Same-Sex Unions and Health: An Examination of Alcohol Use

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Abstract

Different-sex married individuals have long been shown to experience greater longevity and lower mortality when compared to the different-sex cohabiting, the divorced, widowed, and never-married single. In part, research shows that this health benefit is due to the lower levels of alcohol use that accompany marriage, especially among men. Yet, it is unclear whether individuals in same-sex married or cohabiting unions experience analogously lower rates of alcohol use as those found for different-sex married individuals, or if individuals in same-sex unions experience higher rates more similar to other union status groups. The present study examines how the risk of being a heavy, moderate, or former drinker varies across union status using a cross-sectional national representative sample from the pooled U.S. National Health Interview Surveys (NHIS). Findings reveal that same-sex married men report lower levels of alcohol use than same and different-sex cohabiting men, but a similar marital "boost" is not found for same-sex women. Additionally, same-sex cohabiting men and women experience unexpected disadvantage in risk of alcohol use when compared to different-sex marital and single union groups. The gendered implications of these findings are discussed.

Different-sex married individuals have long been shown to experience greater longevity and lower mortality rates when compared to the different-sex cohabiting divorced, widowed, and never-married single (Liu & Reczek, 2012; Waite & Gallagher, 2000). This marital advantage is in part due to reductions in unhealthy behaviors associated with mortality and morbidity such as alcohol use and cigarette smoking (Duncan, Wilkerson & England 2006; Waite & Gallagher, 2000). Because this health advantage is found in the general population, policy makers and researchers have advocated for the legalization of same-sex marriage in an effort to promote health for individuals in same-sex relationships (Lau & Straum, 2011; Institute of Medicine of the National Academies (IOM), 2011). However, little empirical evidence demonstrates whether union status is associated with health among individuals across same-sex and different-sex couples in analogous ways (IOM, 2011). In the present study, we explore the relationship between same-sex union status and health through the lens of alcohol use – one health behavior that exemplifies the "marriage benefit."

Alcohol use significantly contributes to morbidity and mortality across the life course (Gunzerath, Faden, Zakhari, & Warren, 2004; McGinnis & Foege, 1993; Mokdad, Marks, Stroup, & Gerberdig, 2000). Heavy alcohol use (e.g., more than 7 drinks a week for women and more than 14 drinks per week for men (Lawrence et al., 2004)) and binge drinking (e.g., more than 5 drinks in a two-hour span (Ramisetty-Mikler et al., 2010)) are strongly related to health, while moderate drinking (e.g., one drink a day for men, less than one drink a day for women) has been shown to be both detrimental (Filmore et al., 2006, 2007; Fleming et al., 2010) and protective (Thun et al., 1997) for health. Due to the link between alcohol and overall health, scholars and public health officials emphasize the need to reduce overall levels of alcohol consumption as well as reduce disparities in alcohol use across the general population (US

DHHS, 2006). Research shows that different-sex marriage is one key social factor associated with lower levels of alcohol use, especially among men (Duncan et al., 2006; Leonard & Rothbard; 1999; Simon, 2002; Waite & Gallagher, 2000). Yet, it is unclear whether individuals in same-sex marriages experience rates of alcohol use analogous to those found for different-sex married individuals, or if same-sex married men and women experience rates more similar to other union status groups such as different-sex cohabiting and single individuals. Additionally, little is known about where same-sex cohabiter's alcohol use falls on this union status continuum. The present study examines how the risk of being a heavy, moderate, or former drinker varies across union status using a cross-sectional national representative sample from the pooled U.S. National Health Interview Surveys (NHIS). We evaluate how same-sex married and same-sex cohabiting individuals differ in alcohol use from one another, and compare both same-sex married and same-sex cohabiting individuals to their different-sex married, different-sex cohabiting, divorced, widowed, and never married single counterparts. Particular attention is paid to how gender matters in these associations.

BACKGROUND

While previous research shows a strong relationship between union status and health (Waite & Gallagher, 2000), the authors know of no nationally-representative studies that examine alcohol use among same-sex married and cohabiting couples. Moreover, previous research shows that men's alcohol use is more clearly associated with union status than is women's (Duncan et al. 2006; Eng et al., 2005; Power, Rodgers, & Hope, 1999; Pudrovska & Carr, 2009; Zisook, Shuchter, & Mulvihill, 1990), yet it is unclear how this gendered pattern matters for the alcohol use of women and men in same-sex unions. Below, we utilize the long-standing theoretical approaches on union status and alcohol use to examine differences among

same-sex married individuals, same-sex cohabiting individuals, and individuals in other union statuses. We further hypothesize how these associations are gendered.

Union Status and Alcohol Use: Same-sex Married Vs. Different-Sex Married

Longitudinal studies show that the transition to first marriage, and the first years of married life, are related to a reduction in overall alcohol use and binge drinking for both men and women (Bachman et al., 1997; 2002; Curren et al., 1998; Miller-Tutzauer et al., 1991; Fleming, White, & Catalano, 2010; Homish & Leonard 2007; Leonard & Mudar, 2004; Harris, Lee, & DeLeone, 2010; Temple et al., 1991). Different-sex marriage is theorized to confer psychosocial, economic, and institutional resources that promote lower levels of alcohol consumption. Psychosocially, marriage confers social support, including instrumental (e.g., help with tasks), informational (e.g., advice), financial (e.g., increased income), and emotional (e.g., providing a sense that one is loved and cared for) support (Taylor & Repetti, 1997; Wolff & Kasper, 2006). Each of these resources are in turn associated with lower levels of alcohol and substance use (Galea, Nandi, & Vlahov, 2004; Waite & Gallagher, 2000). Additionally, marriage promotes lower levels of alcohol use via direct and indirect social control (Laub, Nagin, & Sampson, 1998; Umberson, 1987, 1992). Directly, spouses regulate alcohol use by explicitly telling a spouse to stop or temper drinking (Umberson, 1987; DiMatteo, 2004). Indirectly, marriage introduces new norms and roles of adulthood, one of which is to "clean up one's act" and consume less alcohol (Duncan et al., 2006). Economically and institutionally, marriage is associated with increases in socioeconomic status (e.g., education, income) which is in turn associated with alcohol use (van Oers et al., 1999, although see Casswell et al. 2003 for contrary evidence); other institutional marriage benefits such as access to partner health insurance may promote healthy drinking, but are unavailable to the non-married (Heck, Sell and Gorin 2006).

It is likely that, at least in part, same-sex married individuals would receive similar psychosocial, economic, and institutional benefits as those experienced by different-sex married individuals, and such benefits may contribute to analogous levels of alcohol consumption across these groups. For example, same-sex marrieds likely provide one another with high levels of both social support and social control as well as the pooling of economic resources in ways that are similar to different-sex married individuals (Reczek & Umberson, 2012), in turn promoting lower levels of alcohol use. However, same-sex married and different-sex married individuals may differ on several important factors. First, individuals in same-sex couples do not receive the same institutional and financial benefits of legal marriage at the federal level (IOM, 2011; Lau & Strom, 2011). For example, there are barriers for same-sex married individuals to obtaining joint federal tax returns as well as insurance benefits via an employed spouse (Heck, Sell & Gorin 2006). Additionally, it is likely that individuals in long-term committed couples identify themselves as married on survey instruments even if they are not legally married (Reczek et al., 2009), and thus these individuals do not accrue even state-level institutional benefits. Second, research suggests that sexual minorities have higher rates of alcohol use when compared to heterosexuals in the general population (Burgard et al., 2005; IOM 2011); discrimination and heightened stress may be one contributing factor to these higher rates (Buffie 2011; Conron, Mimiaga, & Landers 2010; King and Bartlett 2006; McCabe et al. 2010; Lee, Griffin, and Melvin 2009; Gruskin et al. 2007). This suggests that same-sex married individuals may be more likely to face stress and discrimination than their different-sex married counterparts (Meyer, 2003), which may contribute to higher rates of alcohol use. Thus, if sexual minorities have higher levels of alcohol use than heterosexuals in the general population (Burgard, Cochran, and Mays 2005; IOM 2011), even if marriage confers some benefit, it may not lower alcohol use to

analogous levels as found for different-sex married individuals because they are starting at a higher level pre-marriage. Taken together, previous research suggests that same-sex married individuals will not accrue all of the benefits of marriage. In light of this evidence, *we hypothesize that same-sex married individuals will have higher rates of alcohol use than their different-sex counterparts (H1).*

Union Status and Alcohol Use: Same-Sex Married Vs. Cohabiters

Different-sex cohabiting individuals experience higher rates of heavy and moderate alcohol use than their different-sex married counterparts (Duncan et al., 2006); for example, one recent cross-national study suggests that, when compared to the married, cohabiting men and women are more likely to experience higher rates of "heavy episodic drinking" (Li, Wilsnack, Wilsnack, & Kristjanson, 2010). However, there is some evidence that different-sex cohabiting—and theoretically, perhaps also same-sex cohabiting—individuals experience a decline in alcohol use with the transition to their new union status, albeit a lower rate of decline than found for the married (Duncan et al., 2006). This higher rate of drinking by cohabiters is theorized to be a result of their lack of institutional, psychosocial, and economic resources that are accrued in marriage (Waite & Gallagher, 2000). Because same-sex married individuals may receive at least some of the benefits that are found in different-sex marriage, it is likely that same-sex married individuals may experience a marital "boost" that promotes lower rates of alcohol use in comparison to their different-sex and same-sex cohabiting counterparts. However, it may be that because same-sex married individuals do not receive the same institutionalized benefits of legal marriage in their entirety, and experience higher levels of stress and discrimination than their heterosexual counterparts (Meyer, 2003), this boost may be marginal. Additionally, because different-sex and same-sex cohabiters live together and accrue at least

some of the social (e.g., social support and control) and economic benefits of their cohabitation (e.g., shared rent), they may level the returns same-sex married individuals accrue in marriage. Taken together, w*e hypothesize that different-sex and same-sex married individuals will experience lower levels of alcohol use when compared to both different-sex and same-sex cohabiting individuals; we further hypothesize that different-sex and same-sex cohabiters will have similar levels of alcohol use (H2).*

Union Status and Alcohol Use: Same-sex Unions vs. Single Groups

Never-married single, divorced, and widowed individuals tend to have higher rates of alcohol use and alcohol problems compared to their married, and to a lesser extent their cohabiting, counterparts (Bachman et al., 1997; Horwitz et al., 1996; Temple et al., 1991; Power et al., 1999; Zisook, Shuchter, & Mulvihill 1990). For example, one longitudinal study found that the frequency of heavy alcohol use in young adults increased at the time of a divorce for both men and women—this increase was at a similar rate to the decline found with entrance into marriage (Bachman et al., 1997). Divorced, never-married, and widowed single groups do not accrue any of the financial or social resources that come with cohabitation or marriage (Kriegbaum et al. 2011; Liu and Reczek 2012; Plant, Miller, Plant, et al., 2008). For example, the never-married single, divorced, and widowed experience lower levels of social support and social control than those found in marriage and even cohabitation, which may account for why single individuals are more likely to drink than the those in partnered statuses (Umberson, 1992). For the never-married single, it may be that their social support networks *encourage* drinking, rather than discourage it via processes of social influence (Waite, 1995). For the divorced and widowed, while selection of heavy drinkers into divorce may account for at least a part of these higher rates (Fu & Goldman, 2000; Leonard & Roberts, 1998; Wilsnack & Wilsnack, 1990),

longitudinal studies suggest that the divorce or widowhood promotes higher levels of alcohol use compared to the married, and perhaps the cohabiting, by altering an individual's lifestyle and social context (Umberson, 1992; Williams & Umberson, 2004; Holmes & Rahe, 1967). In particular, alcohol use may serve as a coping mechanism, especially for men who tend to use externalizing behaviors such as drinking to cope with stress (Aneshensel, Rutter, & Lachenbruch, 1991; Carver, Scheier, & Weintraub, 1989). Given this body of evidence, *we hypothesize that same-sex married and cohabiting individuals will experience a lower risk of alcohol use when compared to these single union status groups (H3).*

Union Status and Alcohol Use: Theorizing Gendered Mechanisms

The mechanisms that link union status and alcohol use are gendered; men's alcohol use is more significantly impacted in different-sex marriage and cohabitation than women's (Duncan et al., 2006; Waite & Gallagher, 2000). This is because men drink more on average than women and thus have a more significant opportunity for decline (Holmila & Raitasalo, 2005; Wilsnack et al., 2000), and because women are more likely to directly and indirectly regulate the alcohol use of men (Duncan et al., 2006; Umberson, 1992). It may be that men in same-sex married and cohabiting unions experience a reduction in alcohol use in similar ways as found for different-sex married and cohabiting men. However, because it is *women*, not men, who tend to be the regulators of alcohol use in different-sex marriage, it is unclear as to whether men in different-sex unions will regulate their male partner's drinking habits (Reczek, 2012). However, some previous research suggests that men in same-sex unions do perform social control in similar ways as women (Lewis et al., 2006; Reczek & Umberson, 2012). Following previous work that shows women in different-sex unions do not experience as significant declines in alcohol use in marriage compared to men, women in same-sex married and cohabiting unions may not

experience a marital benefit. However, sexual minority women drink more than their heterosexual counterparts (Burgard et al., 2005), and women are more likely to be the agents of social control and social support (Umberson, 1992); this suggest that women in cohabiting and married same-sex couples may, like men, may experience significant declines in marriage and cohabitation (Reczek, 2012, Reczek & Umberson, 2012). Taken together, we hypothesize that *differences in the risk of alcohol use between same-sex married and same-sex cohabiting individuals will be larger among men than women (H4).*

The Present Study

In the present study, we explore alcohol use differentials across union status groups including same-sex married and cohabiting individuals. We hypothesize that same-sex married individuals will experience higher rates of drinking than the different-sex married (H1). Further, we suggest same-sex marrieds will experience lower drinking rates than their different-sex and same-sex cohabiting counterparts, same-sex cohabiters will have higher drinking rates than different-sex marrieds, while same-sex and different-sex cohabiters will have similar rates to one another (H2). We also hypothesize that same-sex married and cohabiting individuals will have lower rates of alcohol use than the never-married single, divorced, and widowed (H3). Finally, we hypothesize that these differences will be stronger for men than women (H4). We test these hypothesizes using cross-sectional data from the National Health Interview Survey.

METHODS

Data

We use pooled data from the 1997-2010 National Health Interview Surveys (NHIS) Sample Adult Core files; NHIS is a cross-sectional household survey conducted annually by the National Center for Health Statistics. The survey follows a multistage probability design and is

representative of the civilian non-institutionalized population of the U.S (McCabe et al. 2010). Data on cohabitation in NHIS were first collected data in 1997. To increase the number of same-sex cohabiters in our sample, we pool data from 1997 to 2010. We limit our analyses to respondents between the ages of 18 and 65; respondents ages older than 65 are excluded to reduce potential biases related to mortality selection (Christopoulou et al. 2011) and because previous research suggests that both cohabitation, marriage, and same-sex relationships may hold different meanings for older adults compared to younger adults (Reczek, Elliot, and Umberson 2009; Brown et al. 2008). We further exclude those observations with missing values on union status or alcohol (about 3% of the sample). In the final analysis, we include 316,512 respondents who were interviewed in the NHIS from 1997 to 2010 among them, 117 men and 84 women are identified as same-sex married individuals, 625 men and 626 women are identified as same-sex cohabiters. Weights are applied in all of the analyses to adjust for the clustered nature of the NHIS sample. We use the "svy" commands in Stata (StataCorp 2007) to further account for the primary sampling unit and strata in order to adjust for the complex sampling design of NHIS. All significance tests are based on robust standard errors.**Measures** From each NHIS household, one " householder" is selected. We identify individuals in a same-sex married or cohabiting relationship if a member with the same gender as the householder is reported to be the "spouse" or "unmarried partner" of the householder respectively. Union status is categorized into seven categories: same-sex married, same-sex cohabiting, different-sex married, different-sex cohabiting, divorced or separated, widowed, and never-married. Same-sex married individuals are those who chose the response "married" on the survey. Thus, we have no verifiable way to determine whether these individuals are in fact legally married in the state they currently reside. Because same-sex marriage is currently only legal in a minority of states, and the first state to

legalize same-sex marriage did so in 2004 (eight years into our pooled data), it is plausible that some of the individuals in our same-sex married group are not legally married in the state they live in. It is likely that these individuals view themselves as, at the very least, symbolically married, and are likely longer-term couples (Reczek et al., 2009). This limitation should be considered when interpreting the analysis. We analyze the divorced/separated, widowed, and never-married as distinct groups because they have been shown to have different rates of alcohol use (Bachman et al., 2002). In the first analysis, we use "same-sex marrieds" as the reference group to assess drinking differences between those who report themselves as same-sex marrieds and other union status groups. In the second analysis, we used "same-sex cohabiters" as the reference group to assess drinking differences between same-sex cohabiters and other union status groups.

Alcohol consumption includes four categories: lifetime abstainer (reference), current heavy drinker, current moderate drinker, and former drinker. Examining these four measures of alcohol consumption allows for a more holistic view of not only current but also past alcohol status. Consistent with previous research demonstrating that there are gendered definitions of heavy and moderate alcohol consumption for men and women (Kerr et al., 2009; Fleming et al., 2010; Lawrence, 2004; Ramisetty-Mikler, Caetano, & Rodriguez, 2010), we define current heavy drinking for men as the average weekly consumption of more than 14 drinks, and for women as the average weekly consumption of more than seven drinks. Again consistent with previous research (Lawrence, 2004), we define current moderate drinking for men as the average weekly consumption of less than 14 drinks, and for women as the average weekly consumption of less than seven drinks.

Other sociodemographic covariates include age (in years), nativity (native-born

(reference), foreign-born, and unknown), race (non-Hispanic white (reference), non-Hispanic black, and Hispanics), NHIS survey year (centered at 1997), education (less than high school (reference), high school, some college, college graduate, and unknown) and poverty status (not in poverty (reference), in poverty, and unknown status). Poverty status is determined based on comparing the total family income with the U.S. Census Bureau's poverty thresholds for the specific year. If the total family income is lower than the poverty threshold for families of that size and age composition, the respondent was determined to be "in poverty"; otherwise the respondent was determined to be "not in poverty".

Statistical Methods To better understand the association of same-sex marriage and cohabitation with alcohol use, we estimate multinomial logistic regression models that compare the risks of being an "current heavy drinker", "current moderate drinker", or "former drinker" relative to being a "lifetime abstainer" (the baseline category) across union statuses. We conduct two separate sets of analysis. The first compares same-sex married individuals (reference) to same-sex cohabiters, different-sex marrieds, different-sex cohabiters, the divorced, widowed, and never-married single. The second compares same-sex cohabiting individuals (reference) to same-sex marrieds, different-sex marrieds, different-sex cohabiters, the divorced, widowed, and never-married single. To better understand the potential gender differences in the association of same-sex marriage and cohabitation with alcohol use, we further stratify the analysis by gender. Sociodemographic covariates identified above as statistically associated with alcohol and union status were included in all regression models.

RESULTS

Descriptive Results

Tables 1 and 2 show the distributions of alcohol consumption as well as other sociodemographic covariates across union status groups for men and women respectively. Table 1 shows that 6.45% of same-sex married men, 8.56% of same-sex cohabiting men, 4.56% of different-sex married men, 10.06% of different-sex cohabiting men, and 8.12% of single men are current heavy drinkers; 61.32% of same-sex married men, 75.69% of same-sex cohabiting men, 67.54 of different-sex married men, 71.32% of different-sex cohabiting men, and 61.31% of single men are current moderate drinkers. For women (Table 2), 5.45% of same-sex married women, 9.30% of same-sex cohabiting women, 3.60% of different-sex married women, 8.56% of different-sex cohabiting women, and 5.10% of single women are current heavy drinkers; 61.46% of same-sex married women, 66.55% of same-sex cohabiting women, 56.93% of different-sex married women, 64.84% of different-sex cohabiting women, and 53.37% of single women are current moderate drinkers. Additional descriptive results are shown in the tables.

[Insert Tables 1 and 2 About Here]

Multinomial Logistic Regression Results

We now turn to the multinomial logistic regression models that the compare same-sex married with same-sex cohabiting, different-sex married, different-sex cohabiting, divorced, widowed, and never married (Tables 3 and 4), and compare same-sex cohabiters with same-sex married, different-sex married, different-sex cohabiting, divorced, widowed, and never married (Tables 5 and 6). These tables show the adjusted relative risk ratios (ARRR) of reporting being a current "heavy drinker" (Panel A), current "moderate drinker" (Panel B), or "former drinker" (Panel C) versus "lifetime abstainer" by union status for men and women net the effects of all sociodemographic covariates.

Same-sex Married v.s. other Union Statuses. We start with results from Tables 3 and 4. Table 3 shows results of same-sex married men compared to men in other union status groups. Panel A of Table 3 shows that, in comparison to same-sex married men, same-sex cohabiting men and different-sex cohabiting men have a higher risk of being current heavy drinkers rather than lifetime abstainers. Panel A also shows that there is no significant difference between same-sex married men and different-sex married or single men in regards to being current heavy drinkers. Panel B of Table 3 shows that same-sex cohabiting men, different-sex cohabiting men, and divorced men have a higher risk of being current moderate drinkers than same-sex married men. Panel B also shows that there is no significant difference between same-sex married men and different-sex married men, widowed men, or never-married single men in regards to being current moderate drinkers. Panel C of Table 3 shows that in comparison to same-sex married men, different sex cohabiting men have a higher risk of being former drinkers. Panel C also shows that there is no significant difference between same-sex married men and other union status group in regards to the risk of being a former drinker. Table 4 shows the results for same-sex married women compared to women in other union statuses. This table shows that there are no significant differences between same-sex married women and other union status groups on any alcohol measure.

[Insert Tables 3 and 4 Here]

Same-sex Cohabiting vs. Other Union Statuses. We now turn to Tables 5 and 6, which show results of alcohol consumption for same-sex cohabiting men and women (respectively) compared to men and women in other union status groups. Panel A of Table 5 shows that in comparison to same-sex cohabiting men, same-sex married men, different sex married men, widowed, and never married men have lower risk of being current heavy drinkers. No

differences were found between same-sex cohabiting men in comparison to different-sex cohabiting or divorced men in terms of being a current heavy drinker. Panel B of Table 5 shows that in comparison to same-sex cohabiting men, same-sex married men, different sex married men, widowed men, and never married men have lower risk of being current moderate drinkers. No differences were found between same-sex cohabiting men in comparison to different-sex cohabiting men or divorced men in terms of the risk of being current moderate drinkers. Panel C of Table 5 shows that in comparison to same-sex cohabiting men, different-sex married, widowed men, and never married men have lower risk of being former drinkers rather than lifetime abstainer. No difference was found between same-sex cohabiting men in comparison to different-sex married, different-sex cohabiting men or divorced men in terms of risks of being former drinkers (Panel C, Table 5).

[Insert Tables 5 and 6 Here]

Moving to Table 6, Panels A, B, and C show that in comparison to same-sex cohabiting women, different sex married women, widowed women, divorced women, and never married women have lower risk of being current heavy, current moderate, and former drinkers (respectively) rather than lifetime abstainer. However, same-sex cohabiting women show no difference in risk of being a current heavy, moderate, or former drinker when compared to same-sex married women or different-sex cohabiting women.

DISCUSSION

Research consistently shows that unmarried individuals have higher rates of moderate, heavy, and problem drinking and other alcohol-related problems compared to their married peers (Bachman et al., 1997; 2002; Chilcoat & Breslau, 1996; Curren, Muthen, & Harford, 1998; Temple et al., 1991). Scholars and policy makers have long argued that, because different-sex

marriage confers health benefits among heterosexuals, access to legal same-sex marriage would boost the health of individuals in same-sex couples (Lau & Strom, 2010). This study utilizes alcohol use as a lens to understand how same-sex married and same-sex cohabiting individuals compare to their different-sex married and cohabiting, as well as their single, counterparts on one elucidating health behavior—alcohol use. We examine alcohol use because this health behavior has significant health and policy implications (Gunzerath, Faden, Zakhari, & Warren, 2004; Mokdad, Marks, Stroup, & Gerberdig, 2000; McGinnis & Foege, 1993), and because marriage has been shown to strongly relate to healthier alcohol use (Duncan et al., 2006). Thus, findings from this study provide one ideal lens to view the potential health benefits—or detriments—for same-sex married and cohabiting individuals in relation to other union status groups. The implications of significant differences in the alcohol use across union status, with important gender findings, are discussed below.

Same-sex Married vs. Different-sex Married

Due to their semi-legal status, it has been theorized that same-sex married individuals receive some, but not all of the psychosocial, economic, and institutional benefits of marriage (IOM 2011), and that same-sex married individuals may experience heightened levels of stress due to their sexual minority status (Meyer, 2003). Thus, we hypothesized that same-sex married individuals would experience higher rates of alcohol use than their different-sex counterparts (H1). Contrary to expectations, findings suggests that there are no significant differences between the risk of being a current heavy, moderate, or former drinker when comparing men and women counterparts in same-sex married and different-sex married groups. This surprising finding suggests that some of the critical psychosocial and economic benefits found to be significant factors in promoting lower levels of alcohol use in different-sex marriage are present

in same-sex marriages. Additionally, these findings suggest that married individuals may be protected from the stress of a sexual minority identity, possibly due to increased social support present in their intimate tie.

Importantly, however, there may be selection effects at play. It is unlikely that given the limited number of laws in the U.S. allowing same-sex marriage during the course of the surveys (1997-2010), all individuals who identify as a same-sex married individual are legally married in the state they currently reside. Instead, these individuals may identify themselves as married because they were married in a state that legalized same-sex marriage but live in a different state, because they had a commitment ceremony which has no legal bearing, or because they symbolically view themselves as married due to their long-term commitment (Reczek et al., 2009). Thus, it is likely that many of individuals in our same-sex married group are those who identify as married because they are in highly committed, long-term relationships (Reczek et al., 2009). In contrast, our different-sex married comparison group likely includes both short term and long-term married individuals with varying degrees of commitment and quality. Although our sample limitations do not allow us to fully parse out whether same-sex married people have longer or more satisfied unions than their different-sex married counterparts, if all individuals in same-sex couples were allowed to legally marry in all states in the U.S., there may be a more diverse set of same-sex married individuals—including those who have only been together for a short period of time— with a similar composition as the different-sex married group. This may implications for this groups' overall alcohol use, yet, due to the nature of our cross-sectional data and measurement limitations, we are unable to test this possibility.

Married vs. Cohabiters

We hypothesized that same-sex married individuals would have lower rates of alcohol

consumption than those in same-sex and different-sex cohabiting unions (H2). Consistent with this hypothesis, we find that same-sex married men have a lower risk of being a current heavy or moderate drinker than both same and different-sex cohabiting men, and a lower risk of being a former drinker than different-sex cohabiting men. This suggests that same-sex married men experience a protective marital "boost" in terms of their alcohol use when compared to cohabiting men that is similar to that received by the different-sex married. Even if same-sex married men do not accrue all of the economic and institutional benefits of same-sex marriage at the federal, or even state level, men in same-sex marriages likely experience some of the social benefits of marriage—such as social support and social control—that promotes lower drinking rates than their cohabiting counterparts (Reczek & Umberson, 2012). Interestingly, if this is the case, men in same-sex marriages are both the recipients and providers of social support and social control in these intimate ties. While previous research suggests that it is primarily women who perform these tasks, this study suggests that under particular circumstances (i.e., a same-sex marital relationship), men also perform social control and social support processes in ways that promote the health of spouses (Reczek & Umberson, 2012).

In contrast to our robust findings for men, marriage and cohabitation status are not shown to be differentially related to alcohol use for women. We find that same-sex married women show no significant differences compared to women in same-sex or different-sex cohabiting unions on any alcohol measure. This suggests that, consistent with our hypothesis (H4), because marriage has less influence on women's alcohol use in the different-sex context (Duncan et al., 2006), the relationship between same-sex marriage and alcohol use will be less robust for women. The insignificant findings shown in this analysis may also be an indicator of women's lower levels of alcohol use in general (Holmila & Raitasalo, 2005; Wilsnack et al., 2000).

Importantly, however, findings reveal that *different-sex* married individuals are advantaged when compared to their same-sex cohabiting counterparts; same-sex cohabiting men *and* women experience a higher risk of moderate, heavy, and former drinking than different-sex married men and women (respectively). Thus, it appears that while marriage may be protective for the health of men in same-sex couples, but not women in same-sex couples, a *cohabiting* status may put both men *and* women at increased risk compared to the different-sex married, consistent with our hypothesis (H2). These findings are consistent with previous research that suggest same-sex cohabiters may be at a health disadvantage when compared to different-sex married individuals (Liu et al., under review). While some same-sex cohabiters may have "marriage-like" relationships in that these ties are long-term and provide high levels of support and social control (Reczek, 2012), which may lower levels of alcohol use among this population, the presence of these marriage-like relationships may be suppressed by larger numbers of shorter-term cohabiting individuals. These shorter-term cohabiting individuals in this sample may be less likely to share economic resources, as well as less likely to perform social support in control, in ways that promote lower levels of alcohol use (Liu & Reczek, 2012). Notably, again consistent with our hypothesis (H2), we find no differences between same-sex cohabiting men and women and different-sex cohabiting men and women in the risk in terms of the risk of being current heavy, moderate, or former drinkers . This suggests that same-sex and different-sex cohabiters are theoretically similar in terms of their health-promoting capabilities (Liu et al., under review).

Union Status and Alcohol Use: Same-sex Unions vs. Single Groups

We hypothesized that same-sex married and cohabiting groups would experience lower levels of alcohol use than single counterparts due to the psychosocial, economic, and legal benefits of being in a union. Consistent with our hypothesis (H3) we find that same-sex married

men have a lower risk of being a current moderate drinker than divorced men. Divorced men have been shown to have among the highest level of drinking compared to their married counterparts (Duncan et al., 2006), which may explain why same-sex married men also experience a marital benefit in comparison to this highly unique population. However, same-sex married women were not different in any of these risks for any unmarried groups. This finding is consistent with our hypothesis (H4) that marriage would matter less for women's alcohol use, suggesting that the meaning and consequences of marriage are highly gendered both in different-sex and same-sex marital groups.

Despite the marital advantage for same-sex married men in comparison to divorced men, we do not find *any* significant differences between same-sex cohabiting men and divorced men in terms of heavy, moderate, or former drinkers—suggesting this advantage over divorced men does not extend to same-sex cohabiting men. Moreover findings reveal that same-sex cohabitation status is *not* protective—and is in fact a disadvantage—in terms of alcohol use when compared to other unmarried groups. Specifically, results reveal that, inconsistent with our hypothesis (H3), when compared to their same-sex cohabiting counterparts, divorced women, never married men and women, and widowed men and women have a *lower* risk of being both current heavy, current moderate, and former drinkers. It may be that individuals in same-sex cohabiting couples experience higher levels of stress due to discrimination and stigma; these same-sex cohabiters may be at risk of especially high rates of stigma, in turn promoting alcohol use as a way of coping with such stress at higher levels than their single counterparts (Burgard et al., 2005; Meyer, 2003).

Conclusion

Taken together, our findings reveal that there is some same-sex marital benefit for men,

but not women, while same-sex cohabiting individuals experience some unexpected *disadvantage* in risk of alcohol use compared to marital and single union groups. These patterns mirror those found in the literature on different-sex married and different-sex cohabiting population, suggesting that long-standing differences between cohabitation and marriage in their health-producing capacities may persist beyond the different-sex context to include those in same-sex couples (Waite & Gallagher, 2000). Future work should attempt to examine how the meaning of same-sex marriage and cohabitation differ as a shifting social and legal landscape regarding same-sex relationships continues to unfold in the 21st century.

REFERENCES

Aneshensel, C. S., Rutter, C. M., & Lachenbruch, P. A. (1991). Social structure, stress, and mental health. *American Sociological Review, 56*, 166 - 178.

Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood*. Mahwah, NJ: Lawrence Erlbaum Associates.

Bachman, J. G., O'Malley, P. M., & Schulenberg, J. E. (2002). *The decline of substance use in young adulthood*. Mahwah, NJ: Lawrence Erlbaum Association.

Brown, S. L., Van Hook, J., & Glick, J. E. (2008). Generational differences in cohabitation and marriage in the U.S. *Population Research and Policy Review, 27*, 531 - 550.

Buffie, W. C. (2011). Public health implications of same-sex marriage. *American Journal of Public Health,* doi: 10.2105/ajph.2010.300112

Burgard, S. A., Cochran, S. D., & Mays, V. M. (2005). Alcohol and tobacco use patterns among heterosexually and homosexually experienced California women. *Drug and Alcohol Dependency,* doi: 10.1016/j.drugalcdep.2004.07.007

Carver, C. S., Weintraub, J. S., Scheier, M. F. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*(2), 267 - 283.

Casswell, S., Pledger, M., & Hooper, R. (2003). Socioeconomic status and drinking patterns in young adults. *Addiction, 98*(5), 601 - 610.

Chilcoat, H.D. & Breslau, N. (1996) Alcohol disorders in young adulthood: Effects of transitions into adult roles. *Journal of Health and Social Behavior, 37*, 339 - 349.

Christopoulou, R., Ha, J., Jaber, A., & Lillard, D. R. (2011). Dying for a smoke: How much does differential mortality of smokers affect estimated life-course smoking prevalence? *Preventive Medicine*, doi:10.1016/j.ypmed.2010.11.011.

Conron, K. J., Mimiaga, M. J., & Landers, S. J. (2010). A population-based study of sexual orientation identity and gender differences in adult health. *American Journal of Public Health, 100*, 1953 - 1960.

Curren, P., Muthen, B. O., & Harford, T. C. (1998). The Influence of Changes in Marital Status on Developmental Trajectories of Alcohol Use in Young Adults. Journal of Studies on Alcohol, 59(6), 647-658.

Demers, A., Bisson, J., & Palluy, J. (1999). Wives' convergence with their husbands' alcohol use: Social conditions as mediators. *Journal of Studies on Alcohol*, *60*(3), 368 - 77.

DiMatteo, M. (2004). Social support and patient adherence to medical treatment: A meta-analysis. *Health Psychology*, *23*, 207-218.

Duncan, G. J., Wilkerson, B., & England, P. (2006). Cleaning up their act: The effects of marriage and cohabitation on licit and illicit drug use. *Demography*, *43*(4), 691 - 710.

Eng, P. M., Kawachi, I., Fitzmaurice, G., & Rimm, E. B. (2005). Effects of marital transitions on changes in dietary and other health behaviours in US male health professionals. *Journal of Epidemiology and Community Health, 59*(1), 56-62.

Falba, T. A., & Sindelar, J. L. (2008). Spousal concordance in health behavior change. *Health Research and Educational Trust, 43*, 96 - 116.

Fillmore, K. M., Kerr, W. C., Stockwell, T., Chikritzhs, T., & Bostrom, A. (2006). Moderate alcohol use and reduced mortality risk: Systematic error in prospective studies. *Addiction Research & Theory, 14*, 101 - 132.

Fillmore, K. M., Stockwell, T., Chikritzhs, T., Bostrom, A., & Kerr, W. (2007). Moderate alcohol use and reduced mortality risk: Systematic error in prospective studies and new hypotheses." *Annals of Epidemiology, 17,* S16 - S23.

Fleming, C. B., White, H., Catalano, R. F. (2010). Romantic relationships and substance use in early adulthood: An examination of the influences of relationship type, partner substance use, and relationship quality. *Journal of Health and Social Behavior, 51*(2), 153 - 167**.**

Fu, Haishan & Goldman, N. (2000). The association between health-related behaviors and the risk of divorce in the USA. *Journal of Biosocial Science, 32*, 63 - 88.

Galea S., Nandi A., & Vlahov D. (2004). The social epidemiology of substance use. *Epidemiologic Reviews, 26*(1), 36 - 52.

Gruskin, E. P., Greenwood, G. L., Matevia, M., Pollack, L. M., & Bye, L. L. (2007). Disparities in smoking between the lesbian, gay, and bisexual population and the general population in California. *American Journal of Public Health, 97*(8), 1496 - 1502.

Gunzerath, L., Faden, V., Zakhari, S., & Warren, K. (2004). National Institute on Alcohol Abuse and Alcoholism report on moderate drinking. *Alcoholism: Clinical and Experimental Research, 28*, 829 - 847.

Harris, K. M., Lee, H., & DeLeone, F. Y. (2010). Marriage and health in the transition to adulthood: Evidence for African Americans in the Add Health study. *Journal of Family Issues*, *31*(8), 1106 - 1143.

Heck, J. E., Sell, R. L., & Gorin, S. S. (2006). Health care access among individuals involved in same-sex relationships. *American Journal of Public Health,* doi: 10.2105/ajph.2005.062661

Holmes, T. H., Rahe, R. H. (1967). The Social Readjustment Rating Scale. *Journal of Psychosomatic Research, 11*(2), 213 - 218.

Holmila, M. & Raitasalo, K. (2005). Gender differences in drinking: why do they still exist? *Addiction, 100,* 1763 - 1769.

Homish, G. G., & Leonard, K. E. (2007). Alcohol use and partner expectations among newly married couples. *Substance Use & Misuse, 42*(9), 1427 - 1441.

Horwitz, A. V., White, H. R., Howell-White, S. (1996). Becoming married and mental health: A longitudinal study of a cohort of young adults. *Journal of Marriage and the Family, 58*, 895 - 907.

Institute of Medicine of the National Academies. (2011). *The health of lesbian, gay, bisexual, and transgender people: building a foundation for better understanding*. Washington, D.C.: Institute of Medicine.

Kerr, W. C., Greenfield, T. K., Bond, J., Ye, Y., & Rehm, J. (2009). Age-period-cohort modelling of alcohol volume and heavy drinking days in the US National Alcohol Surveys: Divergence in younger and older adult trends. *Addiction, 104*, 27 - 37.

King, M., & Bartlett, A. (2006). Continuing professional education: what same-sex civil partnerships may mean for health. *Journal of Epidemiology and Community Health,* 60, 188 - 191.

Kriegbaum, M., Larsen, A. M., Christensen, U., Lund, R., & Osler, M. (2011). Reduced probability of smoking cessation in men with increasing number of job losses and partnership breakdowns. *Journal of Epidemiology and Community Health,* 65, 511 - 516.

Lau, H., & Strohm, C. Q. (2011). The effects of legally recognizing same-sex unions on health and well-being. *Law and Inequality,* 29, 509 - 528.

Laub, J., Nagin, D. S., & Sampson, R. J. (1998). Trajectories of change in criminal offending: Good marriages and the desistence process. *American Sociological Review, 64*(2), 225 - 238.

Lawrence, J. F., Philogene, G. S., Grambling, R., Coups, E. J., & Sinha, S. (2004). Prevalence of multiple chronic disease risk factors: 2001 National Health Interview Survey." *American Journal of Preventative Medicine, 27*(s2), 18 - 24.

Lee, J. G. L., Griffin, G. K., & Melvin, C. L. (2009). Tobacco use among sexual minorities in the USA, 1987 to May 2007: a systematic review. *Tobacco Control,* doi: 10.1136/tc.2008.028241

Leonard, K & Mudar, P. (2004). Husbands' influence on wives' drinking: Testing a relationship motivation model in the early years of marriage. *Psychology of Addictive Behaviors*, *18*(4), 340 - 348.

Leonard, K., & Roberts, L. J. (1998). The effects of alcohol on the marital interactions of aggressive and nonaggressive husbands and their wives. *Journal of Abnormal Psychology*, *107*(4), 602 - 615.

Leonard, K. E., & Rothbard, J. C. (1999). Alcohol and the marriage effect. *Journal of Studies on Alcohol, Supp 13*, 139 - 146.

Lewis, M. A., et al. (2006). Understanding health behavior change among couples: An interdependence and communal coping approach. *Social Science & Medicine, 62*, 1369 - 1380.

Li, Qing, Wilsnack, R., Wilsnack, S. & Kristjanson, A. (2010). Cohabitation, gender, and alcohol consumption in 19 countries: A multilevel analysis. *Substance Use & Misuse* 45, 2481-2502.

Liu, Hui and Corinne Reczek. 2012. Cohabitation and U.S. adult mortality: An examination by gender and race. *Journal of Marriage and Family* 74, 794–811.

Liu, H., Reczek, C., Brown, D. Same-Sex Couples and Self-Rated Health. *Conditional Accept, Journal of Health and Social Behavior*

McCabe, S. E., Bostwick, W. B., Hughes, T. L., West, B. T., & Boyd, C. J. (2010). The relationship between discrimination and substance use disorders among lesbian, gay, and bisexual adults in the United States. *American Journal of Public Health,* doi: 10.2105/ajph.2009.163147

McGinnis, M., & Foege, W. (1993). Actual causes of death in the United States. *Journal of the American Medical Association, 270*, 2207 - 2212.

Meyer, I.H. (2003). Prejudice, social stress, and menthal health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin,* 129, 674-697.

Meyler, D., Stimpson, J. P., & Peek, M. K. (2007). Health concordance within couples: A systematic review. *Social Science and Medicine*, *64*, 2297 - 2310.

Miller-Tutzauer, C., Leonard, K. E., & Windle, M. (1991). Marriage and alcohol use: A longitudinal study of "Maturing Out." *Journal of Studies on Alcohol*, *52*(5), 434 - 440.

Mokdad, A. H., Marks, J. S., Stroup, D. F., & Gerberding, J. L. (2004). Actual causes of death in the United States, 2000. *The Journal of American Medical Association*, *291*(10): 1238 - 1245.

Ostermann, J., Sloan, F. A., & Taylor, D. H. (2005). Heavy alcohol use and marital dissolution in the USA. *Social Science & Medicine, 61*(11), 2304 - 2316.

Plant, M., P. Miller, S. Kuntsche, G. Gmel, with S. Ahlström, A. Allamani, F. Beck, K. Bergmark, K. Bloomfield, L. Csémy, Z. Elekes, R. Knibbe, L. Kraus, H. Ólafsdóttir, I.

Rossow, and A. Vidal. (2008). Marriage, cohabitation and alcohol consumption in young adults: an international exploration. *Journal of Substance Use* 13, 83-98.

Power, C., Rodgers, B., & Hope, S. (1999). Heavy alcohol consumption and marital status: Disentangling the relationship in a national study of young adults. *Addiction, 94*(10), 1477 - 1487.

Pudrovska, T., & Carr, D. (2009). Age at first birth and fathers' subsequent health: Evidence from sibling and twin models. *American Journal of Men's Health, 3*(2), 104 - 115.

Ramisetty-Mikler, S., Caetano, R. & Rodriguez, L. A. (2010). The Hispanic Americans Baseline Alcohol Survey (HABLAS): Alcohol consumption predictors across Hispanic national groups. *Journal of Substance Use 15*(6), 402 - 416. doi: 10.3109/14659891003606357.

Reczek, C. (2012). The promotion of unhealthy habits in gay, lesbian, and straight intimate partnerships. *Social Science and Medicine*. *75*(6), 1114-1121.

Reczek, C., Elliott, S., & Umberson, D. (2009). Commitment without marriage: union formation among long-term same-sex couples. *Journal of Family Issues, 30*(6), 738 - 756.

Reczek, C. & Umberson, D. 2012. "Gender, health behavior, and intimate relationships: Lesbian, gay, and straight contexts." *Social Science & Medicine, 74*, 1783 - 1790.

Simon, R. W. (2002). Revisiting the relationships among gender, marital status, and mental health. *The American Journal of Sociology, 107*(4), 1065.

StataCorp. (2007) *Stata 10 user's guide.* College Station, TX: StataCorp.

Taylor, S., Repetti, R. (1997) Health psychology: What is an unhealthy environment and how does it get under skin? *Annual Reviews of Psychology*, *48*, 411 - 447.

Temple, M. T., Fillmore, K. M., Hartka, E., Johnstone, B., Leino, E. V., & Motoyoshf, M. (1991). A meta-analysis of change in marital and employment status as predictors of alcohol consumption on a typical occasion. *Addiction, 86*(10), 1269 - 1281.

Thun, M. J., Peto, R., Lopez, A. D., Monaco, J. H., Henley, S. J., Heath Jr, C. W., & Doll, R. (1997). Alcohol consumption and mortality among middle-aged and elderly US adults. *New England Journal of Medicine 337*, 1705 - 1714.

Umberson, D. (1987). Family status and health behaviors: Social control as a dimension of social integration. *Journal of Health and Social Behavior, 28*, 306 - 319.

Umberson, D. (1992). Gender, marital status, and the social control of health behavior. *Social Science and Medicine, 34*(8), 907 - 917.

US Department of Health and Human Services (HHS), Office of Disease Prevention and Health Promotion. (2006) *Healthy People 2010 midcourse review: Focus area 26, substance abuse* [Internet]. Washington: HHS. Available from: http://www.healthypeople.gov/2010/Data/midcourse/pdf/FA26.pdf

van Oers, J. A., Bongers, I. M., van de Goor, L. A., & Garretsen, H. F. (1999). Alcohol consumption, alcohol-related problems, problem drinking, and socioeconomic status. *Alcohol and Alcoholism, 34*(1), 78 - 88.

Waite, L., & Gallagher, M. 2001. *The case for marriage: why married people are happier, healthier, and better off financially.* New York: Doubleday.

Williams, K., & Umberson, D. (2004). Marital status, marital transitions, and health: A gendered life course perspective. *Journal of Health and Social Behavior, 45*, 81 - 98.

Wilsnack, S. C. & Wilsnack, R. W. (1990). Women and substance abuse: Research directions for the 1990s. *Psychology of Addictive Behaviors*, *4*(1), 1990, 46 - 49.

Wilsnack, R. W., Vogeltanz, N. D., Wilsnack, S. C., & Harris, T. R. (2000). Gender differences in alcohol consumption and adverse drinking consequences: cross- cultural patterns. *Addiction 95*, 251 - 265.

Wolff, J. L., & Kasper, J. D. (2006). Caregivers of frail elders: Updating a national profile. *Gerontologist, 46*(3), 344 - 356.

Zisook, S., Shuchter, S. R., & Mulvihill, M. (1990). Alcohol, cigarette, and medication use during the first year of widowhood. *Psychiatric Annals, 20*(6), 318 - 326.

TABLE 1—Weighted Descriptive Statistics for Categorical and Continuous Variables for Men

	Same-sex Married	Same-sex Cohabiting	Different-sex Married	Different-sex Cohabiting	Single[a]
Drinking (Percent)					
Lifetime Abstainer	18.04	6.09	13.14	8.20	20.63
Current Heavy Drinker	6.45	8.56	4.56	10.06	8.12
Current Moderate Drinker	61.32	75.69	67.54	71.32	61.31
Former Drinker	14.19	9.66	14.77	10.43	9.94
Education (Percent)					
Less than High School	12.53	5.38	12.87	19.25	17.08
High School	24.59	16.55	27.09	34.92	29.65
Some College, No Bachelor's Degree	23.92	32.45	27.06	28.11	32.85
Some College, Bachelor's Degree	37.63	45.28	32.55	16.89	19.77
Unknown	1.32	0.34	0.43	0.84	0.65
Poverty Status (Percent)					
At or Above Poverty Threshold	76.32	80.83	80.26	73.64	69.84
Below Poverty Threshold	1.10	6.67	5.05	11.12	13.25
Unknown	22.57	12.50	14.70	15.24	16.91
Nativity (Percent)					
Foreign Born	20.43	10.18	16.74	13.00	13.60
U.S. Born	79.57	89.74	83.17	86.92	86.31
Unknown	--	0.08	0.08	0.08	0.09
Race (Percent)					
Non-Hispanic White	71.00	79.63	74.50	66.61	66.36
Non-Hispanic Black	8.89	7.71	7.91	14.82	15.08
Hispanic	12.23	9.12	12.57	15.69	13.46
Other	7.88	3.53	4.99	2.83	5.07
Unknown	--	--	0.03	0.05	0.03
Age (Mean, SD)					
Mean	43.27	40.14	44.35	35.30	33.95
Standard Deviation	11.15	11.24	11.16	11.37	13.46
N	117	625	69363	7988	62,763

[a] Includes widowed, divorced, and never married.

TABLE 2—Weighted Descriptive Statistics for Categorical and Continuous Variables for Women

	Same-sex Married	Same-sex Cohabiting	Different-sex Married	Different-sex Cohabiting	Single[a]
Drinking (Percent)					
Lifetime Abstainer	23.14	10.61	25.65	15.14	29.56
Current Heavy Drinker	5.45	9.30	3.60	8.56	5.10
Current Moderate Drinker	61.46	66.55	56.93	64.84	53.57
Former Drinker	9.95	13.55	13.81	11.47	11.77
Education (Percent)					
Less than High School	10.05	6.90	11.55	16.86	16.02
High School	25.25	20.26	28.23	31.31	26.38
Some College, No Bachelor's Degree	23.71	27.17	29.72	32.71	35.81
Some College, Bachelor's Degree	40.99	45.04	29.98	18.52	21.26
Unknown	--	0.62	0.52	0.60	0.53
Poverty Status (Percent)					
At or Above Poverty Threshold	66.68	84.22	78.09	71.57	62.52
Below Poverty Threshold	7.62	5.48	5.11	11.75	19.85
Unknown	25.70	10.30	16.80	16.69	17.63
Nativity (Percent)					
Foreign Born	16.79	7.22	16.15	11.56	12.70
U.S. Born	83.21	92.48	83.77	88.40	87.25
Unknown	--	0.30	0.08	0.05	0.05
Race (Percent)					
Non-Hispanic White	68.58	78.81	76.23	70.88	60.59
Non-Hispanic Black	14.83	8.47	6.85	11.73	22.19
Hispanic	10.17	7.75	11.72	13.35	12.66
Other	6.42	4.97	5.18	4.02	4.52
Unknown	--	--	0.02	0.03	0.03
Age (Mean, SD)					
Mean	41.32	39.75	43.13	33.63	37.27
Standard Deviation	12.16	11.14	11.47	11.45	14.49
N	84	626	81,078	9,046	83,849

[a] Includes widowed, divorced, and never married.

TABLE 3—Adjusted Relative Risk Ratios of Alcohol Use By Union Status for Men with Same-sex Married as the Reference Group (n=141,829)

	A. Current heavey drinker v.s. lifetime abstainer	B. Current moderate drinker v.s. lifetime abstainer	C. Former drinker v.s. lifetime abstainer
Union status (0=same-sex married)			
Same-sex cohabiting	3.3220*	3.0343**	2.0520
	(2.0005)	(1.0630)	(0.8571)
Different-sex married	0.8151	1.3999	1.1799
	(0.4306)	(0.3794)	(0.4065)
Different-sex cohabiting	3.5072*	3.0477***	2.0616*
	(1.8449)	(0.8332)	(0.7203)
Divorced	2.2718	2.0274**	1.6443
	(1.2038)	(0.5518)	(0.5668)
Widowed	1.2821	1.2616	0.9393
	(0.6773)	(0.3548)	(0.3373)
Never married	0.9800	0.8686	0.6482
	(0.5182)	(0.2349)	(0.2234)
Sociodemographic covariates			
Age	1.0181***	1.0091***	1.0547***
	(0.0015)	(0.0010)	(0.0013)
Race (0=non-Hispanic white)			
Non-Hispanic black	0.3496***	0.4963***	0.6445***
	(0.0198)	(0.0157)	(0.0245)
Hispanic	0.7474***	0.9852	0.9469
	(0.0444)	(0.0358)	(0.0467)
Others	0.4302***	0.4784***	0.6767***
	(0.0414)	(0.0219)	(0.0424)
Unknown	0.5141	0.6124	0.8629
	(0.5049)	(0.2022)	(0.3893)
Nativity (0=foreign born)			
US born	2.6194***	1.5403***	2.0628***
	(0.1581)	(0.0481)	(0.0930)
Unknown	0.9078	0.6687	0.7974
	(0.4364)	(0.1586)	(0.2981)
Survey year	0.9978	0.9957	
	(0.0045)	(0.0031)	
Education (0= No high school diploma)			
High school graduate	1.0032	1.3238***	0.9860***
	(0.0500)	(0.0425)	(0.0039)
Some college	1.1031	1.8076***	0.9747
	(0.0585)	(0.0586)	(0.0386)
College graduate	0.7796***	2.2934***	1.0227
	(0.0451)	(0.0828)	(0.0414)
Unknown	0.3116***	0.6136***	0.7120***
	(0.0698)	(0.0738)	(0.0330)
Poverty status (0=not in poverty)			
In poverty	0.9390	0.6927***	0.5635***
	(0.0554)	(0.0254)	(0.0853)
Unknown	0.5041***	0.5889***	1.1652***
	(0.0234)	(0.0167)	(0.0522)
Constant	0.2579*	2.0367**	0.6557***
	(0.1366)	(0.5499)	(0.0240)

[a]Standard errors are presented below Adjusted Relative Risk Ratios in parentheses.
*** p<0.001, ** p<0.01, * p<0.05

TABLE 4—Adjusted Relative Risk Ratios of Alcohol Use By Union Status for Women with Same-sex Married as the Reference Group (n=174,683)

	A. Current heavy drinker vs. lifetime abstainer[a]	B. Current moderate drinker vs. lifetime abstainer[a]	C. Former drinker vs. lifetime abstainer[a]
Union status (0=same-sex married)			
Same-sex cohabiting	2.7032 (1.6650)	1.7251 (0.5842)	2.4555 (1.1531)
Different-sex married	0.5224 (0.3080)	0.7406 (0.2246)	1.0401 (0.4406)
Different-sex cohabiting	2.7971 (1.6557)	1.7565 (0.5326)	1.8716 (0.8007)
Divorced	0.9902 (0.5839)	1.0703 (0.3246)	1.4090 (0.5977)
Widowed	0.5050 (0.3011)	0.6110 (0.1871)	0.9973 (0.4243)
Never married	0.8355 (0.4940)	0.6279 (0.1902)	0.5712 (0.2434)
Sociodemographic covariates			
Age	1.0082*** (0.0015)	0.9987 (0.0007)	1.0240*** (0.0010)
Race (0=non-Hispanic white)			
Non-Hispanic black	0.2778*** (0.0147)	0.4256*** (0.0116)	0.6624*** (0.0220)
Hispanic	0.3620*** (0.0249)	0.6243*** (0.0168)	0.7267*** (0.0255)
Others	0.2598*** (0.0275)	0.3786*** (0.0146)	0.5670*** (0.0295)
Unknown	1.6301 (1.2150)	0.7433 (0.2876)	0.7403 (0.4120)
Nativity (0=foreign born)			
US born	3.7486*** (0.2716)	2.3153*** (0.0590)	2.7689*** (0.1002)
Unknown	2.0022 (1.4369)	0.9175 (0.2167)	0.4568 (0.1831)
Survey year	1.0207*** (0.0045)	1.0032 (0.0026)	
Education (0= No high school diploma)			
High school graduate	1.4420*** (0.0806)	1.7009*** (0.0426)	0.9956 (0.0029)
Some college	2.1561*** (0.1191)	2.6014*** (0.0693)	1.0446 (0.0311)
College graduate	3.2354*** (0.1786)	3.9936*** (0.1159)	1.1827*** (0.0361)
Unknown	1.1164 (0.2595)	1.1614 (0.1148)	1.1664*** (0.0404)
Poverty status (0=not in poverty)			
In poverty	0.8737** (0.0453)	0.6857*** (0.0174)	0.6493*** (0.0845)
Unknown	0.5452*** (0.0255)	0.6110*** (0.0140)	1.1343*** (0.0357)
Constant	0.0569*** (0.0340)	0.8934 (0.2732)	0.7124*** (0.0199)

[a]Standard errors are presented below Adjusted Relative Risk Ratios in parentheses.
*** p<0.001, ** p<0.01, * p<0.05

TABLE 5—Adjusted Relative Risk Ratios of Alcohol Use By Union Status for Men with Same-sex Cohabiters as the Reference Group (n=141,829)

	A. Current heavy drinker vs. lifetime abstainer[a]	B. Current moderate drinker vs. lifetime abstainer[a]	C. Former drinker vs. lifetime abstainer[a]
Union status (0=same-sex cohabiting)			
Same-sex married	0.3010*	0.3296**	0.4873
	(0.1813)	(0.1155)	(0.2036)
Different-sex married	0.2454***	0.4613***	0.5750*
	(0.0690)	(0.1029)	(0.1355)
Different-sex cohabiting	1.0557	1.0044	1.0047
	(0.3044)	(0.2306)	(0.2448)
Divorced	0.6839	0.6681	0.8013
	(0.1931)	(0.1497)	(0.1884)
Widowed	0.3860**	0.4158***	0.4577**
	(0.1159)	(0.0971)	(0.1148)
Never married	0.2950***	0.2863***	0.3159***
	(0.0832)	(0.0640)	(0.0750)
Sociodemographic covariates			
Age	1.0181***	1.0091***	1.0547***
	(0.0015)	(0.0010)	(0.0013)
Race (0=non-Hispanic white)			
Non-Hispanic black	0.3496***	0.4963***	0.6445***
	(0.0198)	(0.0157)	(0.0245)
Hispanic	0.7474***	0.9852	0.9469
	(0.0444)	(0.0358)	(0.0467)
Others	0.4302***	0.4784***	0.6767***
	(0.0414)	(0.0219)	(0.0424)
Unknown	0.5141	0.6124	0.8629
	(0.5049)	(0.2022)	(0.3893)
Nativity (0=foreign born)			
US born	2.6194***	1.5403***	2.0628***
	(0.1581)	(0.0481)	(0.0930)
Unknown	0.9078	0.6687	0.7974
	(0.4364)	(0.1586)	(0.2981)
Survey year	0.9978	0.9957	0.9860***
	(0.0045)	(0.0031)	(0.0039)
Education (0= No high school diploma)			
High school graduate	1.0032	1.3238***	0.9747
	(0.0500)	(0.0425)	(0.0386)
Some college	1.1031	1.8076***	1.0227
	(0.0585)	(0.0586)	(0.0414)
College graduate	0.7796***	2.2934***	0.7120***
	(0.0451)	(0.0828)	(0.0330)
Unknown	0.3116***	0.6136***	0.5635***
	(0.0698)	(0.0738)	(0.0853)
Poverty status (0=not in poverty)			
In poverty	0.9390	0.6927***	1.1652***
	(0.0554)	(0.0254)	(0.0522)
Unknown	0.5041***	0.5889***	0.6557***
	(0.0234)	(0.0167)	(0.0240)
Constant	0.8567	6.1800***	1.1648
	(0.2516)	(1.4020)	(0.2828)

[a]Standard errors are presented below Adjusted Relative Risk Ratios in parentheses.

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

TABLE 6—Adjusted Relative Risk Ratios of Alcohol Use By Union Status for Women with Same-sex Cohabiters as the Reference Group (n=174,683)

	A. Current heavy drinker vs. lifetime abstainer[a]	B. Current moderate drinker vs. lifetime abstainer[a]	C. Former drinker vs. lifetime abstainer[a]
Union status (0=same-sex cohabiting)			
Same-sex married	0.3699	0.5797	0.4073
	(0.2279)	(0.1963)	(0.1912)
Different-sex married	0.1933***	0.4293***	0.4236***
	(0.0377)	(0.0644)	(0.0799)
Different-sex cohabiting	1.0347	1.0182	0.7622
	(0.2087)	(0.1576)	(0.1492)
Divorced	0.3663***	0.6204**	0.5738**
	(0.0716)	(0.0937)	(0.1096)
Widowed	0.1868***	0.3542***	0.4061***
	(0.0397)	(0.0549)	(0.0781)
Never married	0.3091***	0.3640***	0.2326***
	(0.0617)	(0.0558)	(0.0443)
Sociodemographic covariates			
Age	1.0082***	0.9987	1.0240***
	(0.0015)	(0.0007)	(0.0010)
Race (0=non-Hispanic white)			
Non-Hispanic black	0.2778***	0.4256***	0.6624***
	(0.0147)	(0.0116)	(0.0220)
Hispanic	0.3620***	0.6243***	0.7267***
	(0.0249)	(0.0168)	(0.0255)
Others	0.2598***	0.3786***	0.5670***
	(0.0275)	(0.0146)	(0.0295)
Unknown	1.6301	0.7433	0.7403
	(1.2150)	(0.2876)	(0.4120)
Nativity (0=foreign born)			
US born	3.7486***	2.3153***	2.7689***
	(0.2716)	(0.0590)	(0.1002)
Unknown	2.0022	0.9175	0.4568
	(1.4369)	(0.2167)	(0.1831)
Survey year	1.0207***	1.0032	0.9956
	(0.0045)	(0.0026)	(0.0029)
Education (0= No high school diploma)			
High school graduate	1.4420***	1.7009***	1.0446
	(0.0806)	(0.0426)	(0.0311)
Some college	2.1561***	2.6014***	1.1827***
	(0.1191)	(0.0693)	(0.0361)
College graduate	3.2354***	3.9936***	1.1664***
	(0.1786)	(0.1159)	(0.0404)
Unknown	1.1164	1.1614	0.6493***
	(0.2595)	(0.1148)	(0.0845)
Poverty status (0=not in poverty)			
In poverty	0.8737**	0.6857***	1.1343***
	(0.0453)	(0.0174)	(0.0357)
Unknown	0.5452***	0.6110***	0.7124***
	(0.0255)	(0.0140)	(0.0199)
Constant	0.1539***	1.5412**	0.5847**
	(0.0331)	(0.2387)	(0.1138)

[a]Standard errors are presented below Adjusted Relative Risk Ratios in parentheses.

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