienced and internalized bi-negativity may increase bisexual women's risk of hazardous drinking overall (Molina et al., 2015), and these stressors may differentially impact bisexual women who are not in cohabiting and committed relationships.

Partner gender is a powerful signifier of sexual identity (Dyar et al., 2014); bisexual women in relationships with men are likely to be perceived as heterosexual, thus providing them with heterosexual privilege, but perhaps leading to exclusion from the LGBTQ community. Bisexual women in relationships with women tend to be perceived as lesbian, thus protecting them from stigma associated with having a bisexual identity among the LGBTQ community, but putting them at risk of heterosexism and homophobia in mainstream communities. Indeed, previous research has found that bisexual women in relationships with men, compared to being in relationships with women, evinced discrete mental health outcomes (Dyar et al., 2014). In the current study, however, we found no effects of partner gender nor any interactions between partner gender and sexual identity—although this may be partially attributable to the low number of women with male partners in our sample.

Study limitations

Several limitations should be considered when evaluating the results of this study. First, the CHLEW sample was recruited using non-probability sampling methods, which limits generalizability. Women who were less “out” or who were uncomfortable disclosing their sexual identity may have been less likely to participate in the CHLEW study. Women who took part in the study were aware that the focus was on sexual orientation and other potentially sensitive topics, such as substance use and depression, and this may have affected some women's willingness to participate in the study. Second, because our analyses used cross-sectional data, causality and temporality could not be examined. It is possible, for example, that women who drink heavily are less likely to be in committed or cohabiting relationships. However, previous research has suggested that although heterosexual men who are heavy drinkers are far less likely to be in committed relationships, at least among heterosexual women, there is no association between heavy drinking and the likelihood of being in a relationship (Fischer & Wiersma, 2012). Future research should examine this longitudinally among SMW to determine if heavy drinking has a similar association with the likelihood of being in a committed relationship. Third, because the CHLEW study focuses on SMW, we were unable to directly compare our findings to studies of heterosexual women. Future research that includes a comparison group of heterosexual women would increase understanding of how the effects of relationships on drinking may differ for heterosexual and SMW. Fourth, although this study improves upon previous research by

including SMW in committed, non-cohabiting relationships and those who are single, we were unable to compare SMW in dating and those not in dating relationships. Although we found no differences by partner gender in committed relationships, we did not have data on sex of dating partners. Further, the number of SMW in the study with male partners was low. It will be important for future research to gather more detailed data on dating SMW to better understand how drinking may differ among types of dating relationships.

Given that women of color in the general population are less likely to cohabit (Battle & DeFreece, 2014; Liu et al., 2013), future research should examine the interactions between race/ethnicity and relationship status as they affect alcohol-related outcomes. Further, studies that include measures of minority stress and relationship stress would shed light on whether cohabiting and committed relationships are protective against the overall higher levels of stress experienced by SMW. Finally, longitudinal analyses of the association between relationship factors and alcohol use would provide information on how relationship changes (breakups, changes in stressors, marriage) and policy changes (e.g., marriage equality) may affect alcohol use.

Conclusions

Despite the fact that substantial proportions of SMW are in same-sex cohabiting or married relationships (Gates, 2014), little research has investigated SMW's alcohol use within intimate relationships. The number of SMW who are married is expected to grow substantially now that same-sex marriage is legal in all 50 U.S. states. Given the shifting landscape of same-sex intimate relationships, research is greatly needed to better understand relationship factors that influence drinking and drinking-related problems among SMW and whether marriage equality, and other protective/supportive policies, may change the associations between drinking and relationship status. This study represents an early step in understanding how relationship status may be associated with risk of hazardous drinking among SMW.

Identifying risk and protective factors associated with heavy/hazardous drinking can assist in the development of targeted interventions (both individual- and couple-level) to improve coping, and can inform public policies that support and protect same-sex couples—dual strategies essential to the ultimate goal of improving health in this population. We and others have found that use of treatment services among SMW is high (Grella, Cochran, Greenwell, & Mays, 2011; Grella, Karno, Warda, Moore, & Niv, 2009; Jeong, Veldhuis, Aranda, & Hughes, 2016). However, rates of lifetime alcohol dependence far exceed rates of treatment utilization and vary by sexual identity and race/ethnicity (Jeong et al., 2016). Even if SMW perceive a need and wish to obtain care, they may be hesitant to seek treatment due to potential stigma, discrimination, or lack of culturally sensitive services. Nationally, a low proportion (less than 10%) of substance use treatment programs have specialized services for LGBT people (B. N. Cochran, Peavy, & Robohm, 2007). This suggests a critical need to create treatment for alcohol disorders that is culturally competent and responsive to the identity and relationship status of sexual minority women. Further, given that partners have strong effects on the other's health behaviors, couple-level interventions may be an important focal point for treatment.

Acknowledgments

This work was supported by a University of Illinois at Chicago, College of Nursing Internal Research Support Program (IRSP) Grant and by Research Grant No. R01 AA13328 (T. L. Hughes, Principal Investigator) from the U.S. National Institute on Alcohol Abuse and Alcoholism (NIAAA)/National Institutes of Health (NIH). Note: the content is the sole responsibility of the authors and does not necessarily represent the official views of NIAAA or NIH. The authors would like to express their gratitude to the women of Chicago who participated in the CHLEW study.

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Table 1

Sample characteristics for total sample and split by sexual identity, racial/ethnic group, and relationship status - Chicago Health and Life Experiences of Women (N = 665).

Relationship status	Sexual Identity (n = 665)						Relationship status (n = 665)						χ^2_p				
	Lesbian (n = 490)			Bisexual (n = 175)			Cohabiting (n = 255)			Non cohabiting (n = 150)				Single (n = 260)			
	n	%		n	%		n	%		n	%	n			%		
Total (N = 665)																	
Relationship status																	
Cohabiting	255	38.3	214	43.7	41	23.4	41	23.4	-	-	-	-	-	-	-	-	-
Non-cohabiting	150	22.6	102	20.8	48	27.4	48	27.4	-	-	-	-	-	-	-	-	-
Single	260	39.1	174	35.5	88	49.1	88	49.1	-	-	-	-	-	-	-	-	-
Race/ethnicity																	
White	249	37.4	189	39.8	60	35.9	60	35.9	126	50.6	44	17.7	44	17.7	79	31.7	25.368
African American	238	35.8	172	36.2	66	39.5	66	39.5	69	29.0	63	26.5	63	26.5	106	44.5	< .0001
Latina	155	23.3	114	24.0	41	24.6	41	24.6	54	34.8	38	24.5	38	24.5	63	40.6	
Partner gender																	
Female	346	88.9	301	97.4	45	56.3	45	56.3	229	90.9	117	85.4	117	85.4	-	-	1.023
Male	43	11.1	8	2.6	35	43.8	35	43.8	23	9.1	20	14.6	20	14.6	-	-	0.100
Age																	
30	219	32.9	138	28.2	81	46.7	81	46.7	66	25.9	64	42.7	64	42.7	89	34.2	26.178
31-40 years	144	21.7	100	20.4	44	25.1	44	25.1	64	25.1	28	18.7	28	18.7	52	20.0	0.012
41-50 years	127	19.1	97	19.8	30	17.1	30	17.1	46	18.0	30	20.0	30	20.0	51	19.6	
51 years	175	26.3	155	31.6	20	11.4	20	11.4	79	31.0	28	18.7	28	18.7	68	26.2	
Education																	
< High School	52	7.8	29	5.9	23	13.1	23	13.1	9	3.5	21	14.0	21	14.0	22	8.5	128.743
High School Graduate	84	12.6	56	11.4	28	16.0	28	16.0	24	9.4	21	14.0	21	14.0	39	15.0	< .0001
Some College	207	31.1	153	31.2	54	30.9	54	30.9	68	26.7	51	34.0	51	34.0	88	33.8	
Bachelors	139	20.9	105	21.4	34	19.4	34	19.4	58	22.7	28	18.7	28	18.7	53	20.4	
Graduate/Professional	183	27.5	147	30.0	36	20.6	36	20.6	96	37.6	29	19.3	29	19.3	58	22.3	
Employment																	
Full-time	333	50.2	261	53.4	72	41.1	72	41.1	147	57.9	58	38.7	58	38.7	128	49.2	41.561
																	0.010

	Sexual Identity (n = 665)						Relationship status (n = 665)						χ^2 p	
	Lesbian (n = 490)			Bisexual (n = 175)			Cohabiting (n = 255)			Non cohabiting (n = 150)				Single (n = 260)
	n	%		n	%		n	%		n	%			
Part-time	113	17.0	84	17.2	29	16.6	43	16.9	30	20.0	40	15.4		
Unemployed, looking	111	16.7	65	13.3	46	26.3	31	12.2	33	22.0	47	18.1		
Unemployed, not looking	107	16.1	79	16.2	28	16.0	33	13.0	29	19.3	45	17.3		
Income														
< \$20,000	208	32.6	126	26.87	82	49.1	38	15.4	63	44.4	107	42.8	69,180	< .0001
\$20,000–39,999	121	19.0	83	17.6	38	22.8	35	14.2	30	21.1	56	22.4		
\$40,000–74,999	151	23.7	122	25.9	29	17.4	57	23.2	32	21.8	63	25.2		
75,000	158	24.3	140	29.7	18	10.8	116	47.2	18	12.7	24	9.6		
Parental status														
Children at home	132	19.9	91	18.6	41	23.4	64	25.1	26	17.3	42	16.2	20,890	0.028

Table 2

Unadjusted outcomes for total sample and split by sexual identity, racial/ethnic group, and relationship status ($N = 665$).

	Sexual Identity ($n = 665$)										Relationship status ($n = 665$)				$\chi^2 p$		
	Total ($N = 665$)		Lesbian ($n = 490$)		Bisexual ($n = 175$)		Cohabiting ($n = 255$)		Non cohabiting ($n = 150$)		Single ($n = 260$)						
	n	%	n	%	n	%	n	%	n	%	n	%					
Heavy Drinking																	
Yes	121	18.2%	79	16.1%*	42	24.0%*	33	12.9%*	28	18.7%	60	23.1%*					8.914
No	544	81.8%	411	83.9%	133	76.0%	222	12.9%	122	81.3%	200	76.9%					0.012
Any Alcohol Problems																	
Yes	185	27.8%	125	26.3%*	60	35.9%*	53	21.4%*	54	37.5%*	78	31.1%					12.631
No	458	68.9%	351	73.7%	107	64.1%	195	78.6%	90	62.5%	173	68.9%					0.002
Any Dependence Symptoms																	
Yes	171	25.7%	108	22.5%*	63	37.5%*	45	18.0%	52	35.6%	74	29.2%					16.538
No	478	71.9%	373	77.5%	105	62.5%	205	82.0%*	94	64.4%*	179	70.8%					<.0001
Heavy Episodic Drinking																	
Yes	271	40.8%	300	61.3%	93	53.1%	89	34.9%*	65	43.6%	117	45.0%*					6.063
No	393	59.1%	189	38.7%	82	46.9%	166	65.1%	84	56.4%	143	55.0%					0.048

Note:

* indicates pairwise comparisons significant.

Adjusted odds ratios for logistic regressions of relationship status on past-year heavy drinking, symptoms of potential dependence, and alcohol problems.

Table 3

	Heavy Drinking				Alcohol Problems				Dependence				HED			
	Lower		Upper		Lower		Upper		Lower		Upper		Lower		Upper	
	OR	95% C.I.	p	OR	95% C.I.	p	OR	95% C.I.	p	OR	95% C.I.	p	OR	95% C.I.	p	
Relationship status																
Cohabiting	1.00			1.00			1.00			1.00			1.00			
Non-cohabiting	1.30	0.71	2.40	0.40	2.25	1.34	3.78	0.00	2.11	1.23	3.60	0.01	1.09	0.67	1.77	0.72
Single	1.93	1.13	3.29	0.02	1.81	1.13	2.89	0.01	1.83	1.11	2.99	0.02	1.29	0.85	1.98	0.24
Age	0.98	0.96	0.99	0.01	0.95	0.93	0.97	0.00	0.94	0.93	0.96	0.00	0.94	0.93	0.96	0.00
Education																
High School	1.00			1.00			1.00			1.00			1.00			
Some college	0.45	0.25	0.79	0.01	0.64	0.37	1.10	0.11	0.58	0.33	1.00	0.05	0.57	0.34	0.96	0.03
College graduate	0.35	0.17	0.70	0.00	0.58	0.31	1.09	0.09	0.59	0.31	1.12	0.11	0.54	0.30	0.97	0.04
Graduate school	0.37	0.18	0.75	0.01	0.50	0.26	0.96	0.04	0.53	0.27	1.04	0.07	0.51	0.28	0.94	0.03
Income																
Less than \$20,000	1.00			1.00			1.00			1.00			1.00			
\$20,000–39,000	1.24	0.67	2.29	0.49	0.84	0.48	1.49	0.56	0.87	0.50	1.51	0.61	0.93	0.55	1.57	0.79
\$40,000–74,999	1.51	0.79	2.88	0.21	1.81	1.02	3.21	0.04	0.94	0.52	1.71	0.84	1.81	1.05	3.13	0.03
\$75,000 and above	1.20	0.54	2.66	0.66	1.56	0.79	3.10	0.20	1.20	0.59	2.42	0.62	0.80	0.42	1.52	0.50
Employment																
Full time	1.00			1.00			1.00			1.00			1.00			
Part time	0.55	0.27	1.09	0.09	1.07	0.54	2.13	0.85	0.57	0.29	1.12	0.10	1.26	0.68	2.32	0.47
Not employed - looking	0.59	0.27	1.30	0.19	1.03	0.49	2.19	0.93	0.68	0.32	1.43	0.31	1.15	0.59	2.25	0.68
Not employed – not looking	0.77	0.37	1.60	0.49	1.08	0.51	2.27	0.84	0.88	0.43	1.80	0.72	0.64	0.32	1.26	0.19
Constant	1.04			0.95	2.13			0.15	4.71			0.00	7.96			0.00

*** p<0.001,
 ** p<0.01,
 * p<0.05

Note: Demographic variables not significant across multivariate analyses are excluded from table: Sexual identity, race/ethnicity, partner gender, relationship length, parental status, and past year depression.

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