SEXUAL MINORITIES,
SOCIAL CONTEXT, AND UNION FORMATION

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Abstract
The social context in which Americans form coresidential unions has witnessed a fundamental transformation in the past two decades. The current study examines the association between social context and the formation of same-sex coresidential unions, with a particular focus on sexual minorities. Using data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), we examine how the timing and likelihood of forming a first same-sex coresidential union differs not only by sexual orientation, but also by various indicators of social context. In addition to collecting information on same-sex unions, Add Health includes three unique indicators that capture supportive environments for sexual minorities (whether or not they are out to parents, the proportion of same-sex headed households in their census tract, and the proportion voting Republican in their county). We find evidence that sexual minorities, especially sexual minority men, have higher hazard rates of forming a same-sex union the more supportive their social contexts. Our findings underscore the importance of considering context when examining sexual minority outcomes and, more broadly, union formation.

Keywords: Union formation, same-sex, sexual minority, context
Introduction

Sexual minorities, and same-sex couples in particular, encounter specific challenges associated with their identity, such as discrimination, lack of formal relationship recognition and benefits, and potential alienation from family and friends (Goldberg and Sayer 2006); however, this is changing. The social context surrounding relationship recognition for sexual minorities has changed rapidly over the past two decades. Prior to 1997, no state in the United States legally recognized same-sex unions (Human Rights Campaign 2017). In 2000, Vermont became the first state to recognize same-sex civil unions and in 2003 Massachusetts became the first state to legalize same-sex marriage (Human Rights Campaign 2017). Ten years after legalization of same-sex marriage in Massachusetts, less than 40% of the United States population lived in a state that recognized same-sex marriage (Human Rights Campaign 2013). Two years later, on June 26, 2015, the United States Supreme Court ruled on Obergefell v. Hodges, effectively allowing same-sex marriage in all states.

This legal recognition of same-sex relationships may signal a reduction in the discrimination of sexual minorities that could potentially improve their physical and mental health (King and Bartlett 2006). Suggestive of this, Hatzenbuehler and colleagues found that LGB adults living in states with hate crime and employment discrimination protection had lower rates of psychiatric disorders than LGB adults living in states with no protections (Hatzenbuehler, Keyes, and Hasin 2009). Similarly, using longitudinal data, Hatzenbuehler and colleagues found that increases in psychiatric morbidity between interviews were greater for sexual minorities who resided in states that passed bans on same-sex marriage than for their counterparts whose states did not pass bans (Hatzenbuehler, McLaughlin, Keyes, and Hassin
Presumably, the rapid social change surrounding relationship recognition could also have implications for the formation and dynamics of coresidential unions for sexual minorities.

Our broader understanding of same-sex union transitions is based on research examining relationship dissolution. For example, 11 U.S. studies and 7 European studies have examined the stability of same-sex couples (Joyner, Manning, and Bogle Forthcoming). And while researchers continue to document the size and composition of same-sex coresidential unions (i.e., Frisch and Hviid 2006; Herek et al. 2010; Rosenfeld 2007), they have not fully identified factors that promote or impede the formation of these unions (Bennett 2017; Strohm 2010). To our knowledge, researchers have not fully examined how sexual orientation is associated with the timing to a first same-sex coresidential union in the United States and none has examined how indicators of social context are associated with same-sex union formation. Given the importance of unions for supporting the health and well-being of sexual minorities (Umberson and Kroeger 2015) it is critical to assess the entry into unions. Data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) provide the unusual, and perhaps only, opportunity to address this issue in the United States. Drawing on the minority stress framework, we use data from Add Health to examine how sexual orientation identity is associated with the likelihood of forming a same-sex coresidential union. Limiting the sample to sexual minorities, we then examine how social context indicators are associated with the hazard rate of forming a same-sex union specifically.

Background

Same-Sex Union Formation

Limited previous research has used large-scale, quantitative data to examine the correlates of same-sex coresidential union formation and status (Strohm 2010; Frisch and Hviid
Using British data from the National Child Development Study (NCDS) and the 1920 British Cohort Study (BCS), Strohm (2010) found, based on life table methods, that the rates of entry into same-sex cohabitation increased steadily from age 16 to age 34. In comparison, entry into different-sex cohabitation increased through the early and mid-20s and then leveled off before declining during the early 30s. Men and women were equally likely to enter a same-sex union by age 34 (Strohm 2010). The results of these models also indicated that entry into same-sex cohabitation occurred later in young adulthood than entry into different-sex cohabitation and marriage (Strohm 2010). Strohm (2010) also found based on survival models with a rich set of variables that individuals with higher levels of education and occupational prestige were more likely than their less advantaged counterparts to enter a same-sex cohabiting union. Furthermore, individuals who were born in a later cohort, and from higher SES areas (London and Southeast of England) had higher odds of entering a same-sex cohabiting union (Strohm 2010). Strohm (2010) points out that these patterns support the perspective that individuals who grew up in social contexts more favorable to same-sex relationships, or with enough resources to move away from unfavorable social contexts, would be more likely to form same-sex unions.

Herek and colleagues (2010) were able to capture sexual orientation and union type by using data from the Knowledge Network panel in their study examining the demographic, psychological, and social characteristics of lesbian, gay, and bisexual (LGB) adults in the United States. They found that 29% of gay men and 3.2% of bisexual men were in a same-sex coresidential relationship at the time of the interview compared to 61.4% of lesbian women and 4.8% of bisexual women (Herek et al. 2010). Furthermore, a qualitative and longitudinal study of young women documented substantial fluidity in sexual orientation identity, while observing that
sexual orientation identity for some women was affected by being in a same-sex relationship (Diamond 2008). Therefore, it is important to examine sexual orientation identity in conjunction with same-sex union formation.

One framework used to guide our understanding of the influence of context on the union formation of sexual minorities is the minority stress framework (Meyer 1995; Meyer 2003). Pioneering this framework, Meyer (1995) states that sexual minorities, like racial minorities, experience greater levels of stress due to not only to their stigmatized identity, but also their more inhospitable social environments (Frost and Meyer 2009; Meyer 2003). Stigma was originally defined by Goffman (1963) as “an attribute that is deeply discrediting” and that reduces the bearer “from a whole and usual person to a tainted, discounted one” (p. 3). While stigma can be individual or structural, more recent work has addressed structural stigma (see Hatzenbuehler 2014 for a brief review). Structural stigma refers to “societal-level conditions, cultural norms, and institutional policies that constrain the opportunities, resources, and well-being of the stigmatized” (Hatzenbuehler and Link 2014: 2). Importantly, the minority stress framework suggests that sexual minorities will experience less stress in contexts where they enjoy more social and institutional support (less structural stigma) (Frost and Meyer 2009).

Oswald, Cuthbertson, Lazarevic, and Goldberg (2010) build on the minority stress framework to include what they call “community climate” (p. 224). Broadly, they define community climate as “the level of community support for homosexuality, and indicated by objectively measurable phenomenon such as religious and political affiliations, legal rights, workplace opportunities and policies, and the presence of GLBT community members and services” (Oswald et al. 2010: 215). Oswald and colleagues (2010) argue that community climate
affects the well-being of GLBT individuals by conveying messages of support or rejection that are then internalized.

Furthermore, lesbians and gay men appear to differ in terms of the particular stressors that they encounter. For example, in the United States, individuals generally hold more positive views of lesbians than gay men (i.e., LaMar and Kite 1998; Worthen 2013) and more individuals agree that two women (with and without children) are a ‘family’ than two men (with or without children) (Powell, Blozendahl, Geist, and Steelman 2010). In addition, gay men are more likely to be the victim of hate crimes than lesbian women (Herek 2009). Worthen (2013) has outlined at least six theoretical reasons throughout the literature to explain why attitudes towards gay men and lesbian women differ. For example, heterosexuals often conflate gay and bisexual men with HIV/AIDS but rarely associate this with lesbians which can result in a more negative attitude toward gay men as compared to lesbian women (Worthen 2013). Given these differences, it is important to also consider whether the association between social context and same-sex union formation differs for men and women.

The wealth of studies that have examined the effect of contextual factors on outcomes of sexual minorities have focused on indicators of health and well-being (i.e. Duncan and Hatzenbuehler 2014; Everett 2014; Hatzenbuehler, Keyes, and Hasin 2009; Hatzenbuehler et al. 2010). Consistent with the minority stress framework, this previous research has found more supportive community contexts are associated with more positive outcomes for sexual minorities (Duncan and Hatzenbuehler 2014; Everett 2014; Hatzenbuehler et al. 2015; Hatzenbuehler, Keyes, and Hasin 2009; Hatzenbuehler et al. 2010). For example, sexual minority youth living in neighborhoods with higher rates of LGBT assault hate crimes were more likely to report suicide ideation and attempts than those in neighborhood with lower levels of LGBT hate crimes.
(Duncan and Hatzenbuehler 2010). However, it is unclear whether contextual factors shape the formation of coresidential relationships for sexual minorities. The current research serves to fill this gap by examining how various measures of context/community climate are associated with same-sex union formation among sexual minorities and how the associations differ for men and women.

Family Context: Out to Parents

Previous research has found “coming out” to be associated with increased mental health benefits (i.e. Kosciw, Palmer, and Kull 2015; Juster et al. 2013; Morris, Waldo, and Rothblum 2001), but also with increased risk of discrimination and homophobia (i.e. Huebner and Davis 2005; Kosciw, et al. 2015; Waldo 1999). For example, Riggle et al. (2017) examined how outness, concealment, and authenticity were associated with distress and well-being. They defined outness as perceptions of who knows about the participant’s LGB identity and the quality of communication about the identity with that person or group and found that increased “outness” was associated with increased depressive symptoms, and LGB-specific concealment was associated with lower psychological well-being and higher depressive symptoms (Riggle et al. 2017). Coming out, specifically to parents, could have strong effects on same-sex union formation, especially among young adults. LaSala (2000) notes, “gay men (and women) may face special difficulties in establishing the intergenerational boundaries necessary to establish functional relationships with partner. Coming out to parents may be an important developmental task distinctive to gay men as well as a necessary precursor to the setting of these boundaries” (p. 64).

Rosenfeld and Kim (2005) argue that the independence of young adults today has reduced parental control over their children’s partners. More specifically, they propose that the
residential and geographic independence of young adults has made it harder for parents to stop their children from forming same-sex relationships. Rosenfeld (2007) elaborates that by reducing parental control the independent life stage has resulted in more same-sex couples which has led to greater visibility and normalcy of alternative unions. Although they do not explicitly address the idea of disclosure of sexual orientation identity to parents, Rosenfeld and Kim (2005) and Rosenfeld (2007) highlight the potential power and influence that the family context, specifically parents, can have on same-sex union formation. Relatedly, Strohm (2010) suggests that sexual minorities may delay forming same-sex unions until they have moved away and are independent from their families of origin. Taken together, these findings suggest that the family context, and being out to parents in particular, may be salient for sexual minorities, especially as it relates to union formation.

Demographic Context: Same-Sex Couple Concentration

Same-sex coresidential unions are not uniformly distributed across the United States. The majority of same-sex couples, especially gay men, are concentrated in cities (Black et al. 2000; Gates and Ost 2004; Laumann et al. 1994). In fact, the majority of these couples are concentrated in twenty cities (Black et al. 2000). Their concentration not only reflects the fact that sexual minorities are more likely to migrate to cities, but also the greater willingness of individuals to identify as gay and lesbian when they reside in these areas (Gates 2013; Laumann et al. 1994). As demographic studies of same-sex coresidential unions are cross-sectional, it is not clear what accounts for the fact that same-sex couples are concentrated in particular areas. It could be the case that sexual minorities feel more comfortable coresiding in these areas. Alternatively, sexual minorities may gravitate to these areas because they perceive them as more receptive.
Mounting theory and research suggests that the concentration of gays and lesbians in neighborhoods is associated with the dynamics of sexual relationships. The minority stress framework, in particular, suggests that sexual minorities will encounter fewer stressors when they reside in neighborhoods with higher concentrations of same-sex couples (Frost and Meyer 2003). In addition, cities are said to provide dense mate markets, and thus greater possibility for union formation (Schwartz and Graf 2010). Mixed methods research conducted in Chicago neighborhoods during the 1990s found that short-term sexual encounters between men flourished when opportunities for meeting gay men were greater (Ellingson and Schroeder 2004). As Carpiano et al. (2011) argue, gay neighborhoods provide “a place where gay men can visibly display their gay identity, avoid having to justify themselves to others, and develop romantic and platonic relationships without fear” (p. 76). Rather than focus on urbanicity, we use a measure of same-sex couple concentration as a demographic indicator of supportive environment.

Attitudinal Context: Republican Voting

Previous research has used county-level voting as an indicator of community climate (e.g., Everett 2014; Oswald et al. 2010). According to Oswald et al. (2010), the overall political climate of an area can be identified through aggregate voting patterns. Previous research has found that individuals with more conservative attitudes and Republicans are less likely to support rights for sexual minorities and have more negative attitudes toward sexual minorities (e.g., Baunach 2012; Herek 2002; Hicks and Lee 2006; McVeigh and Diaz 2008). Furthermore, as highlighted by Oswald and colleagues, the Republican National Committee explicitly opposes same-sex marriage. The Republican official party platform states:

“Traditional marriage and family, based on marriage between one man and one woman, is the foundation for a free society and has for millennia been entrusted with rearing children and instilling cultural values.” (Republican National Committee 2016: 11).
Given this explicit and clear opposition to same-sex marriage, it is reasonable to assume that sexual minorities living in areas with higher concentrations of Republican voters will be less likely than their counterparts residing in areas with lower concentrations of Republican voters to form same-sex coresidential unions.

Current Investigation

The current study fills a gap in the literature by examining the effect of social context on union formation, with a particular focus on sexual minorities. Drawing on data from the National Longitudinal Study of Adolescent to Adult Health, we address the following research questions using survival analyses: First, how is sexual orientation associated with the likelihood of same-sex coresidential unions? Using life table methods, we estimate the cumulative probabilities of forming a first same-sex union for male and female respondents with responses to a question on sexual orientation identity. We expect a clear pattern of forming same-sex unions according to sexual orientation, with mostly/100% homosexual respondents being the most likely to form a same-sex union and 100% heterosexual respondents being the least likely to form a same-sex union. To provide a comparison, we also estimate cumulative probabilities of forming a first different-sex coresidential union. Second, how are key indicators of social context associated with union formation? To answer this question, we estimate proportional hazards models that predict the timing of forming a first same-sex coresidential union. We expect that sexual minorities living in more supportive contexts will be more likely to form same-sex coresidential unions than their counterparts in less supportive contexts. We also stratify our models by sex of respondent to consider whether the effects of covariates differ for men and women in the analyses of union formation. Importantly, our measures of sexual orientation identity and social
context correspond to a point in time that precedes the period during which respondents are at risk of forming their first same-sex union, as elaborated below. This study will provide a portrait of union formation for a contemporary cohort of young adults.

**Data and Methods**

Data for this research were obtained from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is a nationally representative, school-based, longitudinal study of a 1994-1995 cohort of 7th-12th graders (Harris et al. 2009). Add Health used audio computer-assisted self-interviewing (ACASI) and partner rosters to identify all of the partners with whom respondents had ever experienced a “romantic or sexual relationship” that eventuated in pregnancy, cohabitation, or marriage, in addition to any other partners with whom they had a romantic or sexual relationships since 2001. Add Health subsequently asked respondents to provide the gender, age, and race/ethnicity of each partner. ACASI not only maximizes privacy, but also allows for more complicated skip patterns (Paik 2015). Furthermore, Add Health contains multiple contextual databases, allowing for detailed and thorough examination of the influence of context. In-home interviews with the respondent were conducted in 1994-1995, 1996, 2001-2002, and 2007-2008. Overall, Add Health interviewed 20,745 adolescents at Wave I. At Wave III respondents were between 18 and 26 years old. Wave IV, the most recent wave of Add Health, was conducted in 2007-2008 when participants were between 24 and 32 years old.

Given that sexual orientation identity and contextual measures of same-sex couple concentration and Republican voting were not included prior to Wave III, the analytic sample for this research consists of individuals who had not formed a same-sex coresidential union before Wave III. The sample of respondents who completed the first in-home interview (N =20,745).
was restricted in several ways. First, we excluded individuals who did not participate in Waves III and IV (n=7,764). Second, we dropped 248 individuals who did not have geocode information. We also excluded 732 individuals who were missing on survey design variables. An additional 120 individuals were not included because they did not provide valid responses to the questions on sexual orientation identity, as elaborated below. Finally, we dropped respondents who had already formed a same-sex coresidential union prior to Wave III (n= 125), as our measures of context correspond to the period when Wave III data were collected. Prior to Wave I, fewer than 10 respondents formed a same-sex union and, between Waves I and III, 35 males and 82 females formed a same-sex union. Individuals who did not form a same-sex coresidential union between Waves III and IV were censored at the time of the Wave IV interview. Our final sample includes 11,849 respondents.

We begin with a descriptive profile of men and women who identify as sexual minority (bisexual, mostly/100% homosexual) and sexual majority (mostly/100% heterosexual) at Wave III, contrasting how they compare on same-sex union history, contextual variables, and control variables. We then turn to survival analysis to examine the timing of same-sex union formation. Specifically, we display weighted estimates of the proportion of heterosexuals, bisexuals, and homosexuals who have formed a same-sex coresidential union and a different-sex coresidential union between Waves III and IV. Next, we present the results from models of same-sex coresidential union formation that adjust for survey design effects. The risk period for the models begins with the Wave III interview and ends with the number of months to same-sex union formation (if the respondent formed a same-sex union) or months to Wave IV interview.

To our knowledge, studies have yet to examine how patterns of union formation differ according to sexual orientation identity. Studies of the formation of different-sex unions, in
particular, likely include individuals who are not at risk of forming such a union. As the proportion of sexual minorities in the population is small, the inclusion of these individuals is probably inconsequential for model estimates. We restrict our models of same-sex coresidential union formation to individuals who identify as bisexual, mostly homosexual, or 100% homosexual. Although Strohm (2010) examined entry into same-sex unions, he did not examine the association between sexual orientation identity and union formation, reflecting the fact that such a measure was not available in the NCDS and BCS. However, he did state the importance of including information on sexual orientation when examining same-sex union formation, especially as an indicator of whether an individual is searching for a same-sex partner (Strohm 2010).

**Variables**

**Dependent Variable**

*Months to first same-sex coresidential union.* At Wave IV, respondents were asked detailed questions about their cohabitation and marriage histories, including how many individuals they had been married to or living with, as well as start dates (month and year) of cohabitation and marriage for each partner identified. As noted earlier, respondents were also asked demographic information about their partner, such as their biological sex. Add Health is one of the only U.S. data sets that enables identification of same-sex relationships based on

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1 If respondents did not know the start month of their union, they were able to choose a season. Respondents who chose a season were coded as the month in the middle of that season. For example, Spring was coded as April and Fall as October. Patterns do not differ when disregarding the information on season and only utilizing month and year.
coresidence (National Center for Family and Marriage Research 2013) and also includes start dates of all coresidential relationships. Based on the sex of the respondent (marked by the interviewer) and the sex of their partner (marked by the respondent) a variable indicating type of union (0= different-sex union; 1= same-sex union) for each partner was created. For respondents with multiple same-sex partners we included only the partner with the earliest union start date. Next, for each respondent we created a variable that indicated the date of first same-sex union (cohabitation or marriage) in century months. We then constructed a variable that indicated the number of months since the Wave III interview and the time when the respondent first entered a same-sex coresidential union or reached the Wave IV interview (for those who did not form a same-sex union). An alternative modeling strategy would be to focus on the formation of first coresidential union and treat same-sex and different-sex unions as competing risks (e.g., Strohm 2010); however, several respondents formed a different-sex union prior to forming a same-sex union.

Independent Variables

*Sexual minority status.* Sexual minority status was operationalized using the following question from Wave III: “Please choose the description that best fits how you think about yourself: (1) 100% heterosexual (straight), (2) mostly heterosexual (straight), but somewhat attracted to people of your own sex, (3) bisexual that is, attracted to men and women equally, (4) mostly homosexual (gay), but somewhat attracted to people of the opposite sex, (5) 100% homosexual (gay), (6) not sexually attracted to either males or females.” Following previous research (i.e., Hatzenbuehler, Jun, Corliss, and Austin 2014), we excluded asexual respondents from our analyses. We recoded sexual minority status into four categories (1) 100% heterosexual (straight), (2) mostly heterosexual, but somewhat attracted to people of your own sex, (3)
bisexual that is, attracted to men and women equally, and (4) mostly homosexual (gay), but somewhat attracted to people of the opposite sex and 100% homosexual (gay). For models of same-sex coresidential union formation, the sample is restricted to individuals who identified as bisexual, mostly homosexual, or 100% homosexual.

Contextual Information

*Out to either parent.* We use a measure of whether or not the respondent had disclosed their sexual orientation identity to either of their parents as an indicator of family context. This measure was operationalized using the following question that immediately followed the Wave III measure of sexual orientation identity: “Which of your parents knows that you are bisexual/about your homosexuality? Neither parent knows, only mother knows, only father knows, both parents know.” Responses were recoded as (0) neither parent knows and (1) only mother knows, only father knows, or both parents know. This question was only asked of respondents who identified as bisexual, mostly homosexual, or 100% homosexual.

*Same-sex couple concentration.* We use the percent of households headed by same-sex unmarried partners in respondent’s tract as an indicator of social support for sexual minorities. This measure was obtained from the contextual data appended to the Add Health by Swisher (2008). In supplemental analyses combining data from the U.S. Census and the 1988-2008 General Social Survey, Schwartz and Graf (2010) demonstrated that the percent of same-sex cohabiting couples across different locales was highly correlated with the percent of individuals identifying as gay or lesbian. Following prior work using the Add Health (Everett 2014), we use dummy variables in the models to distinguish different groups of respondents who identified as sexual minority according to the concentration of same-sex couples in their neighborhood. Preliminary analyses indicated that the same-sex couple concentration variable had large right
skew and a modal value of zero. Thus, we divided sexual minority men and women into three equally-sized categories (or tertiles) on the basis of the concentration of same-sex cohabiting couples in their census tract. For sexual minority men and women a low concentration tract was less than .003, a medium concentration tract was .003 to .008, and a high concentration tract was greater than .008. In supplemental analyses discussed later, we alternatively include a logged measure of same-sex couple concentration at the tract level. We also examine the effects of state- and county- level same-sex couple concentration in the supplemental analyses.

*County-level voting.* As an alternative indicator of support for sexual minorities, we measure the percent of votes cast in respondent’s county for the Republican presidential candidate during the 2000 election (McVeigh and Diaz 2009). This measure was obtained from the political context database appended to the Add Health by Fowler, Settle, and Monbureau (2010). Preliminary analyses utilized categorical and logged versions of the Republican voting variable. However, following McVeigh and Diaz (2009), we ultimately used a continuous variable which ranged from .090 to .885.

Control Variables

Following prior work on union formation using Add Health (Raley, Crissey, and Muller 2007) we include controls for age, race, and family background.

*Age at wave III.* We include a variable for respondent’s exact age (i.e., 20.5) at Wave III.

*Race/Ethnicity.* Race/ethnicity of respondent was collected from the first wave of the study and recoded to a series of dummy variables (non-Hispanic black, Hispanic, and non-Hispanic other) with non-Hispanic white acting as the reference group.

*Living with two biological parents.* Based on the household roster at Wave I, we established if a respondent was living with both biological parents at Wave I.
Family SES. Family SES is based on a measure developed by Bearman and Moody (2004) that incorporates information on parental education and occupation from Wave I; this measure is widely used in studies based on Add Health.

Migration. Following Ueno, Vaghela, and Ritter (2014) we include an indicator of whether or not the respondent moved more than 50 miles between Waves I and III. This measure was obtained from the contextual data appended to the Add Health by Swisher (2008) that included geographical distances between waves. Respondents were coded as (1) migrated if they moved 50 miles or more between Waves I and III or (0) did not migrate if they did not.

Results

Table 1 displays sample means for the different groups of men and women. As documented in prior studies, men are more likely than women to identify as homosexual (i.e., 1.4% versus 0.7%) whereas women are more likely than men to identify as bisexual (i.e., 2.2% versus 0.6%). In addition, greater shares of women than men identity as sexual minority overall (2.9% versus 2.0%). This is consistent with the recent report by Gates (2017), which states that more woman than men in the United States identify as LGBT (4.4% versus 3.7%).

Results of significance tests (not shown) indicate male and female groups do not differ significantly from each other on any of the variables except for union formation. Considering our key outcome, we see dramatic differences in union formation by sexual orientation identity for male and female respondents alike. Only 1% of heterosexual women formed a same-sex coresidential union prior to Wave IV, versus 10.7% of sexual minority women. Notably, heterosexual male respondents were the least likely of any group to have formed a same-sex
coresidential union, with 0.3% doing so prior to Wave IV (versus 31.7% of sexual minority men). Regarding the contextual variables, sexual minority men are more often than sexual minority women to be out to either parent (55.5% versus 45.8%). This is consistent with previous research by the Pew Research Center (2013) which found that gay men were more likely to be out to their mother or their father than lesbian women. This also partly reflects the fact that sexual minority men are more likely than sexual minority women to identify as homosexual. When looking at the control variables there are a few noticeable differences between heterosexuals and sexual minorities. Greater shares of sexual minority women are white than heterosexual women (78.2% versus 69.2%). Greater percentages of heterosexual men reported living with two biological parents at Wave I than sexual minority men (58.6% versus 47.3%). Sexual minority men more often reported moving more than 50 miles between Waves I and III than heterosexual men (35.9% versus 25.6%).

Figure 1 shows results from weighted life table analyses of same-sex coresidential union formation for four sexual orientation groups. Due to small sample sizes, we collapsed mostly homosexual and 100% homosexual. The $x$-axis shows the number of months since the Wave III interview and the $y$-axis shows the cumulative proportion of individuals who have entered a same-sex coresidential union by a given month. The figure reveals that there is a clear association between sexual orientation identity and same-sex union formation. Among both men and women, mostly/100% homosexual respondents are most likely to form a same-sex union, followed by bisexuals, with mostly and 100% heterosexual respondents the least likely to form a same-sex union.

[FIGURE 1 ABOUT HERE]
As a “check” to ensure our approach captures the process for different-sex union formation we also ran weighted life table analyses of different-sex coresidential union formation for the four sexual orientation groups (not shown). Among men and women, 100% heterosexual, mostly heterosexual, and bisexual respondents are the most likely to form a different-sex union, while 100%/mostly homosexual respondents are the least likely to form a different-sex union. Over half of heterosexual and bisexual respondents formed a different-sex union by Wave IV. In contrast, less than 10% of homosexual formed a different-sex union by the Wave IV interview.

Table 2 displays the hazard ratios from Cox models of same-sex union formation. One set of columns displays the hazard ratios for sexual minority (bisexual, mostly/100% homosexual) men while the other set displays the hazard ratios for sexual minority women. Model 1 displays the out to either parent variable and the control variables. Model 2 includes the tract same-sex concentration dummies and control variables. Model 3 includes Republican voting at the county level and the control variables. Model 4 represents the full model and includes all variables.

The results from Model 1 reveal that sexual minority men and women who are out to either parent have a significantly higher hazard rate of forming a same-sex union compared to those who are not out to either parent. Specifically, sexual minority men who are out to either parent have a hazard rate of forming a same-sex coresidential union that is roughly five times higher than that of those who are not out, while sexual minority women who are out have a hazard rate that is four times higher. An advantage of this analysis is that the indicator of coming out precedes the transition to coresidence; however, respondents who plan to move in with a partner may feel pressure to come out to their parents.
Our demographic indicator of supportive context, same-sex couple concentration, is significant for sexual minority men but not women. Model 2 shows that sexual minority men who live in tracts with medium and higher concentrations of same-sex couples have significantly higher hazard rates of forming a same-sex union than those in tracts with low concentrations of same-sex couples. More specifically, sexual minority men living in tracts with the highest concentration of same-sex couples are almost three times more likely to form a same-sex union and sexual minority men living in tracts with a medium concentration are three times more likely to form a same-sex union than sexual minority men who live in tracts with the lowest concentration of same-sex couples.

Model 3 substitutes the proportion of the county voting for the Republican presidential nominee for the same-sex couple concentration tract variables. Republican voting is not significantly associated with same-sex union formation for sexual minority men or women. At the zero-order level, however, Republican voting was marginally significantly related to hazard rates of union formation for sexual minority men (results not shown).

Model 4 presents results from the full model that combines all three sets of contextual variables. For sexual minority men, being out to either parent continues to be significantly higher hazard rate of forming a same-sex union. In the full model, sexual minority men who are out to their parents are about five times more likely to form a same-sex union than those who are not. Furthermore, same-sex couple concentration remains significantly associated with same-sex union formation. In fact, sexual minority men living in a tract with a high concentration of same-sex couples are almost three times more likely to form a same-sex union than sexual minority men living in a tract with a low concentration of same-sex couples. Turning our attention to sexual minority women, being out to either parent remains significantly associated with higher
hazards of forming a same-sex union. More specifically, sexual minority women who are out to either parent are over four times more likely to form a same-sex union that those who are not out.

Supplemental Analyses

We also conducted several sensitivity analyses that are not displayed in this manuscript. We ran parallel sets of left-truncated models that began the risk period with the exact age at Wave III and using as a timing variable the age at first same-sex union formation (or age at Wave IV interview if censored). The hazard ratios and significance levels were virtually identical. We present the results for the models that capture timing in months because descriptive life table estimates cannot adjust for left-truncation. In addition, we ran models that included measures of same-sex concentration at the state and county levels. These variables (recoded into high, medium, and low concentration) were not significant for sexual minority men or women. We also utilized a linear specification of same-sex concentration in census tract that logged the original variable (after adding .001). This variable was significant in all models for sexual minority men but not sexual minority women.

As a falsification test, we substituted in our models a variable for concentration of different-sex couples and failed to detect any significant effects for sexual minority men or women. Drawing on Rosenfeld’s (2007) premise that independence from family and geographic mobility has led to an increase in same-sex couples we ran models that additionally included an interaction between the logged same-sex concentration variable with geographic mobility. This interaction term was not significant for sexual minority men or women. This means that the effect of same-sex neighborhood concentration does not differ for men or women based on their mobility.
Finally, we examined the effects of contextual factors in analogous models of different-sex union formation among heterosexuals who had not formed such a union at the time of the Wave III interview. First, the proportion of unmarried opposite-sex couples at the tract level was not associated with union formation at the zero-order or multivariate level for heterosexual men or women. However, the proportion of the county voting Republican was associated with different-sex union formation among heterosexual men and women in both the zero-order and multivariate models. Consistent with previous research on context and the second demographic transition (Lesthaeghe and Neidert 2006), further analysis revealed that proportion voting Republican was significantly associated with higher hazard rates of marrying and lower hazard rates of cohabiting among heterosexual men and women.

**Summary and Conclusion**

The social landscape surrounding sexual minorities and, more broadly, union formation has been rapidly changing in the past two decades. During this time the average age at marriage has risen (U.S. Census Bureau 2016) and sexual minorities have progressed from no states legally recognizing relationships to marriage equality in 2015 (Human Rights Campaign 2015). Even with these changes, no known studies have directly examined the relationship between sexual orientation identity and union formation. In addition, despite the documented importance of context for sexual minorities, studies have yet to directly examine the effects of contextual factors on first same-sex union formation in the United States. Using data from the National Longitudinal Study of Adolescent to Adult Health, and guided by a minority stress framework, this research sought to fill two major gaps in our understanding of union formation.

First, we found that sexual orientation identity was strongly associated with same-sex union formation. Homosexual respondents were most likely to form a same-sex union while
heterosexual respondents were the least likely to form such a union. Similarly, heterosexual respondents were the most likely to form different-sex unions while homosexuals were the least likely to form such unions. Bisexuals were more likely than heterosexuals but less likely than homosexuals to form a same-sex union. However, bisexuals formed different-sex unions at rates almost identical to heterosexuals.

Second, we found that family context mattered for both sexual minority men and women. About half of sexual minority young adults were out to their parents while half were not; being out had clear implications for their union formation. Almost half (48.4%) of sexual minority men who were out to either parent formed a same-sex union compared to only 14% of sexual minority men who were not out (results not shown). Among sexual minority women, over 20% (20.7%) who were out to either parent form a same-sex union compared to less than 11% (10.9%) of sexual minority women who were not out to either parent (results not shown). As shown in the analyses, respondents who were out to either parent had significantly higher hazards of forming a same-sex union than those who were not. This is consistent with previous research by Rosenfeld and Kim (2005) and Strohm (2010) which suggests that the family of origin has a critical influence on same-sex union formation.

Our demographic indicator of supportive context, same-sex couple concentration, mattered for sexual minority men, but not women. Sexual minority men living in tracts with higher concentrations of same-sex couples had significantly higher hazards of forming a same-sex union that those living in tracts with low concentrations of same-sex couples. This is consistent with the minority stress framework which suggested that sexual minorities would be more likely to form unions in areas with more social and institutional support.
Our attitudinal measure of supportive context, county-level Republican voting, was only marginally significantly associated with same-sex union formation for sexual minority men. Republican voting reduced their hazard rates of forming these unions in the zero-order model, but the effect fell out of significance with inclusion of control variables. We had expected that respondents residing in counties with lower proportions of voters who cast a vote for the Republican candidate (Bush) would be more likely to form coresidential unions. This political indicator of context has been important in other work on depression (Everett 2014), but does not appear to be influential for this outcome beyond the zero-order level.

Previous research found that gay men were more sensitive than lesbian woman to context (Fischer, Kalmijn, and Steinmetz 2016). More specifically, Fischer et al. (2016) found across nine European countries that men in same-sex relationships (both cohabiting and not), social well-being (or overall sense of social embedders and absence of ill-being), was significantly dependent on information institutional context (tolerance as a normative concept), while women in same-sex relationships social well-being was not. Context may be less critical to sexual minority women because they face fewer barriers to being a couple in public. As stated earlier, in a prior study gay men were more likely than lesbians to report they were the victim of a hate crime, which is evidence that their day-to-day environments are more hostile (Herek 2009). Similarly, gay male couples reported more stress related to violence/harassment than did lesbian couples (Todosijevic, Rothblum, and Solomon 2005).

While this paper provides new insights into union formation for sexual minorities, several limitations exist. First, the sample was limited to individuals who had not formed a same-sex union prior to Wave III of Add Health; thus, we did not capture the experiences of respondents who formed a same-sex union earlier in the life course. Second, the question regarding disclosure
of sexual orientation identity was only asked about parents and did not address parental reaction to coming out. Some respondents who were out to either parent may have experienced negative reactions that impeded their union formation of same-sex unions. Relatedly, Add Health did not ask if the respondent was out to anyone else. It may be the case that disclosure to other groups (such as friends or at work) influences union formation in unique ways. Third, our measures of social context came from the 2000 Census and thus fail to capture change during the period of risk that resulted from either respondents changing contexts or their contexts changing over time. Ideally, we would have examined the effects of sex-specific measures of same-sex couple concentration; however, other studies concerning the influence of same-sex couple concentration do not make this distinction (e.g., Baumle and Compton 2011; Frye et al. 2010). Due to the period of data collection, we did not examine the formation of same-sex marital unions but consider this an important topic for future research. Finally, given the timing of our contextual indicators and the limited information asked of sexual orientation identity, we did not capture the full range of relationships. For example, transgender, queer, asexual, and nonbinary individuals were not specifically examined in this study.

Despite these limitations, this research possesses many strengths. First, Add Health contains a larger number of sexual minorities and individuals in same-sex relationships than most other large datasets. For example, the most recent SIPP data only includes approximately 200 same-sex couples across a wide age span (18-64). The sizeable and significant contextual effects that we found for men are reassuring in light of the fact that the number of sexual minority men in our sample is smaller than the number of sexual minority women. In addition, respondents were asked detailed questions about their cohabitation and marriage histories, allowing for a comprehensive examination of same-sex union formation. Importantly, the
contextual data available with Add Health available at Wave III allowed us to examine the effects of social context on union formation prior to the period of risk.

In summary, we find that sexual orientation identity and context matter for same-sex coresidential union formation. Sexual minorities, especially men, have higher likelihood of forming a same-sex union the more supportive their context. Our findings illustrate the importance of considering context when examining outcomes for sexual minorities, particularly union formation. As the social and cultural landscape of the United States continues to transform, understanding contextual factors is an important focus for future research on sexual minority health and well-being.
References


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Umberson, D. & Kroeger, R.A. (2015). Gender, marriage, and health for same-sex and different-


<table>
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<tr>
<th>Variable</th>
<th>Men (n=5383)</th>
<th>Men (n=5264)</th>
<th>Men (n=119)</th>
<th>Women (n=6345)</th>
<th>Women (n=6162)</th>
<th>Women (n=183)</th>
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<td>Same-Sex Union Formation</td>
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<td>0.003</td>
<td>0.317</td>
<td>0.013</td>
<td>0.010</td>
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<td>100% heterosexual</td>
<td>0.946</td>
<td>0.966</td>
<td>–</td>
<td>0.863</td>
<td>0.889</td>
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<td>Mostly heterosexual</td>
<td>0.033</td>
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<td>–</td>
<td>0.108</td>
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<td>Bisexual</td>
<td>0.006</td>
<td>–</td>
<td>0.289</td>
<td>0.022</td>
<td>–</td>
<td>0.766</td>
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<td>Mostly homosexual</td>
<td>0.006</td>
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<td>0.308</td>
<td>0.005</td>
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<td>0.157</td>
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<td>100% homosexual</td>
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<td>0.402</td>
<td>0.002</td>
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<td>Out to either parent</td>
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<td>0.555</td>
<td>–</td>
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<td>Proportion voting Republican (county)</td>
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<td>0.495</td>
<td>0.453</td>
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<td>Concentration same-sex households (tract)</td>
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<td>Low</td>
<td>0.380</td>
<td>0.380</td>
<td>0.373</td>
<td>0.395</td>
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<td>Medium</td>
<td>0.381</td>
<td>0.382</td>
<td>0.321</td>
<td>0.372</td>
<td>0.373</td>
<td>0.300</td>
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<td>High</td>
<td>0.239</td>
<td>0.238</td>
<td>0.305</td>
<td>0.233</td>
<td>0.232</td>
<td>0.310</td>
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<td>Control Variables</td>
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<td></td>
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<td></td>
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<tr>
<td>Age at Wave III</td>
<td>22.396</td>
<td>22.400</td>
<td>22.197</td>
<td>22.163</td>
<td>22.172</td>
<td>21.882</td>
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<td>Race/Ethnicity</td>
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<td>Non-Hispanic white</td>
<td>0.685</td>
<td>0.686</td>
<td>0.660</td>
<td>0.695</td>
<td>0.692</td>
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<td>Non-Hispanic black</td>
<td>0.139</td>
<td>0.139</td>
<td>0.133</td>
<td>0.147</td>
<td>0.149</td>
<td>0.073</td>
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<td>Hispanic</td>
<td>0.120</td>
<td>0.119</td>
<td>0.144</td>
<td>0.112</td>
<td>0.111</td>
<td>0.120</td>
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<td>Non-Hispanic other</td>
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<td>0.056</td>
<td>0.063</td>
<td>0.047</td>
<td>0.047</td>
<td>0.024</td>
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<td>Two biological parents (W1)</td>
<td>0.584</td>
<td>0.586</td>
<td>0.473</td>
<td>0.579</td>
<td>0.580</td>
<td>0.539</td>
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<td>Family SES (1-10)</td>
<td>5.611</td>
<td>5.610</td>
<td>5.680</td>
<td>5.504</td>
<td>5.510</td>
<td>5.273</td>
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<td>Migrate (more than 50 miles)</td>
<td>0.258</td>
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<td>0.359</td>
<td>0.254</td>
<td>0.256</td>
<td>0.259</td>
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Table 2. Hazard Ratios from Cox Models of First Same-Sex Union Sexual Minority Respondents with Wave 1, 3, 4 Interviews with No Same-Sex Coresidential Union History at Wave 3

<table>
<thead>
<tr>
<th></th>
<th>Sexual Minority Men (N=117)</th>
<th>Sexual Minority Women (N=183)</th>
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<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Out to Either Parent</td>
<td>5.677 *</td>
<td>5.083 *</td>
</tr>
<tr>
<td>Proportion Same-Sex Couples (Tract)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Concentration</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Medium Concentration</td>
<td>3.608 *</td>
<td>2.489</td>
</tr>
<tr>
<td>High Concentration</td>
<td>2.941 *</td>
<td>2.725 *</td>
</tr>
<tr>
<td>Proportion Voting Republican (County)</td>
<td>0.188</td>
<td>0.560</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at Wave III</td>
<td>1.337 *</td>
<td>1.368 *</td>
</tr>
<tr>
<td>Non-Hispanic White (ref)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>1.065</td>
<td>0.726</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.468</td>
<td>0.469</td>
</tr>
<tr>
<td>Other</td>
<td>0.881</td>
<td>0.583</td>
</tr>
<tr>
<td>Living with Two Biological Parents</td>
<td>2.260 †</td>
<td>2.058 †</td>
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<td>Family SES</td>
<td>1.044</td>
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<td>Moved 50+ Miles</td>
<td>0.759</td>
<td>0.782</td>
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</table>

Notes: Survey-adjusted models.
† p<.10; * p<.05; ** p<.01; *** p<.001
Figure 1. Same-Sex Union Formation

Proportion Forming a Same-Sex Coresidential Union

Months to Union

100% Heterosexual
Mostly Heterosexual
Bisexual
Mostly/100% Homosexual