ESTIMATES AND CORRELATES OF SERIAL COHABITATION

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Abstract. Most demographic research ignores serial cohabitation. However, recent increases in cohabitation may lead to growth in serial cohabitation. We use the NSFG (cycle 6) to estimate and examine correlates of serial cohabitation among women during their late teens and twenties (N=3,397). We also assess serial cohabitation among women who first married between 1988 and 2002 (N=2,407). We find that one-fifth of women with cohabitation experience were serial cohabitors and that these levels have increased more recently. Serial cohabitors' unions are about the same duration as single-instance cohabiting unions and on average, serial cohabitors spend about twice as much of their late teens and twenties within cohabiting unions. Serial cohabitors also have lower marital expectations than single-instance cohabitors. We find that women, who have more sexual partners, were raised in non-intact families, and are less religious have greater odds of serially cohabiting. Foreign-born Hispanics are less likely to serially cohabit than other race/ethnicities.

The median age of first marriage continues to increase, for women it is 26 years and 28 years for men (U.S Bureau of the Census 2004). Yet, this does not mean that young adults are living alone until marriage. In fact, much of the delay in marriage is offset by an increased incidence of cohabitation (Raley 1996). The modal path to marriage is through cohabitation. Two-thirds of first marriages formed between 1997 through 2001 were preceded by cohabitation (Kennedy and Bumpass 2008). As the age at first marriage rises, the opportunities to experience greater numbers of sexual partnerships prior to marriage have also grown.

Prior research on cohabitation often focuses on one key cohabitating union and overlooks the advent of serial cohabitation. This study documents the presence of serial cohabitation during emerging adulthood. We integrate into this study, not only a change in coresidental sexual unions (cohabitation), but also consider sexual partnerships outside of cohabitation. A central question is to determine the sociodemographic characteristics of women who serially cohabit before marrying. This work has implications for understanding a group of cohabitors who are most at risk of marital dissolution once they transition into marriage (e.g., Teachman 2003; Lichter and Qian 2008).

1.1 Emerging Adulthood

Because age at first marriage is at an historical highpoint in the United States, there is increased time during late adolescence and early adulthood for a wide variety of sexual and relationship experiences. In fact, a term "emerging adulthood" has been coined to encapsulate the notion that there is a complex and less rigid pathway into adulthood, resulting from shifts in the nature of educational opportunities, leaving the parental home, career development, early parenthood, and delayed marriage (Arnett 2004). This period is a mix of adolescent and adult commitments and responsibilities that are characterized by instability, self-focus and exploration (Arnett 2004; Erikson 1968). A part of emerging adulthood is social learning through relationships to understand what type of relationships will work best. The relationship quest in emerging adulthood shifts from the more adolescent question of "Who would I enjoy being with now?" to "Who am I?" and "Who do I want to be with through life?" (Arnett 2004). There are opportunities for exploring many relationships as there is little normative pressure to settle down or for these relationships to operate inside the purview of close parental attention. Drawing on this approach, we examine how young adults are experiencing relationships in terms of serial cohabitation and sexual partnerships.

1.2 Cohabitation

There has been a dramatic growth in cohabitation since the early 1980s (Bumpass and Lu 2000; Kennedy and Bumpass 2008). There has also been a documented decline in the likelihood that cohabitation will transition into marriage (Kennedy and Bumpass 2008). In light of these trends, we expect that patterns of serial cohabitation may have increased in recent years.

Most prior studies of cohabitation have focused on one cohabiting union and have typically overlooked serial cohabitation, cohabiting with more than one partner. Our understanding of the patterns of serial cohabitation have relied on research on married women with no evidence documenting how much time is spent in single-instance and serial cohabiting unions. Teachman (2003) relies on the 1995 National Survey of Family Growth (NSFG) and focuses on women married between 1970 and 1995. He reports that approximately 38% of women cohabited prior to marriage and among those who cohabited, about 5.8% lived with their spouse and another man. Lichter and Qian (2008) use the National Longitudinal Survey of Youth (NLSY79), and examine women who first cohabited between 1979 and 2000 and were 35-43 years of age by the year 2000. They report that 21% of women cohabited before their first marriage and among those with cohabitation experience, 13.5% lived with more than one man. These data focus on a 1957-1965 birth cohort of women who married in the 1980s and early 1990s, which may explain their relatively low levels of premarital cohabitation and serial cohabitation. The authors state that their estimates of serial cohabitation may under-represent the actual incidence of serial cohabitation today.

The existence of serial cohabitation means that some cohabiting relationships do not always result in marriage. Young adults may start out with the notion that their relationship is short-term and not moving toward marriage. To date we know little about the marriage expectations of serial cohabitors. Prior research on marriage expectations among cohabitors (Manning and Smock 2002; Brown 2000a) does not acknowledge the role of serial cohabitation. However, previous research indicates that when serial cohabitors do marry, they may be at greater risk of subsequent marital instability than

single-instance cohabitors (DeMaris and MacDonald 1993; Teachman and Polonko 1990; Teachman 2003; Lichter and Qian 2008). In other words, people who cohabit with more than one person have a higher likelihood of experiencing a divorce than those who only cohabit with one person before marriage. In fact, serial cohabitors have lower quality and less stable cohabiting relationships than single-instance cohabitors (Stets 1993; Brown 2000b). Brown (2000b) also reports higher levels of depression among serial cohabitors than single-instance cohabitors. These findings suggest that serial cohabitors may be more willing to end relationships that they do not find emotionally satisfying, and that they may also have certain sociodemographic characteristics associated with higher rates of marital dissolution.

1.3 Sexual Partnerships

Parallel to the rise in cohabitation since the 1980s is the de-linking of sex from marriage. In 2002, less than ten percent of married women, under age 35, waited until marriage to have sex (Chandra et al., 2005). Some women may have had sex prior to marriage, but only with their future husband. According to the 1995 NSFG, 75% of married women had intercourse with someone besides their husband prior to marriage (Teachman 2003). Women and men also have more sexual partners in their lifetime than in decades past. For example, according to the 1995 NSFG, women between the ages 30-44 had an average of 3 sexual partners in their life time (author calculation, results not shown). Evidence from the 2002 cycle of the NSFG indicates that this average rose to four sexual partners (Mosher et al. 2005).

Although the number of sex partners a man or women will have prior to marriage has increased, researchers rarely include this measure in investigations of union

formation. This is ironic given that dating and sexual relationships are direct precursors to cohabitation and marriage. Research has focused on cohabiting sexual relationships, but relatively little attention has been paid to how non-residential sexual relationships or dating relationships influence transitions into cohabitation or marriage. One arena that has been studied is how premarital sexual relationships within and outside of cohabitation influence the stability of marriages. Teachman (2003) uses the 1995 NSFG to examine women who were first married between 1970 and 1995. He finds that women who had no premarital sex or only had premarital sex with their future spouse shared similar odds of marital dissolution. Women who had sex with someone besides their husband had a higher risk of marital dissolution. He further investigates how all sexual unions (cohabitation and other sexual partnerships) influence marital instability and finds that women who only cohabited with their spouse or only had premarital sex with their spouse had similar odds of marital dissolution as women who did not cohabit. Women, who serially cohabited and/or had premarital sex with someone besides their husband, had higher odds of marital dissolution than women who never cohabited. Teachman's findings suggest that *both* sexual history and cohabitation history influence marital stability. To better understand romantic relationship dynamics today, scholars should include sexual histories as well as cohabitation histories. Thus, in our work, we examine the interplay between the number of non-cohabiting sex partners and cohabitation patterns.

2. Current Investigation

The goal of this paper is to examine the patterns of serial cohabitation among young women and to evaluate the sociodemographic characteristics associated with women's

serial cohabitation. This study moves beyond prior research in four key ways. First, by

analyzing the 2002 cycle of the National Survey of Family Growth, we examine recent

national data available on women's cohabitation and marriage histories. Past research on

serial cohabitation has examined earlier cycles of the NSFG (Teachman 2003), the

NLSY79 (Lichter and Qian 2008), and the NLS72 (Teachman and Polonko 1990). Due

to the increasing incidence and social acceptance of cohabitation throughout the years,

examining recent cohorts of women will provide more accurate estimates of serial

cohabitation and the characteristics of serial cohabitors. Second, this investigation

identifies the specific sociodemographic factors that differentiate serial cohabitors from

single-instance cohabitors. Although our investigation is descriptive in nature, this work

examines the determinants of one's cohabitation history or the likelihood of serially

cohabiting vs. single-instance cohabiting. Previous research has typically only included

cohabitation history as one of many independent covariates to investigate its association

with relationship quality and the odds of marital disruption among cohabiting couples or

ever-cohabiting couples. Third, we include women's number of non-cohabiting sex

partners as an independent variable in our analysis of serial cohabitation. Past research

indicates that this measure is positively correlated with women's likelihood of marital

disruption (Teachman 2003) and is most likely another significant determinant of

women's serial cohabitation. However, it typically has not been included in past research

on serial cohabitation (DeMaris and MacDonald 1993; Teachman and Polonko 1990;

Lichter and Qian 2008). Finally, we include descriptive findings about the relationship

context of cohabitation by presenting the duration of cohabiting unions and marriage

expectations of serial cohabitors. We examine what proportion of early adulthood is

spent within cohabiting unions and establish whether serial cohabiting unions are long-established or fleeting. If serial cohabitors live with their partners for a comparable length of time and have comparable marital expectations then this would suggest that serial cohabitors may be in fairly similar types of cohabiting unions as single-instance cohabitors. Alternatively, if they differ in terms of duration and/or marital expectations, this would suggest that single-instance and serial cohabiting unions may be quite distinct types of relationships. This work will move forward our understanding of the cohabiting relationships during early adulthood.

3. Materials and Methods

We use cycle 6 (2002) of the National Survey of Family Growth (NSFG) which is a national probability sample, representing the household population of the United States, ages 15-44. These data are appropriate, because they contain detailed marriage, cohabitation, and sex histories for women allowing us to analyze the number of women's cohabitating unions and non-cohabiting sexual partnerships. These data also permit us to examine the change in the proportion of serial cohabitation by including cohabitation behavior occurring during recent time periods, as well comparing recent marriage cohorts to older ones.

The first set of analyses focuses on women's cohabitation behavior while never-married between the ages of 16-30 and consists of a sample of 3,397 women. Given the age restriction of the NSFG sample, examining the cohabitation histories of women between the ages of 16-30 allows us to compare the nonmarital cohabitation experiences of women occurring in three time periods (1988-1992, 1993-1997, and 1998-2002). All of the respondents were age 30 or older at interview. Among married women in this first

sample, we count the number of cohabiting unions which occurred between the ages of 16-30 prior to date of first marriage. Among never-married women we count the number of cohabiting unions which occurred between the ages of 16-30, prior to the date of interview. Our first sample was initially restricted to married and never-married women's cohabitation experiences between the ages of 18-30; however a substantial proportion of women with cohabitation experience began cohabiting at ages 16 and 17 (10%). This sample is limited to women who provided valid data on the start dates of their cohabiting unions as well as the date of their first marriage (when appropriate), so we eliminated 97 respondents from our initial sample. The second set of analyses examines a sample of 2,448 married women, whose first marriages occurred between 1988 and 2002 and were 18-30 years old at the start of their first marital union. The analyses are further limited to women, who provide valid information regarding the start date of their first marriage, valid cohabitation start dates prior to first marriage, and valid responses to the number of sexual partners prior to first marriage (N = 2,407).

3.1 Dependent Variable

The dependent variable is the number of nonmarital cohabiting unions that occurred between the ages of 16-30. For married women, we count the number of cohabiting unions that occurred prior to date of first marriage. For never-married women, we count the number of cohabiting unions that occurred prior to the date of interview or age 30. The dependent variable is recoded into three categories: zero (no nonmarital cohabitation), one (nonmarital single-instance cohabitation), and two or more (nonmarital serial cohabitation). For the second set of analyses limited to ever-married women, we further distinguish this variable by considering the outcome of premarital cohabitations.

We create four categories: Never cohabited; only cohabited with first husband; only cohabited with other(s); cohabited with first husband and other(s). This variable is not included in women's zero-order or multivariate analyses. It is used for descriptive purposes only.

3.2 Independent Variables

One of the major goals of this paper is to document the growth of nonmarital serial cohabitation. In keeping with this goal, the analyses of the cohabitation experiences of married and never-married women between the ages of 16-30 includes a period measure with the following response categories: women who were 30-34 between the years 1988 and 1992; women who were 30-34 between 1993 and 1997; and women who were 30-34 between 1998 and 2002. A marriage cohort variable was also created for analyses of married women. It is also a three category response variable, which includes women who first married between 1988-1992, 1993-1997, and 1998-2002.

Another core independent variable measures a woman's number of non-cohabiting sex partners. The NSFG provides a measure of the number of women's sex partners prior to first marriage. Thus, for married women, we were able to create a non-cohabiting sex partner measure by subtracting the number of premarital cohabiting partners from the number of premarital sex partners. Forty-four women in the sample did not report a valid number of sex partners before their first marriage. We replaced these women's missing data with the weighted average number of premarital sex partners for married women in the sample. A small number of respondents (56) stated that the number of cohabiting partners was greater than their number of sex partners, suggesting that they did not have sex with all of their cohabiting partners. These respondents were

recoded as having zero non-cohabiting sex partners. Sensitivity analyses indicate that the results are similar when these respondents are excluded from the analyses.

The number of non-cohabiting sexual partners is more difficult to measure for never-married women because the NSFG does not include a direct question akin to the number of sex partners item prior to first marriage. In light of this limitation, we estimate the number of non-cohabiting sex partners for never-married women. Women who had no sex partners prior to age 30 are coded as zero (n=66). For the remaining 685 never-married women we generated three estimates. The first strategy assigns to never-married respondents the weighted average of life time sex partners for never-married, sexually active, 30 year old women. A second strategy assigns the average number of sex partners prior to marriage among married women. The third strategy allows their own report of number of lifetime sexual partners. The use of this measure most likely over-estimates the number of sex partners given that many women have new sexual partners after age 30. Sensitivity analyses yields similar results at both the zero-order and multivariate level regardless of which estimate of non-cohabiting sex partners is included in the model. We apply the first strategy in our analyses.

A descriptive variable is created to illustrate married women's premarital sexual behavior relative to their premarital cohabitation experience. The sexual history and cohabitation history questions are combined to create a variable akin to Teachman's (2003) measure. There are five response categories: no sex before first marriage; never cohabited and had sex with at least one man before first marriage; cohabited only with spouse and only had sex with spouse; cohabited only with spouse and had sex with more than one man before first marriage; and cohabited with someone besides their spouse

(including serial cohabitors). This variable is not included in the inferential analyses and is used for descriptive purposes only.

We include sociodemographic variables related to union formation. The NSFG does not include dates of educational attainment, so we cannot determine when higher education was pursued. Thus, we only include educational indicators that most likely occurred before cohabitation began and respondent's education is collapsed into two categories: less than 12 years and 12 years or more of education. Respondent's mother's education is measured by four categories: less than 12 years, 12 years, 13 to 15 years, and 16 or more years of education. Twenty-four women reported having no mother figure in their life. These women were recoded into the modal category of 12 years of education. Family type during childhood is measured as a binary response variable, with respondents falling into one of two categories: grew up in an intact (two-parent) household during childhood, or "other" household. Religious service attendance, serving as a proxy for religiosity, has five response categories and is treated as a continuous variable. The response categories are as follows: never attends religious services; attends less than once a month; attends 1-3 times per month; attends once a week; attends more than once a week. Religious service attendance at childhood is preferred for this investigation because it is a measure of religiosity before cohabitation occurred. However, this question was only asked of women below the age of 25 at interview. A chi-square test confirms that service attendance during childhood is significantly correlated with service attendance at interview (results not shown), thus it is included in these analyses. Finally, women's race/ethnicity was recoded into five response categories: white, black, native-born Hispanic, foreign-born Hispanic, and other.

3.3 Relationship Context

Two indicators of the relationship context of cohabitation are included: duration (months) and marital expectations. We show the differences in the percent distributions of these two measures for single-instance vs. serial cohabitors, first and second cohabitation, and by period and cohort. The average sum of months spent cohabiting was calculated by summing the duration of cohabiting unions. The percentage of time spent in cohabiting unions was calculated by dividing the sum of months spent cohabiting between the ages of 16-30 and dividing that sum by the number of years a woman was unmarried between the ages of 16-30. Women's marital expectations at the start of their cohabitation were measured by a binary response yes or no question: "At the time you began living together, were you and your partner engaged to be married or have definite plans to get married?" These measures are examined for descriptive purposes only and not included in the inferential analyses.

3.4 Analytic approach

The analytic method for this current investigation is multinomial logistic regression is used to examine the likelihood of women entering zero (no cohabiting unions), one (single-instance cohabitation), or two or more cohabiting relationships (serial cohabitation). This method is appropriate for a categorical dependent variable with more than two response categories (DeMaris 1992). We are most interested in the comparison of nonmarital serial cohabitors with single-instance cohabitors. Thus, our reference category is one nonmarital cohabiting relationship. This strategy allows us to distinguish among types of cohabitation. We first estimate zero-order models for each independent variable. Next, all the covariates are included in multivariate multinomial logistic

models. The odds ratios presented are exponentiated coefficients. Therefore, an odds ratio of less than one can be interpreted as a negative relationship between the independent variables with the dependent variable and an odds ratio greater than one suggests a positive relationship.

4.1. Descriptive Results

Table 1 shows the cohabitation experiences for all women. On average, women between the ages of 16-30 had .59 cohabiting partners. The average number of cohabiting partners has increased from .44 between the years 1988 and 1992 to .73 one decade later (1998 to 2002). About half (53%) of women did not cohabit, over one-third (38%) cohabited once, and about 9% cohabited twice or more. We find evidence that serial cohabitation increased within a ten year period with 5% of women serially cohabiting between 1988 and 1992 and 14% serially cohabiting between 1998 and 2002. Furthermore, among women who have cohabited, the proportion who serially cohabited increased from 14.5% (1988-1992) to about one quarter (25%) one decade later (1998-2002).

The context of cohabitation differs between single-instance and serial cohabiting women. On average, single-instance cohabitors spent 32 months cohabiting with their only partner and over half (53%) expected to marry that partner. Serial cohabitors spend roughly the same average number of months within their first cohabiting relationship, as well as their second. However, combined, serial cohabitors spend more of their early adulthood within cohabiting relationships than single-instance cohabitors. Serial cohabitors spend almost half of their young adult years (42%), between the ages of 16-30, cohabiting; as opposed to single-instance cohabitors who only spend about 25% of their

early singlehood within cohabiting unions (results not shown). Furthermore, a much lower proportion of serial cohabitors plan to marry their first (20%) and second (32%) cohabiting partner. Thus, serial cohabiting unions are just as long as the single-instance cohabiting unions, but they start with a much different purpose.

Analyses limited to women who married indicates that the mean number of cohabiting partners prior to marriage has increased slightly from .61 premarital cohabiting partners among women married between 1988 and 1992 to .77 among women married one decade later (1998 to 2002). The incidence of serial cohabitation among ever-married women has increased by about 50% (from 8% to 13% within a ten year period). Analysis of only women who cohabited prior to their marriage indicates that 17% of the 1988-1992 marriage cohort and 22% of the 1998-2002 marriage cohort serially cohabited. Almost all (98%) women who serially cohabited lived with their spouse prior to marriage.

Table 2 incorporates the sexual experiences of women. On average, women between the ages of 16-30 had about 4.1 sex partners and 3.5 non-cohabiting sex partners. Thus, women lived with only 20% of their sexual partners. The proportion of sexual partners that women lived with has risen from the 16% during the 1988-1992 period to 23% from 1998-2002 (results not shown). The average number of sex partners has increased over time. Ever-cohabiting women have a higher average number of sex partners (5.8) and a higher number of non-cohabiting sex partners (4.6) than never cohabiting women (2.6). Single-instance cohabitors have a lower average number of sex partners and non-cohabiting sex partners than serial cohabitors. Single-instance cohabitors had on average 4 non-cohabiting sex partners compared to 7 partners among

serial cohabitors. While the average number of sex partners has increased among single-instance cohabitors, the average number of sex partners and non-cohabiting sex partners has decreased for serial cohabitors. Still, in all time periods, single-instance cohabitors have a lower average number of sex partners and non-cohabiting sex partners than serial cohabitors.

Analysis of women who were married indicates that married women had about 4.4 sex partners before their first marriage and 3.7 non-cohabiting sex partners. There has been an increase in the number of sex partners across marriage cohorts. Married women lived with 16% of their sexual partners and this has not changed across marriage cohorts. Our measure that combines cohabitation and sexual experience prior to marriage indicates that 14% of married women did not have sex before marriage. One-third (32%) of women never cohabited before first marriage, but had sex with at least one man. About 9% cohabited once with their spouse and only had sex with their spouse. Approximately one-third of married women (31%) cohabited only with their spouse and had sex with more than one man before marriage. About 14% cohabited with someone besides their spouse (including serial cohabitors). This measure shows that the majority of women enter marriage with sexual experiences, women who did not cohabit still had sex prior to marriage (70%), and women who cohabited with their spouse prior to marriage typically (75%) had sex with someone besides their cohabiting partner.

Table 3 shows the distribution of covariates across our samples. We discuss the distribution for women 16-30, but present the results in Table 3 for both subsamples. The sample is equally divided across the three time periods. Serial cohabitation and single-instance cohabitation is more common in more recent period. The majority (86%) of

women received 12 or more years of education, correspondingly, about 14% received less than 12 years of education. Education is similarly distributed among never cohabiting women, single-instance cohabitors, and serial cohabitors. Nearly one-fifth (17%) have mothers who have less than 12 years of education, 39% have mothers with 12 years of education, 19% of mothers have 13-15 years of education, and 15% have 16 or more years of education. As the number of cohabiting partners increases so does mother's education. Most women (71%) grew up in an intact household. Among never cohabiting women, three-quarters grew up in an intact household, while only two-thirds of single-instance cohabitors, and even fewer (50%) of serial cohabitors grew up in an intact household. About one-fifth of women (17%) never attend religious services, 28% attend religious services less than once a month, 17% attend 1-3 times per month, 24% attend once a week, and 13% attend more than once a week. The frequency of attending services appears to decline as the number of cohabiting unions increases. About two-thirds (69%) of the sample is white, 13% black, 7% native-born Hispanic, 6% foreign-born Hispanic, and 5% report "other". There is some slight variation in race and ethnicity according to the number of cohabiting unions.

4.2 Cohabitation during the Late Teens and Twenties

Table 4 presents the zero-order associations of the independent variables on the number of cohabiting relationships women had during their late teens and twenties. The first column shows the odds of having no cohabitation experience versus single-instance cohabitation and the second column presents the odds of serial cohabitation versus single-instance cohabitation. We find that time period does matter. Women in the recent period (1998-2002) were less likely to never cohabit and had 97% greater odds of serial

cohabitation than women 10 years earlier (1988-1992). There is a significant negative association between the number of non-cohabiting sex partners and the odds of having never cohabited. For every additional non-cohabiting sex partner, the odds of a woman never cohabiting versus cohabiting once decrease by 10%. Each additional sex partner increased the odds of serial cohabitation by 6%. Education, as measured in this study, is not associated with single-instance cohabitation or serial cohabitation. Mother's education is significantly related to cohabitation. Women whose mothers have a college degree or higher have 40% lower odds of having no cohabitation experience than women who have a mother with a high school degree. Family type during childhood is also significantly associated with serial cohabitation. Women who did not grow up in an intact family are more likely to cohabit and have 96% higher odds of serially cohabiting than their counterparts raised in intact families. Religious service attendance is positively correlated with the odds of not cohabiting and negatively associated with serial cohabitation. Foreign-born Hispanic women have 74% higher odds than whites of not cohabiting. Whites, blacks and native-born Hispanics share similar odds of single-instance and serial cohabitation.

The next two columns of Table 4 shows the multivariate results and the results are similar to the bivariate findings. Time period is still related to cohabitation experience. Women in more recent periods have lower odds of not cohabiting and higher odds of serially cohabiting. Similar to the zero-order results, an additional non-cohabiting sex partner decreases the odds of a woman never cohabiting versus single-instance cohabiting before marriage by 7%. The findings associated with the sociodemographic correlates are generally similar to those described above.

4.3 Premarital Cohabitation among Ever-Married Women

Table 5 presents the results for ever-married women providing insight into the path to marriage. The zero-order results show that women married more recently are less likely to have not cohabited – in other words they are more likely to have cohabited with one partner. Marriage cohort is not related to the odds of single-instance vs. serial cohabitation. Additional analyses reveal that later marriage cohorts have significantly higher odds of serially cohabiting than not cohabiting (results not shown). Each additional non-cohabiting sex partner decreases the odds of not cohabiting versus single-instance cohabiting before marriage by 9% and increases the odds of serial versus single-instance cohabiting by 8%. Ever-married women with 12 years of education or more are 49% more likely to cohabit with one partner than women with less than 12 years of education. Respondent's education is not associated with single-instance versus serial cohabitation. Further analyses indicate that women with more than 12 years of education are more likely to serially cohabit than never cohabit. Mother's education is generally not associated with cohabitation in the ever-married sample. Women who did not grow up in an intact household have 50% lower odds of never cohabiting and 69% greater odds of serial rather than single-instance cohabitation. Religiosity is significantly related to cohabitation. Greater religious service attendance is positively associated with not cohabiting and negatively tied to serial cohabitation. White, black and native-born Hispanic women share similar odds of single-instance cohabitation and serial cohabitation. Foreign-born Hispanics face higher odds of never cohabiting and lower odds of serially cohabiting.

The next set of columns present the multivariate findings and mirror the bivariate results. Women married more recently are less likely to have not cohabited than women married 10 years earlier. Marriage cohort does not differentiate single-instance versus serial cohabitation. Additional analyses indicate that women married more recently are 94% more likely to have serially cohabited vs. never cohabited than women married a decade earlier. The number of non-cohabiting sexual partners continues to be associated with the odds of single-instance and serially cohabiting. In these models education, family background and religiosity continue to influence cohabitation in a similar manner as the bivariate results. In contrast to the bivariate results, Black women have 46% lower odds of never cohabiting than white women. Additional analyses reveal that the number of non-cohabiting sex partners, as well as religious service attendance, are both responsible for the suppression effect of race at the bivariate level. Black women, on average, have a lower number of non-cohabiting sex partners than white women (3.9 non-cohabiting sex partners vs. 4.3 non-cohabiting sex partners respectively). Furthermore, Black women attend religious services more often then white women. The mean level of religious service attendance is 3.3 for black women and 2.7 for white women. Thus, suppression occurs because black women have some characteristics that are associated with lower odds of serial cohabitation. Foreign-born Hispanic women continue to have 71% greater odds of never cohabiting versus single-instance cohabiting and continue to have 55% lower odds of serial cohabitation.

5. Discussion

About one-fifth of women who cohabited during their late teens or twenties cohabited with more than one partner (serially cohabited). We find increases in more recent periods

(1998-2002) with about one-quarter of women with cohabitation experience serially cohabiting. Given the increase in cohabitation, this means that increasing numbers of women are experiencing serial cohabitation in early adulthood and we expect these trends to continue.

A similar conclusion can be drawn when focusing on women who have entered marriage. Our analysis of ever-married women indicates that 11% serially cohabited prior to marriage, in contrast to only 2.8% in the Lichter and Qian study and 5.8% in the Teachman (2003) paper. Among married women who cohabited prior to marriage, about one-fifth serially cohabited. These levels are higher than the 12% in Teachman and Polonko (1990), 13.5% in Lichter and Qian (2008) and 15% reported in Teachman (2003). As noted above, their work relied on older birth cohorts. Overall, serial cohabitation seems to be on the rise among all women.

Like their single-instance counterparts, many serial cohabitors are also on the road to marriage, albeit, a somewhat long and winding one. The analyses of women's experiences in their late teens and twenties indicate that serial cohabitors are less likely to expect to marry their cohabiting partners at the outset of cohabitation. Half of single-instance cohabitors expect to marry their partner in contrast to one-fifth or one-third of serial cohabitors' first or second cohabiting union. The vast majority of serial cohabitors who married did live with their spouse before marriage. Serial cohabitors spend about as much time in each of their cohabiting unions as single-instance cohabitors. This implies that serial cohabiting unions are not shorter term, but often start out without marriage on the horizon. Serial cohabitors spend about 42% and single-instance cohabitors spend about 25% of their late teens and twenties in cohabiting unions. As a result serial

cohabitors, who do marry, marry at older ages than single-instance cohabitors. The average age at first marriage is 22 for women who never cohabit, 24 for single-instance cohabitors, and 27 for serial cohabitors.

This study examines sexual unions that are coresidential (cohabitation) and those that are not (non-cohabiting sex partners). We find that the majority (80%) of sexual relationships that women have with men are not taking place within the context of co-residential unions. Women who have cohabitation experience prior to marriage, on average, have a greater number of non-cohabiting sex partners than those who did not cohabit before marriage. Women who serial cohabit are more likely to have a greater number of non–cohabiting sex partners than single-instance cohabitors. Our findings suggest that it may be important to consider the full range of sexual experiences in early adulthood, cohabiting and sexual relationships.

The multivariate results indicate that several key sociodemographic characteristics are associated with women's serial cohabitation. Women with more non-cohabiting sex partners, raised outside of two biological married parent families, are less religious, and are not foreign-born Hispanic are more likely to experience serial cohabitation. These factors distinguish single-instance and serial cohabitors suggesting different types of women cohabit with more than one partner. Previous work has not accounted for nativity status, religiosity, or number of sexual partners, but similar to prior work we find that family structure while growing up is associated with serial cohabitation (Lichter and Qian 2008). Unlike previous studies, we do not find that serial cohabitation is more common among the disadvantaged (education), but our education measure is quite crude.

The limitations to this study include the measure of socioeconomic status (described above), measures of sexual experiences among never-married women as well as the recall of cohabitation experience. We relied on estimates of the number of sexual experiences among never-married women because we could not discern the number that had occurred by a specific age. We conducted analyses with the lifetime estimate and an estimate that assigned the mean number of partners. Further inquiry into the timing of sexual partnerships during early adulthood would contribute to analysis of the sexual lives of emerging adults. Some research documents bias in the recall of cohabitation (Hayford and Morgan 2008) and may be an issue in this paper which relies on retrospective reports of cohabitation. This would suggest that we have under-estimated serial cohabitation and the levels may in fact be greater than reported. However, longitudinal data may be the best way to capture the experiences of young adults today.

The results of this study indicate that serial cohabitation is increasing, suggesting that scholars need to refine their examination of cohabitation and marriage to distinguish between those who cohabit several times and those who do not. Our results suggest that there are some key sociodemographic differences between the two groups. Including a measure of serial cohabitation in future work may help researchers understand the relationship between cohabitation and a variety of predictors, including marriage transitions, quality and stability of relationships, child well-being, and adult mental and physical health. The interplay between the increasing number of sex partners outside the context of cohabitation and marriage, combined with the rise of premarital co-residential union formation further complicates the study of relationship formation today.

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Table 1. Cohabitation Experience for Women

	Total	1988-1992	1993-1997	1998-2002
All Women Ages 16-30 yrs				
Average number of cohabitations while not married	0.59	0.44	0.59	0.73
Serial Cohabitation Measure				
Zero	53.13	62.77	52.26	44.52
One	37.63	31.84	39.37	41.59
Two or more	9.24	5.39	8.37	13.89
Average duration of all cohabiting relationships while not married	31.26	30.94	33.66	29.44
Ever-Cohabiting Women				
Serial Cohabitation Measure				
One	80.28	85.53	82.46	74.96
Two or more	19.72	14.47	17.54	25.04
All Single-Instance Cohabitors				
Average sum of months spent in 1st cohabitation	31.68	31.17	34.35	29.57
Percent expect to marry 1st cohabiting partner	52.75	50.64	53.83	53.32
All Serial Cohabitors				
Average sum of months spent in 1st cohabitation	28.24	25.82	29.51	28.42
Average sum of months spent in 2nd cohabitation	29.12	33.14	27.47	28.57
Percent expect to marry 1st cohabiting partner	20.84	18.73	22.65	20.57
Percent expect to marry 2nd cohabiting partner	32.20	38.72	35.12	27.96
All Ever-Married Women				
Average number of cohabitations	0.70	0.61	0.72	0.77
Serial cohabitation measure				
Zero	44.14	50.65	41.46	40.31
One	44.92	40.94	47.06	46.75
Two or more	10.94	8.41	11.48	12.94
Cohabitation Outcome Measure				
No premarital cohabitation	44.14	50.65	41.46	40.31
One premarital cohabitation w/ husband	41.78	38.13	43.75	43.45
One or more premarital cohabitations w/ other	3.37	3.02	3.35	3.74
Premarital cohabitations with husband and other	10.71	8.20	11.44	12.50
Ever-Cohabiting Women				
Serial Cohabitation Measure				
One	80.42	82.96	80.39	78.32
Two or more	19.58	17.04	19.61	21.68

Note: All values are weighted.
Source: 2002 National Survey of Family Growth

Table 2. Sexual Experiences for Women

	Total	1988-1992	1993-1997	1998-2002
All Women Ages 16-30 yrs				
Average number of sex partners	4.10	3.54	4.10	4.65
Average number of non-cohabiting sex partners	3.53	3.12	3.53	3.93
Ever-Cohabiting Women				
Average number of sex partners	5.83	5.68	5.70	6.03
Average number of non-cohabiting sex partners	4.61	4.57	4.49	4.74
Never Cohabiting Women				
Average number of sex partners	2.58	2.26	2.64	2.93
Average age at first marriage	22.05	21.92	22.38	21.84
Single-Instance Cohabitors				
Average number of sex partners	4.99	4.56	4.85	5.43
Average number of non-cohabiting sex partners	4.02	3.64	3.88	4.45
Average age at first marriage	23.94	24.21	23.60	24.06
Serial Cohabitors				
Average number of sex partners	9.26	12.30	9.71	7.84
Average number of non-cohabiting sex partners	7.01	10.12	7.37	5.62
Average age at first marriage	27.02	28.09	27.91	25.94
All Ever-Married Women				
Average number of sex partners	4.40	4.13	4.47	4.61
Average number of non-cohabiting sex partners	3.72	3.53	3.77	3.87
Cohabitation Outcome and Sex Partner Measure				
No sex before first marriage	13.63	13.62	10.36	17.01
Never cohabited and had sex with at least one man before first marriage	31.92	38.23	31.95	25.51
Cohabited once with spouse and only had sex with spouse	9.15	7.91	9.48	10.06
Cohabited only with spouse and had sex with more than one man before first marriage	31.23	29.07	33.41	31.18
Cohabited with someone besides spouse before first marriage (includes serial cohabitors)	14.06	11.17	14.79	16.25

Note: All values are weighted.
Source: 2002 National Survey of Family Growth

Table 3. Distribution of Covariates for Women

Variable	All Women Ages 16-30 (N = 3,397)	Never Cohabiting Women (N=1,751)	Single-Instance Cohabitors (N=1,291)	Serial Cohabitors (N=355)	Ever-Married Women (N=2,407)
Education					
< 12 years	13.79	13.51	14.06	14.31	12.00
12 years or more	86.21	86.49	85.94	85.69	88.00
Mother's Education					
< 12 years	26.84	28.11	26.08	22.58	22.09
12 years	39.40	41.63	35.35	43.14	36.48
13 to 15 years	19.25	18.05	21.29	17.87	23.48
16 or more years	14.51	12.21	17.28	16.42	17.94
Family Type During Childhood					
Two parent household	70.60	77.02	66.51	50.36	68.29
Non-two parent household	29.40	22.98	33.49	49.64	31.71
Religious Service Attendance					
Never attends religious services	17.49	12.25	21.23	32.36	20.31
Attends less than once a month	28.20	23.28	33.47	35.05	27.37
1-3 times per month	17.43	16.32	19.36	15.98	16.96
Once a week	23.60	29.57	18.41	10.38	22.65
More than once a week	13.28	18.58	7.54	6.22	12.71
Race/Ethnicity					
White	69.07	67.84	71.01	68.29	69.16
Black	12.91	11.41	13.87	17.64	8.93
Native-Born Hispanic	7.08	5.51	5.50	6.82	8.42
Foreign-Born Hispanic	5.63	8.88	5.33	3.86	6.68
Other	5.31	6.37	4.29	3.40	6.80
Period					
1988-1992	32.99	38.98	27.91	19.23	—
1993-1997	33.41	32.86	34.95	30.26	—
1998-2002	33.61	28.16	37.14	50.51	—
Marriage Cohort					
1988-1992	—	—	—	—	33.25
1993-1997	—	—	—	—	33.81
1998-2002	—	—	—	—	32.94

Note: All values are weighted.
Source: 2002 National Survey of Family Growth

Table 4. Zero Order and Multivariate Multinomial Logistic Regression of Number of Cohabiting Relationships for Women (N=3,397)

Compared to Single-Instance Cohabitation

	Zero Order				Full Model			
	Never Cohabit		Serial Cohabitation		Never Cohabit		Serial Cohabitation	
Variable	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
Period (reference = 1988-1992)								
1993-1997	0.67 **	0.08	1.26	0.24	0.69 **	0.08	1.21	0.24
1998-2002	0.54 ***	0.06	1.97 ***	0.32	0.58 ***	0.06	1.81 **	0.30
Non-Cohabiting Sex Partners	0.90 ***	0.02	1.06 ***	0.01	0.93 ***	0.02	1.06 ***	0.01
Education (reference = 12 years or more)								
< 12 years	1.05	0.13	0.98	0.23	1.16	0.17	1.04	0.28
Mother's Education (reference = 12 years)								
< 12 years	0.92	0.13	0.71	0.15	0.82	0.13	0.71	0.15
13 to 15 years	0.72 **	0.10	0.69 *	0.14	0.75 *	0.10	0.65	0.14
16 or more years	0.60 ***	0.10	0.78	0.17	0.61 **	0.10	0.72	0.17
Family Type During Childhood (reference = intact)								
Non-intact household	0.59 ***	0.06	1.96 ***	0.34	0.69 ***	0.08	1.79 **	0.33
Religious Service Attendance	1.45 ***	0.06	0.79 ***	0.04	1.41 ***	0.06	0.81 ***	0.05
Race/Ethnicity (reference = white)								
Black	0.86	0.11	1.32	0.26	1.07	0.17	1.44	0.33
Native-Born Hispanic	1.05	0.14	1.29	0.29	1.07	0.17	1.36	0.34
Foreign-Born Hispanic	1.74 ***	0.25	0.75	0.19	1.57 **	0.27	1.03	0.28
Other	1.56 *	0.40	0.83	0.29	1.54	0.40	0.95	0.34

* p < .05; ** p < .01; *** p < .001
Note: Binary logistic regression analysis is weighted.
Source: 2002 National Survey of Family Growth

Table 5. Zero Order and Multivariate Multinomial Logistic Regression of Premarital Cohabitation for Ever-Married Women (N= 2,407)

	Compared to Single-Instance Cohabitation							
	Zero Order				Full Model			
	Never Cohabit		Serial Cohabitation		Never Cohabit		Serial Cohabitation	
Variable	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
Marriage Cohort (reference = 1988-1992)								
1993-1997	0.71 **	0.08	1.19	0.24	0.81	0.10	1.26	0.29
1998-2002	0.70 *	0.11	1.35	0.293	0.72 *	0.10	1.40	0.321
Non-Cohabiting Sex Partners	0.91 ***	0.02	1.08 ***	0.01	0.94 **	0.02	1.07 ***	0.01
Education (reference = 12 years or more)								
< 12 years	1.49 **	0.21	0.90	0.23	1.88 ***	0.34	0.90	0.25
Mother's Education (reference = 12 years)								
< 12 years	1.19	0.18	0.88	0.22	1.06	0.18	1.09	0.32
13 to 15 years	0.89	0.11	0.57 *	0.14	0.95	0.13	0.54 *	0.13
16 or more years	1.08	0.18	0.84	0.20	1.06	0.15	0.82	0.21
Family Type During Childhood (reference = intact)								
Non-intact household	0.50 ***	0.06	1.69 **	0.31	0.59 ***	0.07	1.68 **	0.33
Religious Service Attendance	1.66 ***	0.07	0.81 **	0.05	1.63 ***	0.08	0.86 *	0.06
Race/Ethnicity (reference = white)								
Black	0.69	0.13	0.89	0.21	0.54 **	0.11	0.90	0.24
Native-Born Hispanic	1.15	0.20	1.05	0.30	1.18	0.22	1.03	0.34
Foreign-Born Hispanic	1.83 ***	0.29	0.36 ***	0.10	1.71 *	0.36	0.45 *	0.16
Other	1.78	0.54	1.43	0.66	1.67	0.52	1.71	0.81

* $p < .05$; ** $p < .01$; *** $p < .001$
Note: Binary logistic regression analysis is weighted.
Source: 2002 National Survey of Family Growth