EARLY SEXUAL BEHAVIOR AND FIRST UNION FORMATION IN YOUNG ADULTS

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ABSTRACT

Using the first six rounds of data from the 1997 National Longitudinal Survey of Youth, I analyze the role of sexual behavior on union formation for 6,700 young adults (ages 18 to 22). I investigate whether early sexual activity influences the likelihood of experiencing a co-residential union in early adulthood and whether it is marriage or cohabitation. Results show that earlier ages at first sex and more sexual partners increase the likelihood of experiencing a cohabiting first co-residential union. Sexually active adolescents are less likely to marry or remain single than their counterparts who delayed first sex and had fewer sexual partners. These findings suggest that individuals who enter early cohabiting first unions have different sexual behavior than those who enter early marriages or stay single. Cohabitation has emerged as an alternative union to marriage in which individuals' early sexual behavior influences the kind of first union they first experience.

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INTRODUCTION

What role does sexual behavior play in union formation? Since the 1950s, marriage has diminished as the normative forum for sexual behavior (Beck and Beck-Gernsheim 1995; Giddens 1992). Increasingly adults engage in pre-marital sexual relationships. Pre-marital sex is not limited to adults, however. Nearly three-fourths of adolescents report having experienced sexual intercourse by age 18, and of those who have experienced it nearly two-thirds have done so with two or more partners (Allan Guttmacher Institute 2006). Thus many adults are sexually experienced long before forming their first union. How does this early sexual activity influence the kind of first unions that individuals enter? In other words, might this early sexual behavior select individuals into cohabiting first unions rather than marital first unions?

Some research suggests that sexual behavior influences the kind of unions that individuals enter. For example, Rindfuss and VandenHeuvel (1990) proposed a link between sexual values and cohabiting unions. They suggested that the changing sexual values of the 1960s eroded barriers to premarital sexual activity, especially among adolescents. In turn, these changing sexual values and eroding barriers facilitated the emergence of cohabiting unions. They also argued that cohabiting unions combine more sexual freedom and less permanence than traditional marriages. A decade later, Thornton and Young-DeMarco (2001:1011) noted that many of the social changes of the 1960s "increased tolerance for previously proscribed behaviors," especially "individual freedom concerning family and personal behavior" such as cohabitation and premarital sex.

In recent years, nearly half of all marriages have begun as cohabiting sexual unions (Raley 2001). Individuals in these cohabiting unions are likely to share common social factors like lower socio-economic status and education. Additionally, cohabiting individuals are likely to have experienced divorce and other non-traditional family structures, like step- and single-parenting, as children (Smock 2004; Amato 2004; Clarkberg, Stolzenberg, and Waite 1995; Thornton and Young-DeMarco 2001). Research also suggests that individuals are waiting longer to marry. So what leads some individuals to enter cohabitation as their first union rather than marriage? Young adults are more accepting of cohabiting unions than previous generations, just as they are more accepting of premarital sex (Thornton and Young-DeMarco. 2001; Axinn and Barber 1997).

Therefore, this research suggests that early sexual behavior influences the kind of union that individuals experience as their first co-residential union during young adulthood. Individuals who experience first sex at earlier ages and who have more sex partners prior to their first union increase their chances of experiencing cohabitation as their first co-residential union rather than marriage or staying single during this period. In other words, individuals who experience a cohabiting first union have significantly different sexual behavior prior to their first union than that of individuals who either experience marital first unions or stay single during young adulthood.

Examining the role of sexual behavior on first union formation offers insight into the relationship between two hallmark life course transitions: first sex and first union (Christopher and Sprecher 2000). Both mark a growing physical, mental and social maturity that signifies departure from the childhood family and entry into adulthood. Until recently few studies have focused on the link between sexual behavior and union formation (See Sassler 2004; Smock and Manning 2001; Surra 1990 as notable exceptions). This research aims to answer that call for examining the role of sexual behavior in union formation. Understanding its role further contributes to the literature by modeling the predictors that influence some individuals to enter cohabiting unions first, influence others to enter marital unions first, and influence still others to stay single during young adulthood. Additionally, this research contributes to the literature by arguing that cohabitation has emerged as an alternative union to marriage in which individuals' sexual behavior prior to union formation significantly influences the kind of first union they experience.

LITERATURE REVIEW

Research suggests that individuals in cohabiting unions are qualitatively different from those in marital unions across several social factors. For example, cohabitors are more likely to express non-traditional gender values than married couples (Cherlin 2004; Thornton and Young-DeMarco, 2001; Smock 2000; Kiernan 1999; Cherlin and Furstenberg 1988; Tanfer 1987). This includes favoring more egalitarian distributions of housework and a greater acceptance of non-traditional work roles (Thornton and Young-DeMarco 2001; Smock 2000; Clarkberg et al. 1995). Cohabitors are also likely to have more accepting attitudes toward divorce (Axinn and Barber 1997) and to be more approving of infidelity than married individuals (Clarkberg et al. 1995). If cohabitors are qualitatively different from married individuals in their attitudes toward gender roles, divorce, and infidelity then might they also differ in their sexual behavior? Specifically, are individuals who experience first sex at earlier ages and have more sex partners prior to their first union more likely to cohabit as their first co-residential union during young adulthood?

Rindfuss and VandenHeuvel (1990) suggest that cohabitation resembles singleness more than marriage because it looks like an extension of dating and sexual relationships, available to participants without marital permanence. Similarly, Tanfer (1987:483) links early sexual behavior and cohabitation because "the increased sexual freedom among adolescents and young adults is likely to be related to the delay in marriage," which represents shifting norms that make "cohabitation an increasingly attractive and plausible" lifestyle (see also Smock 2000). I argue that cohabitation emerges as a contrasting union to marriage characterized, in part, by the sexual behavior of individuals prior to union formation. Individuals who initiate sex earlier and have more sex partners are more likely to cohabit as their first union rather than to marry or remain single during young adulthood.

To frame the life course transition of first union formation for these adolescents and young adults, I maintain that a variety of factors influence normative union formation, whether marital or cohabiting, and normative union timing, whether an individual experiences a union or remains single during this period. As a primary predictor of first union formation, this research focuses on early sexual behavior, namely age at first sex and number of sex partners prior to first union. Several other factors also influence union

formation. These include childbirth, parental marital status and socio-economic status, respondent educational commitment and aspirations, race and ethnicity, religion, gender and age.

While these variables influence union formation, I argue that sexual behavior influences it independent of their effects because individuals who experience first sex at younger ages and have more sex partners are likely to select unions with less permanence and more sexual freedom. Their sexual behavior reflects a prevalence for greater sexual freedom, which better matches the less permanent, and therefore less sexually restrictive, cohabiting unions compared to marriages. This is particularly true at these young ages when individuals are still transitioning into adulthood, a time of some instability when individuals are just leaving the childhood home and entering college or the workforce. Consequently, this transition reflects a period during which individuals have been less likely to enter permanent unions, instead delaying marriage for later ages (Smock 2004; Thornton and Young-DeMarco 2001). These direct, early marriages represent more sexually restrictive unions compared to early cohabitations. Thus, sexual behavior influences union choice with cohabitation emerging as an alternative union to marriage because sexually active individuals are more likely to select unions with less permanence and greater sexual freedom during this period.

Because sexual behavior is the primary predictor of union formation in this research, it is also important to account for the effects of pregnancy on union formation. All respondents in the sample are sexually active by their first union. Therefore, it is possible that some have either experienced pregnancy or have had a pregnant partner. Research shows that pregnancy and childbearing influence union formation, particularly with increasing numbers of females staying single during childbirth and childrearing (Thornton and Young-DeMarco 2001; Manning and Smock 1995). However, childbirth often serves as an impetus to union formation. Manning and Smock (1995) find that childbirth increases the likelihood of transitioning into marriage for females. Moreover, it is important to control for the effects of childbirth on union formation because those with earlier ages at first sex and more sex partners have had a greater risk of pregnancy than those who initiated sex at later ages and had fewer sex partners. Therefore, they may be entering unions because they are pregnant or have a pregnant partner, and not because of their early sexual activity.

Regarding family structure, research finds that cohabiting individuals are likely to have experienced divorce and lived in non-traditional households, like single- and step-parent families, as children than are married individuals; they are more likely to have lived with a cohabiting parent, as well (Smock 2004; Amato 2004; Thornton and Young-DeMarco 2001; Clarkberg et al. 1995; Bumpass 1995). Thus family structure plays an important role in union formation. Though, how does this family structure influence first co-residential unions among adolescents and young adults? I hypothesize that individuals from non-traditional households without both biological parents are more likely to experience cohabitation as their first co-residential union rather than a marriage or staying single during this period.

Family structure also strongly influences early sexual behavior (Davis and Friel 2001). Children living with both biological parents are more likely to delay first sex (Cubbin, Santelli, Brindis and Braveman 2005; Davis and Friel 2001; Whitbeck, Yoder, Hoyt and Conger 1999; Miller et al. 1999; Upchurch, Aneshensel, Sucoff and Levy-Storms 1999; Small and Luster 1994; Newcomer and Udry 1987). They also exhibit less accepting attitudes towards early sexual behavior than individuals living without both biological parents (Thornton and Camburn 1987). Thus, family structure influences union formation and serves as an important control in modeling the effects of sexual behavior on first union formation.

Family socio-economic status also influences union formation. Children of higher income parents are more likely to be academically committed and have high educational aspirations than children of lower income parents (Manning and Smock 1995). Children of more educated parents are also staying single longer (Manning and Smock 1995). Therefore, I hypothesize that individuals with less educated parents are more likely to cohabit as their first union rather than marry or stay single during this period. Furthermore, some research (Whitbeck et al. 1999; Small and Luster 1994) finds that children of more educated families are more likely to delay sexual activity. Thus, family socio-economic status influences union formation and serves as a control in modeling the effects of sexual behavior on first union formation.

While some research (Bumpass and Lu 2000) notes that cohabitation has increased across all education levels, cohabitation is more likely among the least educated (Smock 2000; Thornton, Axinn, and Teachman 1995; Bumpass, Sweet, and Cherlin 1991). The increase of cohabitation among the poor

is likely linked to economic constraints with lower class individuals delaying marriage until they achieve greater economic stability (Bumpass et al. 1991). Similarly, Smock and Manning (1997) find that economically stable males are more likely to marry than lower class males (see also Xie, Raymo, Goyette, and Thornton 2003). However, education as a measure of socio-economic stability may be limited in a sample of young adults who are still transitioning into adulthood. More broadly, education represents scholastic aspiration. Thornton et al. (1995:772) report that "young people with little school accumulation cohabit at higher rates and marry at lower rates than do those with greater accumulation." Thus, measuring education as scholastic aspiration rather than socio-economic status may provide a better measure of first union formation among these young adults, who are still transitioning into adulthood and therefore may not have much economic stability.

Regarding the role of religion on union formation, most religious groups emphasize the importance of marriage and family life and the proscription of pre-marital sexual activity (Thornton, Axinn, and Hill 1992). This is especially true for the Catholic Church whose "explicit desire to regulate sexual, marital, and reproductive behavior" is stronger than most Protestant churches' regulation (Caltabiano, Zuanna, and Rosina 2006:454). However, some conservative Protestant churches, like Baptists, have marital and family life attitudes that are more similar to the Catholic Church than to other Protestant denominations (Thornton et al. 1992). This emphasis on marriage and family life proscribes cohabiting unions, because "cohabitation publicly acknowledges a [pre-marital] sexual relationship…." (Thornton et al. 1992:630) Thus religion likely discourages cohabitation and serves as an important control for modeling the effects of early sexual behavior on first union formation. I also hypothesize that non-religious individuals are more likely to cohabit as their first co-residential union than are religious individuals because cohabitation signals a pre-marital sexual relationship that can also highlight "an individual's nonconformity with religious teachings." (Thornton et al. 1992:630)

Union formation also differs by race and ethnicity. Research (Manning 2001; Miller, Forehand, and Kotchick 1999; Smock and Manning 1997; Oropesa 1996; Bulcroft and Bulcroft 1993) notes that blacks are less likely than other minorities to enter marital unions. And, while some research finds that Hispanics are likely to engage in sexual activity earlier than whites (Cubbin et al. 2005; Browning, Tama, and Brooks-Gunn 2004; Upchurch et al. 1999; Perkins, Lust, Villarruel, and Small 1998), Oropesa (1996)

finds that their union formation also differs from other minorities. One key difference is that Hispanics are more likely to marry and tend to marry at younger ages compared to blacks. Oropesa (1996) attributes some of these racial differences in marriage to the religious norms of Hispanics, which emphasize marriage and family life. Thus, Oropesa's (1996) findings also support that religion influences first union formation.

As union formation is a racial process, it is also a gendered process. The rate of cohabitation has increased remarkably over the last two decades, notably among females for whom the percent having at least one cohabiting union rose from one-quarter to one-half between the 1980s and 1990s (Smock 2000). Some research claims that this trend reflects the declining fertility and increased economic stability of females, which are altering union formation by delaying marriage and increasing cohabiting unions (Cherlin 2004; Thornton and Young-DeMarco 2001; Smock 2000). In addition, gender is also closely linked with the onset of sexual behavior. Males are more likely to be sexually active at younger ages and have more sex partners than females, in large part because the expectations for normative sexual behavior differ by gender (Davis and Friel 2001; Whitbeck et al. 1999): earlier sexual behavior and more sex partners for males carry less stigma than for females. Because gender influences both union formation and sexual behavior, I hypothesize that gender mediates the influence of sexual behavior on first union formation. Specifically, females who initiate first sex at earlier ages and have more sex partners are more likely to enter cohabiting first unions than to marry or stay single during this period. Such sexual behavior is less normative for females. Therefore, because of their exposure to less normative sexual behaviors, they will encounter fewer barriers to other less normative behaviors, in particular to entering non-traditional cohabiting unions. However, because such sexual behavior is more normative for males, their barriers to entering cohabiting unions will be stronger than those for females with the same sexual behavior.

As the literature shows, a variety of factors influence union formation. Chief among these factors are family structure and family socio-economic status, as well as respondent education, race and ethnicity, religion, and gender. However, very little research has previously focused on the role of sexual behavior on union formation, especially early unions during young adulthood (see Sassler 2004; Smock and Manning 2001; Surra 1990 as notable exceptions). These unions represent the first co-residential

unions of young adulthood and mark a significant life course transition. Individuals who experience first sex at younger ages and have more sex partners are likely to select unions with less permanence and more sexual freedom during this transitory period. Their sexual behavior reflects a prevalence for greater sexual freedom, which better matches the less permanent, and therefore less sexually restrictive, cohabiting unions compared to direct, early marriages. Therefore, I hypothesize that younger ages at first sex and more sex partners prior to first union significantly increase an individual's likelihood of experiencing cohabitation as their first co-residential union independent of the already well documented predictors noted above.

RESEARCH GOALS

The goal of this research is to identify if the timing of first sex and number of sex partners influence first co-residential unions among adolescents and young adults ages 18 to 22 years. I hypothesize that individuals who experience first sex at younger ages and have more sex partners prior to their first union are more likely to experience a cohabiting first union than marriage or staying single. In contrast, those who experience first sex at older ages and have fewer sex partners are more likely to stay single; or, if they do enter a union, they are more likely to marry. Sexually active adolescents are more likely to select cohabitation as their first union because they are selecting the less constraining union characterized by greater sexual freedom and less permanence than marriage (Rindfuss and VandenHeuvel 1990). If they favor less constraining unions, then why not remain single? I hypothesize that individuals who are staying single are delaying union formation altogether because they have higher educational aspirations than those who cohabit. They are entering neither early cohabitations nor early marriages.

Throughout this research I use the term “first sex” to refer to individuals’ first heterosexual sexual intercourse. I use the term “union” to refer to individuals’ first co-residential unions in which they live with a heterosexual sexual partner, whether that union is cohabiting or marital. This sample captures individuals ranging in age from 18 to 22 years. Thus, both union types are not representative because they occur in late adolescence and young adulthood. Marital unions are particularly unique because they represent individuals entering direct, first marriages without prior cohabitation, an increasingly unusual event for most individuals (Raley, 2001). Thus, results from this research focus on the role of age at first sex and number of sex partners on forming these first unions during young adulthood, particularly this group of direct, first marriages. Furthermore, this research does not focus on (sexual-) dating relationships in which partners do *not* live together, on same-sex sexual experiences or unions, or on subsequent unions after individuals experience their first co-residential union.

Following these research goals, I propose two primary hypotheses:

H1: An earlier age at first sex increases the likelihood of experiencing a cohabiting first union during young adulthood. In contrast, those who experience first sex at later ages are more likely to experience a marital first union or stay single during this period.

H2: More sex partners prior to first union increase the likelihood of experiencing a cohabiting first union during young adulthood. In contrast, those who have fewer sex partners prior to their first union are more likely to experience a marital first union or stay single during this period

As previously discussed, a variety of variables influence union formation, including childbirth, family structure and socio-economic status, respondent educational aspirations, religion, race and ethnicity, and gender. The goal of this research is to identify how sexual behavior influences the initiation of first unions after accounting for these other variables. Thus, the above research hypotheses focus on the net effect of sexual behavior on union formation in adolescents and young adults ages 18 to 22 years.

DATA & METHODS

To address these hypotheses, I use the first six rounds of data (1997 to 2003) from the 1997 National Longitudinal Survey of Youth (NLSY97). This nationally representative survey began in 1997 with 8,984 individuals aged 12 to 16 years. This sample is well suited to exploring my research hypotheses because it captures the transitions of a contemporary cohort of adolescents and young adults from first sex to first union.

In selecting the sample for analysis, all respondents must have experienced first sex by 2003. Second, all respondents must have experienced one of three event types: a cohabiting union, a marital union, or a non-union. By 2003 nearly 80% of all respondents, who are ages 18 to 22, reported having had sex. This is consistent with research that finds about two-thirds of adolescents have experienced first sex by the time of their high school graduation (Alan Guttmacher Institute 2006). By 2003 nearly 62% of all respondents have not experienced any union; 10% of all respondents have married; and 28% of all respondents have cohabited. Of the married respondents, slightly over one-half cohabited before marrying. Of the cohabiting respondents, roughly 20% have married by 2003. This is consistent with research that finds that nearly half of all marriages start as cohabiting unions (Raley 2001).

Two concerns arise from sample selection: (1) respondents who reported waiting to have sex until after they entered a union; and (2) potential selection bias from excluding cases that have not yet experienced first sex. Very few respondents (N = 2 marriages, N = 5 cohabitations) reported waiting to have first sex until after they entered a union. The selection bias here is minimal. While the potential for selection bias is somewhat larger for excluding individuals who have delayed first sex, their characteristics are consistent with research on adolescent sexual behavior. I discuss these differences below in the descriptive statistics.

In Table 1, I present variable operationalization of all variables in the analysis. For the dependent variable, I construct three event types: (1) a cohabiting union, (2) a marital union, and (3) a non-union. For cohabitors and married respondents, I want to capture both the timing and type of their first union only. This research does not explore the transition out of their first union and subsequent union formations. By comparing the dates of their unions, I construct a variable that measures respondents' first co-residential union, whether cohabiting or marital. The number of respondents who have experienced cohabitation as

their first union decreases slightly, while those who have experienced marriage as their first union decreases by nearly half. For a non-union event, respondents must have never resided with a sexual partner throughout the 6 waves of data. After selecting the sample and constructing the dependent variable, the total sample size equals 7,199 individuals.

Regarding the chief predictors of sexual behavior, I construct two variables: age at first sex and number of sex partners prior to union formation. I measure age at first sex as a respondent's age at which he or she experienced first heterosexual intercourse. Respondents receive a value for this variable only if they have experienced first sex by 2003. The second variable for sexual behavior is a respondent's average number of yearly sex partners. To construct this variable, I use a respondent's yearly total of all different heterosexual partners. I sum these totals until the respondent experiences a union and then create an average of the respondent's yearly number of sex partners until the time of his or her first union. The number of sex partners for individuals who do not experience a union is calculated across all 6 waves of data (1997 to 2003).

Drawing from the literature, this research uses several control variables including childbirth prior to the union, family structure and socio-economic status, respondent educational commitment and aspirations, religion, race and ethnicity, gender and age. In addition to acting as control variables, many of these variables also capture important characteristics for exploring the role of early sexual behavior on first unions. For example, research indicates that the timing of first sex differs by gender, with males more likely to experience earlier sexual activity than females (Cubbin et al. 2005; Gillmore, Archibald, Morrison, and Wilson 2002; Davis and Friel 2001; Whitbeck et al. 1999; Small and Luster 1994). To control for these differences, I construct a dummy variable for gender with female as the reference category.

Research shows that pregnancy and childbearing can influence union formation, particularly with an increasing number of females staying single during childbirth and childrearing (Thornton and Young-DeMarco, 2001; Manning and Smock 1995). Despite the rising number of females staying single during this period, pregnancy also serves as an impetus to union formation. For example, Manning and Smock (1995) find that pregnancy increases the likelihood of transitioning into marriage for females. To control

Table 1: Variable Operationalization

Variable	Operationalization
1. Event	Dependent variable coded 0 for no union, 1 for first co-residential cohabiting union, and 2 for first co-residential marital union by 2003.
2. Age of first sex	Measures in years the age at which respondents experienced first heterosexual intercourse by 2003.
3. Average # of sex partners	Measures an average of yearly heterosexual partners since time of first sex until first union; for non-union, measures average of all yearly totals until 2003.
4. Live birth to females by first union	Measured until first union; coded 1 if female has live birth in year prior to first union and 0 if not; for non-unions, measures any live birth until 2003.
5. Live birth to males' sex partner by first union	Measured until first union; coded 1 if male's sex partner has live birth in year prior to first union and 0 if not; for non-unions, measures any live birth until 2003.
6. Repeated grades	Measured until first union; coded 1 if respondent reports having repeated at least one grade in school, 0 for no repeated grades; for non-unions, measured until 2003.
7. College aspiration	Measured in 1997; coded 1 if respondent thinks likelihood of earning 4-year college degree by age 30 is 76% or greater; coded 0 for likelihood of < 76%.
8. Black	Coded 1 if black, 0 if non-Hispanic white.
9. Hispanic	Coded 1 if Hispanic, 0 if non-Hispanic white.
10. Biological parents	Coded 1 for both biological parents, 0 for any other family structure in 1997.
11. Parent college degree	Coded 1 for at least one parent with a college degree, 0 for all other education.
12. Catholic	Coded 1 for Catholic, 0 for other religious affiliations.
13. Baptist	Coded 1 for Baptist, 0 for other religious affiliations.
14. Atheist	Coded 1 for atheist, 0 for other religious affiliations.
15. Male	Coded 1 if male, 0 if female.
16. Age in 1997 (years)	Measures respondent's age in 1997.

for the effects of childbirth, I create two dummy variables. The first measures whether a female had a live birth in the year prior to forming her first union. The second measures whether a male's sex partner had a live birth in the year prior to his first union. The reference category for both variables is no live birth in the year prior to union formation. For single individuals, both dummy variables measure any live births across the all six years of data.

Family structure significantly influences union formation. Married individuals are less likely to have grown up in single- and step-families, and are less likely to have lived with a cohabiting parent (Smock 2004; Amato 2004; Clarkberg et al. 1995; Thornton and Young-DeMarco 2001). To control for the effects of family structure, I create a dummy variable for "traditional family," which measures whether the respondent was living with both biological parents at the start of the survey. The reference category is any household type other than both biological parents, which includes single- and step-parents as well as adoptive, foster, and other kin care (like grandparents).

Regarding family socio-economic status, children of higher income parents are more likely to be academically committed and have high educational aspirations than children of lower income parents (Manning and Smock 1995). In addition, children of more educated parents are more likely to stay single longer (Manning and Smock 1995). As an indicator of socio-economic status, I create a dummy variable for parental education, which measures whether the respondent has at least one parent with a college degree or higher. The reference category is less than a college degree. To reduce the number of missing cases by nearly half, I combine the mother and father's education into a single variable.

Respondent education is an important control because individuals with high educational commitment and aspirations are more likely to stay single longer (Thornton et al. 1995). To control for the effects of educational commitment and aspirations, I create two dummy variables. The first variable measures educational commitment and captures whether a respondent has ever repeated a grade by the time of their first co-residential union. The reference category is all respondents who report having repeated at least one grade. For individuals who do not experience a union, their number of grades repeated is calculated across all 6 waves of data (1997 to 2003). I select this variable as a measure for educational commitment because it has fewer missing data than respondents' grade point averages. The second variable, measured in 1997 for all respondents except those aged 12 or 13 years, captures how

likely a respondent thinks it is that he or she will complete a four-year college degree by age 30. The variable is measured again in 2001 for those who were aged 12 or 13 years in 1997. The reference category is all respondents who report that their likelihood is 75% or less. Thus, this variable captures respondents with the highest educational aspirations for a college education.

Religion is an important control because it influences both sexual behavior and union formation (Caltabiano et al 2006; Thornton et al 1992). To measure religion, I construct three dummy variables. The first captures Catholic respondents, the second Baptist, and the third atheist. The reference category for all three dummy variables is all other religious affiliations, including primarily Protestants. I select Catholic as a dummy variable because of the Catholic Church's "explicit desire to regulate sexual, marital, and reproductive behavior" (Caltabiano et al 2006:454). I select Baptist as a dummy variable to capture the marriage-affirming attitudes of a more conservative Protestant denomination. Last, I select atheist as a dummy variable to capture the effect of no religious affiliation on union formation (Thornton et al 1992). I use religious affiliation instead of measures of religiosity because the latter presents causal ordering problems. Questions on religiosity are asked beginning in 2001, which makes them problematic as predictors for unions prior to that year.

Regarding race and ethnicity, blacks are less likely to marry compared to other minorities (Smock and Manning 1997; Oropesa 1996; Bulcroft and Bulcroft 1993). In contrast, Hispanics are more likely to marry and tend to marry at younger ages compared to other minorities (Oropesa 1996). To control for the effects of these racial and ethnic differences, I construct three dummy variables: non-Hispanic black, non-white Hispanics of any race, and an "other race" category. Asians, Native Americans, and all other races comprise this third category. I collapse them into a single category because of their small sample size. The reference category for all three dummy variables is non-Hispanic white.

The final control variable is age, which measures a respondent's age in years at the start of the survey in 1997. This control is important because older individuals are more likely to experience a union of any kind than are younger individuals. Moreover, of those individuals who enter a union, older individuals are more likely to enter marital unions than younger individuals.

After variable construction and sample selection, the final sample is 6,695 individuals. In total, roughly 5% of the selected sample has experienced a marital first union, 31% has experienced a

cohabiting first union, and the remaining 64% has not yet experienced a union of either type. The Appendix table has more information on missing cases and sample selection. Note that missing cases are dropped from the analysis.

Regarding missing cases for sex partners, a few respondents report having had first sex but also having had no sex partners. While it is not logically possible for respondents to have zero partners while still having experienced first sex, these cases are valid responses. Therefore, I did not exclude them from analysis. Perhaps the discrepancy results from misunderstanding the meaning of "sexual partner" in the survey question as someone with whom a respondent dated or shared romantic interest, and not as an individual sexual encounter, *per se*. Thus respondents reported sexual encounters only for individuals with whom they were romantically involved.

To test my research hypotheses I use multinomial logistic regression. This technique fits the research goals because it allows for a simultaneous comparison of multiple nominal outcome categories, unlike standard logistic regression. Recall from the hypotheses that I am interested in comparing the role of sexual behavior on union formation across three event types: (1) a cohabiting union, (2) a marital union, and (3) a non-union. I hypothesize that the prior sexual behavior of those who experience a cohabiting first union significantly differs from the prior sexual behavior of those who experience either a marital first union or a non-union. Specifically, individuals who experience first sex at earlier ages and have more sex partners prior to their first union are more likely to experience cohabitation as their first co-residential union. I hypothesize that these effects will remain significant independent of the effects of childbirth, family background, respondent educational commitment and aspirations, race and ethnicity, religion, gender and age.

RESULTS

In Table 2, I present descriptive statistics and mean differences in predictors between virgins and non-virgins. This table highlights the group differences for sample selection. Also note that the table presents unweighted means because these unions are not generalizable and they are not intended to be representative of all unions. Rather, they represent first unions among young adults ages 18 to 22 years. On average, virgins report a higher percent of individuals that had lived with both biological parents in 1997 and had at least one college educated parent compared to non-virgins. Regarding education, virgins report the highest percent of individuals who have not repeated any grades, though they report a smaller proportion of college aspiring individuals compared to non-virgins. This difference is likely because non-virgins are older than virgins and therefore are more likely to be attending college. In turn, this could translate into higher educational aspirations compared to younger virgin respondents, some of whom are still in high school. Regarding religious affiliation, non-virgins report a higher proportion of Baptist and atheist individuals. This discrepancy in religious affiliation for non-virgins reflects that religion is not the only variable influencing the onset of sexual behavior. Sexual behavior is a racial process, as well. For example non-virgins represent a significantly larger proportion of black respondents than virgins. Non-virgins are also significantly older and report a larger proportion of male respondents compared to virgins.

While the potential for selection bias is present when excluding virgins, their characteristics are consistent with research on adolescent sexual behavior: they are more likely to be younger, female, come from households with both biological parents and have higher educational commitment than non-virgins (Browning et al. 2004; Upchurch et al. 1999; and Davis and Friel 2001).

In Table 3, I present descriptive statistics and mean differences in predictors of non-virgins across event types. This table compares the mean differences between predictors of non-unions and marital unions to cohabitations because of the hypothesis that individuals who experience cohabiting first unions have significantly different sexual behavior prior to their first unions than that of either married or single individuals.

Table 2: Descriptive Statistics for Virgin and Non-Virgin Respondents

Variable	Virgin	Non-Virgin
Sexual Behavior		
Age at first sex (years)	—	15.50
Avg. # of sex partners per year	—	1.70
Pregnancy		
Proportion of females that had live birth in year prior to first union (by 2003 if single)	—	0.08
Proportion of males' sex partners that had live birth in year prior to union (by 2003 if single)	—	0.05
Family Background		
Both biological parents (1997)	0.65***	0.45***
College educated parent	0.36***	0.24***
Education		
Proportion that repeated a grade	0.01***	0.19***
Proportion of college aspiring	0.28***	0.33***
Religion		
Proportion Catholic	0.30*	0.28*
Proportion Baptist	0.18***	0.23***
Proportion atheist	0.08***	0.13***
Proportion other religious affiliation (reference)	0.44***	0.36***
Race		
Proportion black	0.16***	0.28***
Proportion Hispanic	0.19	0.21
Proportion other race	0.06***	0.03***
Proportion white (reference)	0.57***	0.48***
Other		
Proportion male	0.49*	0.52*
Age in 1997 (years)	13.82***	14.60***
Sample *N*	1,738	7,108

Note: Significance is calculated using t-tests to test the difference in the mean proportion between variables when comparing virgin and non-virgin respondents.

* $p < .05$; ** $p < .01$; *** $p < .001$

Regarding sexual behavior, cohabitors report having experienced first sex at significantly younger ages than either single or married respondents. Married respondents have the highest age at first sex. Cohabitors also report having significantly more sex partners prior to their first union than either married or single respondents. Married respondents report the fewest number of sex partners prior to their first union. Thus, initial descriptive statistics show that cohabitors' sexual behavior prior to first union significantly differs from the sexual behavior of both married respondents prior to their first union and single respondents during this period. Cohabitors experience first sex at younger ages and have, on average, more sex partners per year before their first union.

Childbirth significantly differs across events, but only when comparing single respondents to first cohabitors. The proportion of single females that had a live birth by 2003 is significantly lower compared to the proportion of cohabiting females that had a live birth prior to their first union. The results are similar for the proportion of live births to males' sex partners. Though, no significant difference exists for either females or males between the proportions of live births in the year prior to either a cohabiting or a marital union. These distributions reflect that childbirth may propel individuals into initiating a union of any type.

Family background also significantly differs across events. The proportion of cohabitors that had lived with both biological parents in 1997 is significantly smaller than that of either married or single respondents. In contrast, married individuals report the highest proportion of respondents living in a traditional household in 1997. Regarding family socio-economic status, cohabitors report the lowest proportion of respondents with at least one college educated parent, whereas single respondents report the highest proportion. This distribution reflects that children of more educated parents may be delaying union formation. Additionally, cohabitors may be more likely to come from non-traditional households and families with a lower socio-economic status compared to both married and single respondents (Sassler 2004; Smock 2000).

Regarding respondent education, cohabitors report a significantly larger proportion of respondents that has repeated a grade prior to union formation than married individuals. In contrast, single respondents report the highest proportion that has repeated a grade, but also the highest proportion of college aspiring respondents. This discrepancy may result from a "residual" sample of respondents captured in the non-union event: those who are young, either still in high school or having

just graduated, and those who are older but who have not yet entered unions. Additionally, it captures both those with high educational aspirations who might be delaying unions, and those with lower aspirations who might be facing smaller union markets. Note that the non-union event also contains a significantly higher proportion of black respondents than the other event types, which might explain some of this discrepancy.

The distribution of religious affiliation varies significantly across denominations and events. Notably, cohabitors report the highest proportion of atheists, nearly three times greater than that of married respondents. These distributions reflect earlier hypotheses that Catholics proscribe cohabiting unions, while atheists may be more likely to experience cohabiting first unions than either marital first unions or a non-union during this period.

As noted earlier, a significantly higher proportion of blacks are likely to be single by ages 18 to 22 than are white or Hispanic respondents. Additionally, the proportion of blacks whose first union is marriage is smaller compared to the proportion of married white and Hispanic respondents. These findings suggest that black respondents may be more likely to stay single and least likely to enter marital first unions compared to other races and ethnicities. Also of interest is the higher distribution of married Hispanics compared to married white and black respondents, which suggests that Hispanics may be more likely to enter marital first unions compared to other races and ethnicities. The proportion of other races does not significantly vary across events.

The distribution of gender across events also reflects earlier hypotheses that females may be more likely to enter into any union than males. The proportion of single males is significantly higher than the proportion of either married or cohabiting males. This suggests gender differences in age at union formation, where males may be more likely than females to stay single than to experience either cohabiting or marital first unions.

Finally, individuals who experienced cohabiting first unions report younger ages in 1997 than those who experienced marital first unions. Individuals experiencing either a cohabiting or a marital union were significantly older in 1997 than single respondents. This suggests that older individuals may be

Table 3: Descriptive Statistics for Non-Virgin Respondents by Event

	Event		
Variable	**Non Union**	**Cohab**	**Marriage**
Sexual Behavior			
Age at first sex (years)	15.82***	15.14	16.15***
Avg. # of sex partners per year	1.64***	2.42	1.21***
Pregnancy			
Proportion females that had live birth in year prior to first union (by 2003 if single)	0.06***	0.10	0.09
Proportion males' sex partners that had live birth in year prior to first union (by 2003 if single)	0.04***	0.06	0.05
Family Background			
Both biological parents	0.50***	0.36	0.58***
Parent college degree	0.28***	0.18	0.24**
Education			
Proportion that repeated grade	0.22***	0.17	0.12**
Proportion of college aspiring	0.42***	0.36	0.39
Religion			
Proportion Catholic	0.28***	0.25	0.28
Proportion Baptist	0.23	0.23	0.25
Proportion atheist	0.12***	0.17	0.05***
Proportion other religion (reference)	0.36	0.35	0.42**
Race			
Proportion black	0.32***	0.25	0.15***
Proportion Hispanic	0.18***	0.23	0.32***
Proportion other race	0.03	0.02	0.02
Proportion white (reference)	0.47*	0.50	0.51
Other			
Proportion male	0.59***	0.41	0.42
Age in 1997 (years)	14.10**	14.74	15.12***
Sample *N* (total 6,695)	4,288	2,101	306

Note: Significance is calculated using t-tests for the difference in the mean proportion between variables when comparing the non-union and marriage events to cohabitation. Cohabitation is the reference category because of the hypothesis that individuals who enter them as first unions have different sexual behavior prior to union formation than either single or married individuals.

* $p < .05$; ** $p < .01$; *** $p < .001$

more likely to experience unions of any kind, while cohabitors may experience unions earlier than married respondents.

Overall, cohabitors appear to have significantly earlier ages at first sex and more sex partners prior to first union than either married or single respondents. Regarding childbirth, cohabitors report a larger proportion of individuals who experienced a live birth in the year prior to their first union than single respondents. Cohabitors also report a smaller proportion of individuals that had lived with both biological parents in 1997 and had at least one college educated parent compared to both married and single respondents. Additionally, cohabitors report a higher proportion of individuals that repeated a grade compared to those in marital first unions, as well as higher proportions of atheist respondents compared to both single and married individuals. Cohabitors also report a higher proportion of female respondents than their single counterparts. These results are not surprising because they are consistent with the literature. The next step, though, is to analyze whether sexual behavior is significantly associated with union formation independent of the control variables previously discussed. In other words, does sexual behavior significantly influence union formation when controlling for childbirth, family background, respondent education, religion, race and ethnicity, and gender and age?

In Table 4, I present results from my multinomial logistic regression analyses examining the influence of sexual behavior on the likelihood of experiencing a non-union compared to a cohabiting first union, a non-union compared to a marital first union, and a cohabiting first union compared to a marital first union. I present results from three models. In Model 1, I include my key predictor variables of age at first sex and number of sex partners prior to first union, as well as the variables for childbirth. In this model I want to test the effects of sexual behavior, and its common outcome childbirth, on union formation independent of the other predictors. Thus, I can trace the changing effects of sexual behavior across the models as I add additional controls. In Model 2, I add all additional controls: family structure and socio-economic status, respondent education, religious affiliation, race and ethnicity, and gender and age. In Model 3, I include interaction terms for age at first sex and gender, and number of sex partners and gender to control for the mediating effects of gender on sexual behavior's role in first union formation.

In Model 1, sexual behavior is significantly associated with union formation. Age at first sex has a negative effect on the likelihood of experiencing a cohabitation compared to a non-union. A one unit

increase in age at first sex reduces the likelihood of experiencing a cohabiting first union by 8% compared to staying single. For example, an individual who initiates first sex at age 12 is nearly 1.5 times more likely to enter a cohabiting first union rather than stay single versus a person who initiates first sex at age 18. Comparing first marital and cohabiting unions, a one unit increase in age at first sex increases the likelihood of experiencing a marital union. The effect is not significant when comparing marital and non-unions. Thus, earlier ages at first sex are likely to "select" individuals into cohabiting unions compared to both staying single or experiencing a marital first union.

Regarding sex partners, a higher average number of sex partners increases the likelihood of experiencing a cohabiting union compared to staying single. A one unit increase in the average number of sex partners per year increases the likelihood of experiencing a cohabiting union by 7% compared to staying single. Comparing first marital and cohabiting unions, an increase in sex partners decreases the likelihood of experiencing a marital union. The effect is similar when comparing marital first unions and non-unions. Thus, having more sex partners prior to first union significantly increases the likelihood of experiencing a cohabiting first union compared to both a marital union and non-union.

Regarding childbirth, having a live birth in the year prior to first union significantly increases females' likelihood of entering a cohabiting first union by 70% compared to staying single. The effect is similar, though smaller, for females' likelihood of entering a marital first union compared to staying single. However, the effect is not significant when comparing cohabitation and marriages. Thus, giving birth significantly increase females' likelihood of entering any union compared to staying single, but does not influence which union type they first experience. For males, having their sex partners give birth in the year prior to their first union is not significant across any event type.

Therefore, results from Model 1 show that cohabitors have first sex at significantly younger ages than either married or single individuals. And, they have more sex partners per year than married individuals prior to their first union. Do these effects remain significant across models when controlling for other predictors?

Table 4: Multinomial Logitistic Models of Early Sexual Behavior by Event (odds ratios) (*N* = 6,695)

	Model 1			Model 2			Model 3		
Variable	**Cohab v. Single**	**Marry v. Cohab**	**Marry v. Single**	**Cohab v. Single**	**Marry v. Cohab**	**Marry v. Single**	**Cohab v. Single**	**Marry v. Cohab**	**Marry v. Single**
Sexual Behavior									
Age at first sex	0.92***	1.13***	1.04	0.87***	1.08**	0.95	0.80***	1.16**	0.93
Avg. # of sex partners per year	1.07***	0.83***	0.88*	1.09***	0.79***	0.87*	1.27***	0.70***	0.88
Childbirth									
Birth by union for females	1.70***	1.24	1.55*	0.94	1.10	1.03	0.82	1.20	0.98
Birth by union for males' partner	1.10	1.48	1.28	1.57**	1.12	1.77	1.98***	1.04	2.66**
Family Background									
Both biological parents				0.59***	1.93***	1.12	0.59***	1.93***	1.12
Parent college degree				0.58***	1.36	0.80	0.58***	1.36	0.80
Education									
Repeated a grade				0.76**	0.69	0.52**	0.76**	0.69	0.52**
College aspiring				0.69***	0.99	0.69**	0.69***	0.99	0.69**
Religion									
Catholic				0.78**	0.65*	0.51***	0.78**	0.65*	0.51***
Baptist				1.16	1.42*	1.68**	1.18	1.42*	1.68**
Atheist				1.45***	0.31***	0.45**	1.45***	0.31***	0.35**
Race									
Black				0.34***	0.68	0.25***	0.36***	0.68	0.25***
Hispanic				1.14	1.74**	1.98***	1.21*	1.68**	1.98***
Other race				0.70	0.83	0.58	0.70	0.83	0.58
Other									
Male				0.28***	1.40*	0.44***	0.28***	1.56*	0.44***
Age in 1997 (years)				1.68***	1.13*	1.88***	1.41***	1.28***	1.81***
Interactions									
Age at first sex * male							1.15***	0.87*	1.00
Avg. # of sex partners * male							0.85***	1.16	0.99
Pseudo-*R*^2	0.02			0.12			0.13		
LR Chi-Square	205.16			1779.81			1327.27		

* $p < .05$; ** $p < .01$; *** $p < .001$

In Model 2, I add my remaining control variables. Note that the effects of sexual behavior on union formation across events remain unchanged from Model 1. However, the effects of childbirth change from Model 1: having a live birth in the year prior to first union no longer significantly increases females' likelihood of either cohabiting or marrying compared to staying single. However, having a live birth for males' sex partners significantly increases their likelihood of entering a cohabiting union compared to staying single. Thus, fatherhood appears to "select" males out of non-unions and into cohabitations.

Regarding family background, living with both biological parents and having at least one parent with a college education significantly decrease the likelihood of experiencing a cohabiting union when compared to staying single. Living with both biological parents decreases the likelihood of experiencing a cohabiting union by roughly 40%. In other words, individuals from traditional families are more likely to remain single than to experience a cohabiting first union during this period. However, living in a traditional family in 1997 does not have a significant effect on the likelihood of marrying compared to staying single. When entering a first marital union compared to a cohabiting union, having both biological parents does significantly increase the likelihood of marrying by 93%. This suggests than non-traditional family structures have a greater influence on selecting individuals into cohabiting first unions compared to both staying single and entering a marital first union.

Regarding family socio-economic status, having at least one college educated parent significantly decreases the likelihood of experiencing a cohabiting first union compared to staying single by about 40%. However, socio-economic status is not significant across any other event types. Thus, children of more educated parents are delaying union formation only compared to entering cohabiting first unions during this period.

Education also influences union formation. Having repeated a grade prior to first union increases the likelihood of experiencing a cohabiting first union compared to staying single during this period. The effect is similar for marital unions, though larger. Thus, individuals who have repeated grades are more likely to remain single during this period than enter any union type. However, the effects of education aspirations suggest that two groups comprise the non-union event. For example, those most likely to see themselves with a college degree are nearly one-third less likely to experience a cohabiting first union than remain single; the effect is the same when comparing the likelihood of entering a marital first union

compared to staying single. Thus, educational aspiration delays union formation altogether during this period. Descriptive statistics reflect this discrepancy between repeated grades and college aspiration for non-union individuals. It suggests that the non-union event captures both those with high educational aspirations who might be delaying unions, and those without lower aspirations who might be facing smaller union markets. Note that the non-union event also contains a significantly higher proportion of black respondents than the other event types, which might explain some of this discrepancy.

Regarding religious affiliation, Catholics are significantly less likely to cohabit as their first union rather than stay single compared to all other religious affiliations. The effect is similar when comparing marital first unions to staying single, as well as marital first unions to cohabitations. This suggests that compared to all other religious groups Catholics are significantly less likely to enter any union type, and if they do the union is more likely to be a marriage. In contrast, Baptists are more likely than other religious groups to enter a marriage compared to cohabitation or staying single. This may reflect Baptists' greater marital affirming norms compared to other religious groups (Caltabiano et al 2006; Thornton et al 1992). Atheists increase their likelihood of cohabiting as their first union by nearly one-half compared to staying single. Furthermore, atheists significantly decrease their likelihood of marrying by nearly one-half compared to staying single. These results suggest that non-religious individuals increase their chances of staying single during this period, and if they do enter a union it is more likely to be cohabitation than marriage.

Regarding the effects of race and ethnicity, blacks are less likely to experience any union than whites. These results reinforce research findings that Hispanics are nearly twice as more likely to enter marital first unions than to stay single or cohabit during this period when compared to whites. Hispanics are also more likely to enter a marital by nearly 75% than a cohabiting first union compared to whites. Though, they are no more likely than any other race or ethnicity to remain single versus entering a cohabiting first union. Thus, Hispanics' perceptions of nuptial unions may differ from blacks because they are more likely to enter into marriage whereas blacks are more likely to remain single during this period. These results reflect research that Hispanics may share stronger marital affirming norms than blacks (Oropesa 1996). Note that the effect of being a race or ethnicity other than black and Hispanic is not significantly associated with union formation across any event.

Comparing both cohabiting and marital unions, these findings show that males are less likely than females to be involved in any union type; they are significantly more likely to stay single during late adolescence and young adulthood. However, when entering a union they are more likely to experience marriage. This finding reflects the descriptive statistics, which show that a significantly higher proportion of single respondents are male. Overall, however, females are more likely to enter into any union rather than staying single.

The remaining control variable in Model 3 is age. Measured in 1997, it controls for a respondent's age because older individuals are more likely to experience a union than younger individuals. The results are consistent and significant across models and events. Older individuals are more likely to cohabit or marry over this six year period than are younger individuals. Furthermore, older individuals are more likely to marry compared to cohabiting. Thus, not only are older individuals more likely to experience a marital first union than a cohabiting first union, they are also more likely to experience any union compared to staying single during this period.

Note that with a number of control variables added to the analysis in Model 2, the effects of age at first sex and number of sex partners on union formation remain significant. Moreover, the effect for age at first sex increases compared to earlier models when controlling for these other effects. This finding supports the hypothesis that sexual behavior significantly influences union formation independent of childbirth, family background, respondent education, religion, race and ethnicity, and gender and age.

The last model presents two interaction effects: one between gender and age at first sex, and one between gender and a respondent's average number of sex partners prior to first union. I include these interactions because both union formation and sexual behavior are gendered processes. Therefore, gender likely interacts with sexual behavior, which then produces a gendered interaction with union formation. Note that the control variables presented in Model 3 remain statistically significant and their effects are unchanged from previous models.

Comparing non-unions to cohabitations, both interactions are significant. For the interaction between age at first sex and gender, the odds ratios for males is 0.92 (0.80 * 1.15), which is significantly larger compared to females. Thus, a one unit increase in age at first sex for males reduces their likelihood of cohabiting by 8% compared to staying single. However, the same age at first sex for females increases

their likelihood of experiencing the same union by 20%. Thus, females who experience sexual behavior at younger ages are more likely to experience a cohabiting first union than are males who experience it at the same age. The interaction is also significant when comparing marital and cohabiting first unions. The odds ratio for males is 1.009 (0.87 * 1.16), which significantly smaller compared to females. In other words, females who delay first sex are nearly 15% more likely to experience marital first unions than cohabitations compared to males who experience it at the same age. Thus, gender has an important effect on how age at first sex influences union formation. It is a stronger predictor of first union type for females. Females who delay first sex are more likely to stay single than males compared to entering cohabiting unions, and if they do enter a union it is more likely to be marriage during this period. This finding supports the hypothesis that the effects of sexual behavior on union formation differ for males and females, which may result from gender specific sexual norms that then influence union selection.

The interaction between sex partners and gender is significant only when comparing cohabiting unions and non-unions. The odds ratio for males is 1.08 (0.85 * 1.27), which is significantly smaller compared to females. A one unit increase in the average number of sex partners per year for females increases their likelihood of cohabiting by 27% compared to staying single during this period. In contrast, for males the same increase is associated with only an 8% increase. Thus, males who have more sex partners are more likely to stay single compared to cohabiting than their female counterparts who, instead, increase their chances of cohabiting. These results may reflect sexual norms that having more sex partners is more acceptable for males, at least at young ages (the ages during which this study examines first union formation).

The effect of sexual behavior on union formation remains statistically significant across all models comparing cohabiting first unions to non-unions. As respondents experience first sex at younger ages their likelihood of experiencing a cohabiting first union increases compared to both marrying and staying single. An increase in average sex partners per year also increases the likelihood of experiencing cohabitation compared to both marrying and staying single. However, these results may be confounded because of the large number of single respondents, many of whom are younger than those in unions. Consequently, many single respondents are either still in high school or have just graduated. Therefore, these individuals have had less risk of experiencing a union. Do these results still remain significant when

limiting the sample to older individuals, who have had more exposure to these unions as they transition into adulthood? In a supplemental analysis limiting the sample to those aged 20 to 22 in 2003, the effects of sexual behavior on union formation remain significant across models and events.

These findings support the hypothesis that the sexual behavior of cohabitors prior to their first union significantly differs from the prior sexual behavior of those who marry or remain single during this period. In other words, an early age at first sex and more sex partners increase the likelihood of a cohabiting first union independent of childbirth, family background, respondent education, religious affiliation, race and ethnicity, gender or age during this period of late adolescence and young adulthood.

DISCUSSION & CONCLUSIONS

Many researchers view cohabitation as a product of an eroding marital institution with declining fertility, increasing divorce, and changing gender roles in the workplace and home (Smock 2004; Smock 2000; Kiernan 1999; Beck and Beck-Gernsheim 1995; Giddens 1992). With cohabitation having emerged alongside a marital decline, how do young adults negotiate the process of union formation? How do they choose which kind of union to enter, particularly their first union as they transition into young adulthood? This research reveals that sexual behavior plays an important role on their first union formation.

Using the first six rounds of data from the NLSY97, this research analyzes the role of sexual behavior on union formation for some 6700 adolescents and young adults ages 18 to 22 years. It tests whether individuals who initiate first sex at earlier ages and have more sex partners prior to their first union increase their likelihood of experiencing cohabitation as their first co-residential union compared to a marital first union or remaining single during this period. The results suggest that early sexual behavior prior to first union significantly influences the kind of first union that individuals experience during young adulthood. Specifically, an earlier initiation of first sex and a higher number of sex partners are significantly associated with experiencing a cohabiting first union compared to marrying or staying single during this period. This research reflects researchers' claims about the relationship between cohabitation and the changing sexual norms of the 1960s (Tanfer 1987; Rindfuss and VandenHeuval 1990). The increased sexual activity of adolescents and young adults is associated with a higher likelihood of non-traditional union formation at these young ages.

This research further contributes to the literature by arguing that cohabitation has emerged as an alternative union to marriage in which individuals' early sexual behavior prior to first union significantly influences the kind of first union they experience. In other words, early sexual behavior influences first union choice with cohabitation emerging as an alternative union to marriage because sexually active individuals are more likely to select unions with less permanence and greater sexual freedom during this transitory period into adulthood.

Individuals who experience a cohabiting first union are more likely to have come from non-traditional families without both biological parents and a family with lower socio-economic status than married or single individuals. They are more likely to have repeated grades than married individuals, and

to have lower educational aspirations than single individuals. They are more likely to be non-religious compared to both married and single individuals, and to be younger than those who experienced a marital first union. Independent of these variables, first cohabitors are more likely to have been the most sexually active as adolescents and young adults compared to their married and single counterparts, though these effects differ by gender. They are likely to have initiated first sex at earlier ages and to have had more sex partners prior to their first union.

In some ways the non-union event is a residual sample of individuals with disparate characteristics. Those who are staying single during this period are more likely to have come from a traditional family with both biological parents and a family with a higher socio-economic status than cohabitors. Though, they are more likely to have repeated a grade. But they are also more likely to have higher educational aspirations than cohabiting or married individuals. They are more likely to be Catholic than Baptist or atheist, but they are also more likely to be black and to be younger than cohabiting or married individuals. Thus, the non-union event is a residual sample that captures primarily two disparate selections: those who are younger and may be in high school and delaying first union because of higher educational aspirations; and those who are older and may have lower educational aspirations and a smaller marriage market. This disparate selection may confound the results because individuals in the non-union event do not share the same characteristics. To test whether this residual effect confounds the results, I perform a supplemental analysis in which I drop all respondents ages 18 to 19 by 2003, which better captures an older sample with more exposure to union formation. The effects of sexual behavior on union formation remain consistent and significant across models. Thus, despite the disparate characteristics of individuals in the non-union event, the effects of sexual behavior on union formation remain significant.

Individuals who experience a marital first union are more likely to have come from a traditional family with both biological parents and a family with higher socio-economic status. They are likely to have lower educational aspirations than single respondents. Additionally, they are more likely to be Baptist and to be Hispanic, and they are more likely to be female and to be older than either first cohabitors or first married individuals. When controlling for these variables, individuals who experience early marital first unions do not have significantly different sexual behavior prior to first union formation than those who

have remained single. This finding supports the hypothesis that individuals who enter cohabiting first unions have significantly different sexual behavior than those who enter either marital first unions or who remain single during this period.

These models offer a new look at union formation by examining the role of sexual behavior on first union formation, which was previously absent from most cohabitation research (Sassler 2004; Smock and Manning 2001; Surra 1990). Furthermore, it frames cohabitation as an alternative union to marriage characterized, in part, by early ages at first sex and more sex partners, which "select" individuals into less permanent unions with greater sexual freedom.

This research offers an early analysis into the role of sexual behavior on union formation, but future research can expand upon this work by eliminating sample censoring. This research captures respondents until 2003, with ages ranging from 18 to 22 years. Many have not yet experienced their first union. This censoring quickly fades without methodological changes to the research model. As new rounds of data become available future research can explore contemporaneously the role of sexual behavior on first union formation in these young adults.

Furthermore, this research narrows its scope to first unions of young adults. Additional research should examine what role sexual behavior plays not only on first union formation but on subsequent life course events. If sexual behavior influences the kind of first unions that individuals experience, it likely influences other events across the life course, as well. For example, does sexual behavior alter the length of cohabiting relationships or influence the likelihood of extra-marital sexual behavior? If marital unions dissolve, does it influence the timing of union reformation, whether marital or cohabiting?

Despite some censoring with a young sample, these findings suggest that researchers should consider sexual behavior as a significant predictor of first unions during this period. What emerges from these findings is a model that characterizes a significantly different sexual behavior among cohabitors prior to their first union than that of either married or single individuals: experiencing first sex at earlier ages and having more sex partners prior to first union significantly increase the chances of experiencing cohabitation as the first co-residential union during the transition into adulthood. Consequently, early sexual behavior and more sex partners frame union formation by selecting individuals into an alternative union type than direct, early marriages, namely cohabitations. This research suggests that first cohabiting

unions during young adulthood have emerged as alternative unions to direct, early marriages. They are unions in which individuals' sexual behavior prior to their first union significantly influences their union choice, selecting them into less permanent unions with greater sexual freedom—unions that more closely match their sexual experiences prior to their first unions.

APPENDIX

SAMPLE SELECTION

Table 5: Sample Selection and Missing Data

Variable/Action	*N* dropped	Cumulative Sample *N*
All respondents in NLSY97	NA	8,984
Sample Selection		
Respondents who have not experienced first sex by 2003	1,778	7,206
Missing Data		
Reported experiencing first sex after first union	7	7,199
Missing data on number of sex partners	4	7,195
Missing data on race	61	7,134
Missing data on parental marital status	22	7,112
Missing data on parent's education	255	6,857
Missing data on number of repeated grades	137	6,720
Reported giving birth but no age at first sex	25	6,695

LIST OF REFERENCES

Alan Guttmacher Institute. 2006. “Facts in Brief. Sexual and Reproductive Health.” Retrieved 2/12/2006 (http://guttmacher.org/pubs/fb_10-02.html).

Amato, P. 2004. “Tension Between Institutional and Individual Views of Marriage.” *Journal of Marriage and Family* 66:959–66.

Axinn, W. G. and J. Barber. 1997. “Living Arrangements and Family Formation Attitudes in Early Adulthood.” *Journal of Marriage the Family* 59:595–612.

Beck, U. and E. Beck-Gernsheim. 1995. *The Normal Chaos of Love*. Cambridge, England: Polity Press.

Browning, C. R., L. Tama and J. Brooks-Gunn. 2004. “Neighborhood Context and Racial Differences in Early Adolescent Sexual Activity.” *Demography* 41:697–721.

Bulcroft, R.A. and K.A. Bulcroft. 1993. “Race Differences in Attitudinal and Motivational Factors in the Decision to Marry.” *Journal of Marriage and the Family* 55:338–55.

Bumpass, L.L. 1995. “The changing Character of Stepfamilies: Implications of Cohabitation and Nonmarital Childbearing.” *Demography* 32:425–36

Bumpass, L. and H.H. Lu. 2000. “Trends in Cohabitation and Implications for Children’s Family Contexts in the United States.” *Population Studies* 54:29–41.

Bumpass, L.L., J.A. Sweet and A. Cherlin. 1991. “The Role of Cohabitation in Declining Rates of Marriage.” *Journal of Marriage and the Family* 53:913–27.

Caltabiano, M., D.Z. Zuanna and A. Rosina. 2006. “Interdependence Between Sexual Debut and Church Attendance in Italy.” *Demographic Research* 14:453–84.

Cherlin, A. 2004. “The Deinstitutionalization of American Marriage.” *Journal of Marriage and Family* 66:848–62.

Cherlin, A. and F.F Furstenberg. 1988. “The Changing European Family: Lessons for the American Reader.” *Journal of Family Issues* 9:291–97.

Christopher, F. S. and S. Sprecher. 2000. “Sexuality in Marriage, Dating, and Other Relationships: A Decade Review.” *Journal of Marriage and the Family* 62:999–1018.

Clarkberg, M.E, R.M. Stolzenberg and L.J. Waite. 1995. “Attitudes, Values and Entrance into Cohabitation versus Marital Unions.” *Social Forces* 74:609–34.

Cubbin, C., J. Santelli. C.D. Brindis and P. Braveman. 2005. “Neighborhood Context and Sexual Behaviors Among Adolescents: Findings from the National Longitudinal Study of Adolescent Health.” *Perspectives on Sexual and Reproductive Health* 37:125–35.

Davis, E. C. and L.V. Friel. 2001. “Adolescent Sexuality: Disentangling the Effects of Family Structure and Family Context.” *Journal of Marriage and Family* 63:669–82.

Giddens, A. 1992. *The Transformation of Intimacy*. Stanford, CA: Stanford University Press.

Gillmore, M.R., M.E. Archibald, D.M Morrison and A. Wilson. 2002. “Teen Sexual Behavior: Applicability of the Theory of Reasoned Action.” *Journal of Marriage and Family* 64:885–98.

Kiernan, K. 1999. “Cohabitation in Western Europe.” *Population Trends* 96:25–32.

Manning, W.D. 2001. “Childbearing in Cohabiting Unions: Racial and Ethnic Differences.” *Family Planning Perspectives* 33:217–23.

Manning, W.D. and P.J. Smock. 1995. “Why Marry? Race and the Transition to Marriage among Cohabitors.” *Demography* 32:509–20.

Miller, K.S., R. Forehand and B.A. Kotchick. 1999. “Adolescent Sexual Behavior in two Ethnic Minority Samples: The Role of Family Variables.” *Journal of Marriage and the Family* 61: 85–98.

Newcomer, S. and J.R. Udry. 1987. “Parental Marital Status Effects on Adolescent Sexual Behavior.” *Journal of Marriage and the Family* 49:235–40.

Oropesa, R.S. 1996. “Normative Beliefs about Marriage and Cohabitation: A Comparison of non-Latino Whites, Mexican Americans, and Puerto Ricans.” *Journal of Marriage and the Family* 58:49–62.

Perkins, D.F., T. Lust, F.A. Villarruel and S. Small. 1998. “An Ecological, Risk-factor Examination of Adolescents’ Sexual Activity in three Ethnic Groups.” *Journal of Marriage and the Family* 60:660–74.

Raley, R.K. 2001. “Increasing Fertility in Cohabiting Unions: Evidence for the Second Demographic Transition in the United States?” *Demography* 38:59–67.

Rindfuss, W.L. and A. VandenHeuval. 1990. “Cohabitation: A Precursor to Marriage or an Alternative to Being Single?” *Population and Development Review* 16:703–26.

Sassler, S. 2004. “The Process of Entering into Cohabiting Unions.” *Journal of Marriage and Family* 53:491–505.

Small, S.A. and T. Luster. 1994. “Adolescent Sexual Activity: An Ecological, Risk-factor Approach.” *Journal of Marriage and the Family* 56:181–93.

Smock, P.J. 2004. “The Wax and Wane of Marriage: Prospects for Marriage in the 21st Century.” *Journal of Marriage and Family* 66:966–73.

——. 2000. “Cohabitation in the United States: An Appraisal of Research Themes, Findings, and Implications.” *American Review of Sociology* 26:1–20.

Smock, P.J. and W.D. Manning. 2001. “A Case for Qualitative Methods in US Family Demography: Understanding the Meaning of Unmarried Cohabitation.” Population Studies Center Research Report No. 01-483. Presented at the annual meeting of the American Sociological Association, August, Annaheim, CA.

Smock, P.J. and W.D. Manning. 1997. “Cohabiting Partners’ Economic Circumstances and Marriage.” *Demography* 34:331–41.

Sura, C.A. 1990. “Research and Theory on Mate Selection and Premarital Relationships in the 1980s.” *Journal of Marriage and the Family* 52:844–66.

Tanfer, K. 1987. “Patterns of Premarital Cohabitation among Never-Married Women in the United States.” *Journal of Marriage and the Family* 49:483–97.

Thornton, A. W.G. Axinn and D. Hill. 1992. “The Reciprocal Effects of Religiosity, Cohabitation, and Marriage.” *American Journal of Sociology* 98:628–51.

Thornton, A., W.G. Axinn, and J.D. Teachman. 1995. “The Influence of School Enrollment and Accumulation on Cohabitation and Marriage in Early Adulthood.” *American Sociological Review* 60:762–74.

Thornton, A. and D. Camburn. 1987. “The Influence of the Family on Premarital Sexual Attitudes and Behavior.” *Demography* 24:323–40.

Thornton, A. and L. Young-DeMarco. 2001. “Four Decades of Trends in Attitudes toward Family Issues in the United States: The 1960s through the 1990s.” *Journal of Marriage and Family* 63:1009–37.

Whitbeck, L.B., K.A. Yoder, D.R. Hoyt and R.D. Conger. 1999. “Early Adolescent Sexual Activity: A Development Study.” *Journal of Marriage and the Family* 61:934–47.

Upchurch, D.M., C.S. Aneshensel, C.A. Sucoff and L. Levy-Storms. 1999. “Neighborhood and Family Contexts of Adolescent Sexual Activity.” *Journal of Marriage and the Family* 61:920–33.

Xie, Y., J.M. Raymo, K. Goyette and A. Thornton. 2003. “Economic Potential and Entry into Marriage and Cohabitation.” *Demography* 40:351–67.