

Does A Longer Sexual Resume Affect Marriage Rates?*

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ABSTRACT

Sociologists have proposed numerous theories for declining marriage rates in the United States, often highlighting demographic, economic, and cultural factors. One controversial theory contends that having multiple non-marital sex partners reduces traditional incentives for men to get married and simultaneously undermines their prospects in the marriage market. For women, multiple partners purportedly reduces their desirability as spouses by evoking a gendered double-standard about promiscuity. Though previous studies have shown that having multiple premarital sex partners is negatively associated with marital quality and stability, to date no research has examined whether having multiple non-marital sex partners affects marriage rates. Data from four waves of the National Survey of Family Growth reveal that American women who report more sex partners are less likely to get married by the time of the survey (though so too were virgins). Yet this finding is potentially misleading given the retrospective and cross-sectional nature of the data. Seventeen waves of prospective data from the National Longitudinal Survey of Youth's 1997 mixed-gender cohort that extend through 2015 show the association between non-marital sex partners and marriage rates is temporary: recent sex partners predict lower odds of marriage, but not lifetime non-marital sex partners. Seemingly unrelated bivariate probit models suggest the short-term association likely reflects a causal effect. Our findings ultimately cast doubt on recent scholarship that has implicated the ready availability of casual sex in the retreat from marriage. Rather, the effect of multiple sex partners on marriage rates is "seasonal" for most Americans.

Keywords: sex, premarital sex, marriage, marriage rates, longitudinal data

1. INTRODUCTION

As more Americans choose to delay marriage or forego it altogether (Bloome and Ang, 2020), sociologists have offered a number of explanations. These have included the falling economic prospects of men and the stronger economic prospects of women, which weakened the latter's incentives; rising expectations of consumption for the middle class; the growing cultural value of achieving economic stability before marriage; and creeping disenchantment with the idea of life-long commitment (Carr and Utz, 2020; Cherlin, 2020; Edin and Kafales, 2011; England, 2018; Kuperberg, 2019; Schneider et al., 2018; Smock et al., 2005). A more controversial theory for declining marriage rates is the idea that the broad acceptance and availability of non-marital sexual activity (and, to a lesser extent, masturbatory pornography use) has made marriage less necessary or even desirable (Caldwell, 2020, Regnerus, 2017; Regnerus and Uecker, 2011; for critiques, see Bridges et al., 2018; Perry, 2020; Risman, 2019).¹

To be sure, scholars who support the latter theory acknowledge that the vast majority of people who marry do so for non-sexual reasons, since most couples have sex before marriage. Nonetheless, in a world where one can have casual sex with little to no commitment, the argument goes that some men and women will simply have one less traditional incentive to get married, as well as less incentive to become the kind of person who is “marriage material” (as evidenced either by superior economic prospects or chaste reputation) (Baumeister and Vohs, 2012; Buss and Schmitt, 2011; Caldwell, 2020; Huang et al., 2011; Malcolm and Naufal, 2016; Regnerus, 2017, 2019; Regnerus and Uecker, 2011).

¹ For precision's sake, we refer to “premarital” sexual activity whenever marriage is in view in the analysis. In contrast, we use “non-marital” or “unmarried” sex or sexual activity whenever we are simply indicating that some sexual activity is outside of marriage without reference to whether marriage is on the horizon.

Though this theory rests upon debatable premises (e.g., gendered assumptions about desire for sexual activity, the extent to which people exchange long-term commitments for sexual activity or vice versa, the consistent coupling of sex and marriage), the broad empirical claim itself has yet to be definitively examined. Specifically, is there evidence that never-married persons with multiple sex partners (indicating they not only can, but *do* more readily access sexual activity with less long-term commitment) are less likely to get married? Despite decades of references to this idea, no study has tried to test it using representative data. This neglect is especially curious given that the theory is consistent with pervasive cultural tropes arguing why young women in particular need to withhold sex: frequent sex partners purportedly render women less desirable, and, if men could get sex without commitment, they might be less motivated to marry and less motivated to develop their prospects to establish their eligibility for marriage—in other words, the “why buy the cow when you can get the milk for free” theory (Baumeister and Vos, 2012; Huang et al., 2011; Regnerus, 2017; Regnerus and Uecker, 2011).

Addressing this gap in the literature, we draw on data from both the National Survey of Family Growth (NSFG) and the National Longitudinal Survey of Youth (NLSY97) to assess how the number of Americans’ non-marital sex partners predicts their likelihood of marrying. Using cross-sectional data from the NSFG, our preliminary findings suggest that never-married women who recount more sex partners (as well as those with no sex partners) are less likely to get married by the time of the survey. The NSFG is limited in several ways—repeated cross-sectional data, sexual history only available for women, retrospective measure of the number of sex partners—so we turn to the NLSY97 and its 17 waves of prospective data extending from 1997 to 2015. We find that the recent number of sex partners is associated with a reduction in the odds of marriage, but lifetime sex partners is not, indicating the link between more sex partners

and likelihood of marriage is temporary. Seeking to disentangle self-selection versus “treatment” effects, seemingly unrelated bivariate probit models suggest that the short-term effect is likely causal. We propose that the effect of multiple sex partners on the likelihood of marriage is *seasonal*, reflecting a period where the persons are enjoying sexual activity with less commitment. Yet having multiple sex partners does not seem to discernibly influence their odds of marriage in the long run.

Our findings extend sociologists’ understanding of the link between non-marital sexual activity and marriage in several ways. First and foremost, our findings cast doubt on the controversial notion that more readily available sexual activity with numerous partners will reduce men’s and women’s desire or desirability, and ultimately, likelihood of marrying. Though the “seasonal” effect of having multiple sex partners may contribute to delayed marriage, declining rates of marriage cannot be broadly explained by access to “cheap sex,” especially in light of the fact that sex frequency and the number of sex partners is declining among young people (Lei and South, 2020; South and Lei, 2021; Twenge, Sherman, and Wells, 2017). Our study also shows that the sexual activity of single women does not appear to make them “undesirable” as marriage partners. Although heterosexual women have historically been stigmatized for having casual sex (Allison and Risman, 2014; Armstrong, England, and Fogarty, 2012; England and Bearak, 2014), our analyses suggest that this does not manifest itself in long-term singleness. Women with multiple sex partners are just as likely to get married as are virgins, if somewhat later. Our findings ultimately underscore the continued decoupling of sexual history from marriage rates per se (D’Emilio and Freedman, 2012), instead highlighting how seasons of sexual exploration with different partners may simply contribute to postponing a relationship

most Americans still anticipate and, ultimately, form (Newport and Wilke 2013; Parker and Stepler, 2017).

2. PREMARITAL SEX AND MARRIAGE OUTCOMES

There has been surprisingly little research on premarital sex and marriage. Almost 30 years ago, Miller and Heaton (1991) showed that white women who lost their virginity early (before age 15) had high rates of teenage marriage. So too did white women who abstained from sex before marriage. Both these findings potentially reflect a more traditionalist pathway to early marriage (shotgun weddings and Christian fundamentalist marriages). Uecker and Stokes (2008) documented that persons who had ever cohabited (and thus developed a committed sexual relationship, though not necessarily with a future spouse), were more likely to marry by age 23. More recently, Wu, Martin, and England (2017) documented that roughly half of women born in the 1930s and 1940s were already sexually active before marriage, indicating the decoupling of sex and marriage was taking place well before the sexual revolution of the 1960s and 1970s.² Nevertheless, neither study considered overall marriage rates or the effect of multiple premarital sex partners.

One reason the lacuna in the scholarship is surprising is the abundance of research on how premarital sex is related to marital quality and stability. Early studies consistently showed that couples who reported more premarital sex partners besides their eventual spouse were more likely to report lower marital satisfaction (Kahn and London, 1991; Kelly and Conley, 1987; Larson and Holman, 1994; Janus and Janus, 1993). In their study of over 40 couples, for

² Wu et al. (2017) do not suggest that scholars were somehow unaware of premarital sex among young people in previous decades, or even centuries (Finer, 2007; Hair, 1970; Peretti, 1969). The premise of Wu et al.'s (2017) study, however, is that premarital sex was so common among women in earlier cohorts that the cultural trope of a sexual revolution beginning in the 1960s is overstated.

example, Legkauskas and Stankeviciene (2009) reported that men and women who had more premarital sex partners were less satisfied with their marriages. For women specifically, the earlier onset of sexual activity also predicted lower marital satisfaction. Conversely, people who only reported having sex with their future spouses prior to getting married tend to report higher marital quality compared to their peers who reported other premarital sex partners (Wolfinger, 2018a; Rhoades and Stanley, 2014). Still, as Wolfinger (2018a) points out, the variation in marital quality across premarital sex partners is not particularly large; there is little difference in effect size between two and ten previous partners. Consistent with this pattern, persons with multiple sex partners prior to marriage report higher rates of divorce, though the association between the number of premarital sex partners and divorce rates is not monotonic (Wolfinger, 2016; Smith and Wolfinger, 2022). In contrast, women who marry as virgins have disproportionately low divorce rates (Kahn and London, 1991; Teachman, 2003; Smith and Wolfinger, 2022; Wolfinger, 2016).

The reasons for these patterns may vary by context. For example, research on conservative religious communities suggests sexual behavior outside prescribed marital situations can lead to lower overall satisfaction and increased conflict (Perry, 2019; Perry et al., 2021). However, Kahn and London (1991) also offer insight into why premarital sexual activity might influence divorce rates. Using a bivariate probit model, they found that sample selection completely explained the effect of premarital sex on marital stability. In other words, premarital sexual activity does not *cause* women or men to get divorced. Instead, persons who have multiple sex partners prior to marriage are more likely to be the same individuals who are inclined to leave an unfulfilling marriage. And though Kahn and London make a strong case for selection over causation, they are unable to identify the individual mechanisms driving selection.

Smith and Wolfinger (2022) examine a number of these individual mechanisms, including religion and attitudes towards sex, and show they cannot account for the relationship between premarital sex and divorce. Their analysis doesn't rule out selection, but does suggest the sex-divorce relationship cannot be attributed to many of the usual social and demographic suspects.

Though earlier research does not address marriage rates directly, the consistent findings suggest that we might expect an association between persons who engage in non-marital sex more frequently with more sex partners and a disinclination toward marriage, based on personal characteristics alone (on the basis of the aforementioned finding concerning self-selection). This could obviously work in combination with cultural factors that would contribute to evolving norms around casual sex, and traditional expectations of eventual marriage. Building on these insights, we consider theories of non-marital sex and marriage in the following pages.

3. WHY NON-MARITAL SEX AND SEX PARTNERS MIGHT AFFECT MARRIAGE RATES

Pervasive cultural tropes have long suggested that when heterosexual sexual activity is readily available, there will be negative consequences for long-term commitment (see Perry, 2020). This is based on normative patriarchal expectations and stereotypes about women using their sex as a form of "erotic capital" (Hakim, 2010, 2011) to leverage commitment from men, who are purportedly reluctant to commit if they have other sexual outlets. Whether or not sexual relationships work this way, Huang et al. (2011) documented through in-depth interviews how common such exchange-minded reasoning is among young women and men.³ And though their

³ One woman in a cohabiting relationship explained "Once we make that step and move in and live with him, then you kinda lose some of your bargaining power. And, because I think in the guy's mind, he says, 'You know what? I hooked her.'" (Huang et al., 2011, p. 982). Another woman recounted, "My grandmother would always say, she said, 'Why buy the cow if you can get the milk for free?' Right. Why would he buy a cow and he gettin' the milk" You doin' all the

particular examples were about cohabiting relationships, the underlying theory—if men can get sex with little commitment from one or more partners, they will be reluctant to marry—can be extended to all non-marital sexual relationships.

Building on this seemingly common cultural assumption, Regnerus (2017) articulates a theory connecting non-marital sex with interest in marriage in society at large.⁴ Citing research suggesting that “cheap sex” (sexual activity that takes place earlier in a relationship, or outside of a relationship entirely, and thus, with little commitment) is becoming more culturally accepted, he postulates a decline in the historical “bargaining power” of heterosexual women to demand both (1) long-term commitment from men; and (2) that men develop their economic prospects to become “marriage material” by achieving in the workplace or otherwise demonstrating “worthy” character. Thus, men’s frequent and easy access to numerous sexual partners might first delay marriage, then ultimately diminish marriage rates by disrupting both the traditional “demand” (men either feel no hurry to move toward marriage or they outright desire marriage less) and the “supply” (fewer eligible men).

Numerous sexual partners might also reduce a woman’s likelihood of marriage. Following Regnerus’s argument, women are collectively surrendering bargaining power to men when they are willing to have no-strings-attached sex. Per Regnerus, these women would be participating indirectly in their own diminished prospects for marriage. Yet another pathway

wifely stuff and you goin’ on like—why? What’s his motivation to marry you?” (2011, p. 983). Male interviewees affirmed this idea. One explained, “If you can just see the girl on your terms, whenever you want, you know, call her up like, ‘Be there in 20 minutes.’ Click and she’s there, why get married? (2011, p. 983).

⁴ The premises for the argument are ultimately connected to evolutionary understandings of men’s and women’s essential and unequal sexual desires, with men on average being more driven by a higher libido and women thus being able to exchange sex for things they might find desirable or advantageous, like protection and provision while pregnant or with young children (see articulation in Baumeister and Vohs, 2012; Buss and Schmitt, 2011).

through which more sexually active women would see delayed or diminished marriage rates would be their own devaluation as “marriage material.” As Armstrong et al. (2012, p. 438) point out, though the double-standard against women having *any* sex before marriage has been fading, “a new version of the sexual double standard, in which women who seek sexual pleasure outside of committed relationships are judged more harshly than men who do so, has emerged in its place.” Allison and Risman (2013) demonstrate that this sexual double standard (measured as losing respect for a partner or prospective partner) for having frequent noncommittal sexual relationships is primarily held by men against women rather than by women against women (see also England and Bearak [2014] for a similar findings). Thus, it could be that as women have more sex partners, heterosexual men may evaluate them more harshly, and their likelihood of marriage might decline.

To be sure, Regnerus’s (2017) argument already rests on shaky premises given that casual sex among young people has been declining in recent decades (Lei and South, 2020; South and Lei, 2021; Twenge et al., 2017), and most men are, in fact, unsuccessful in their quest for casual sex partners (the median man has had five lifetime partners; see Wolfinger, 2018b). Ready sexual activity, in other words, is neither as available nor as desirable to men as Regnerus avers. But even with greater access to low-cost sexual gratification, Perry (2020) shows never-married men who report higher rates of hookup sex and masturbation were no less desirous of marriage, and those who viewed pornography more often were actually more likely to desire marriage. Regnerus’s argument also fails to consider women’s bargaining power has *increased* in recent decades as their employment and earnings have increased, allowing them to support themselves and be more selective (see England’s [2018] critique; see also Schnabel et al., 2022). Indeed, scholars suggest that this dynamic (women’s increased bargaining power and selectivity)

better explains declining sex frequency among young people rather than do things like casual sex or Internet porn (Twenge et al., 2017).

Nor does the “cheap sex” theory exhaust the possible reasons why reporting high numbers of non-marital sex partners might be correlated with remaining single longer or indefinitely. As the research on premarital sex and marital quality/stability suggests, self-selection plays a predominant role in decisions to marry, so people who prefer a life with multiple sex partners may predictably avoid marriage (Apostolou, 2017; Frazier et al., 1996). As even the youngest cohorts of Americans still expect to get married at some point in their lives (Gander, 2018), we might expect any association between reporting multiple sex partners and lower marriage rates to be temporary, reflecting a season in one’s life rather than a long-term consequence of those sexual relationships. Correspondingly, it may be that persons interested in marriage perceive a large number of *recent* (though not necessarily lifetime) non-marital sex partners in their mate as a problem, making such a mate less desirable as a spouse in the short run (Anderson, Kunkel, and Dennis, 2011). However, in the absence of extant research there is no way of knowing how mate preferences figure into the relationship between premarital sexual activity and marriage.

There are also, of course, various indirect pathways that might link non-marital sex partners to marriage timing and rates, which we must account for in our multivariate models. Educated parents bring up less sexually active adolescents (Price and Hyde, 2009; Small and Luster, 1994). Parental education also affects offspring marriage timing (Axinn and Thornton, 1993), especially insofar as educated parents raise educated children (Blau and Duncan, 1967). Education, in turn, is among the strongest predictors of marriage (Allred, 2018; Cherlin, 2014; Sweeney, 2002). According to the 2018 General Social Survey, 61% of Americans with four-

year college degrees are currently married, compared to 44% of those without degrees. And parental education affects children's marriage rates net of children's education (Sweeney, 2002). Another indirect pathway linking more non-marital sex partners to marriage rates concerns unwed parenthood. It is commonly accepted in the medical sciences that sexual intercourse often leads to children. All else equal, people who have more non-marital sex partners are more likely to have children prior to marriage (Rector et al., 2003). Premarital fertility in turn reduces the likelihood of marriage (Lichter and Graefe, 2001; Teachman, 1982; Upchurch, Lillard, and Panis, 2001). With this in mind, we also explore the relationship between non-marital fertility, sex partners, and marriage. Finally, we consider the role of religiosity in accounting for the relationship between non-marital sex partners and marriage. Adults who participate actively in their faiths are less likely to report multiple sex partners and more likely to wed early (Uecker and Stokes, 2008; Wilcox and Wolfinger, 2016; Wolfinger, 2016).

4. METHODS

4.1. Data: NSFG

We examine the relationship between non-marital sexual activity and marriage timing using two different national data sets. First, we analyze four waves of the National Survey of Family Growth (NSFG), a repeated cross-sectional survey, administered in 2002, 2006-2010, 2011-2013, and 2013-2015. The NSFG offers large samples of respondents between the ages of fifteen and 44, and retrospective data on sexual partners and marriage.⁵ The sample size is 29,905, and the data are weighted to make them nationally representative.

⁵ Missing data for the NSFG are minimal, and for all but one variable amount to less than half of 1% of the total sample of 29,905. These cases with missing data are deleted listwise, as are fourteen respondents who reported dubious marriage ages of below fourteen. The exception is mother's education. For this variable an additional category is coded for missing data. More

The NSFG has three attractive features. First is the sample size, which permits examination of sexual behavior in the right tail of the distribution. Second, as a repeated cross-sectional survey, the NSFG allows us to consider whether the relationship between non-marital sex partners and marriage has changed over time. Third, the NSFG contains variables useful for model identification (see below).

There are two drawbacks to the NSFG data. First, it offers full sexual histories on women only.⁶ Second, the data are based on retrospective accounts. Non-marital sexual encounters are identified, but it is not possible to know whether they occurred ten years ago, or just in the year prior to the interview. The retrospective nature of the data also limits the usefulness of many measured covariates: it is impossible to know whether they are causes or consequences of marriage. To overcome these limitations, we turn to the National Longitudinal Survey of Youth's (NLSY) 1997 cohort.

4.2. Data: NLSY97

The NLSY97 is based on a large sample of teenagers first interviewed in 1997, re-interviewed annually through 2011, then biennially thereafter. We analyze a total of seventeen waves of data, extending through 2015. The overall sample size for these data is 8,975, including 4,598 men and 4,377 women.⁷ The effective sample sizes for our event history analysis are 19,928 person-years for men and 21,477 person-years for women. The panel design of NLSY97

complicated approaches to missing data such as multiple imputation do not perform appreciably better (Paul et al., 2008).

⁶ The NSFG includes data on male sex partners, but does not ascertain whether they preceded marriage.

⁷ Missing NLSY data are deleted listwise except for four variables. An additional dummy variable is coded for mother's education, attendance at religious services, denomination, and urban residence.

complicates the use of survey weights, but the independent variables fulfill their function (Winship and Radbill, 1994). All significance tests rely on robust standard errors intended to adjust for design effects. Finally, we only consider heterosexual marriage due to sample size limitations and the relatively recent advent of nationwide marriage equality.

4.3. Measures

4.3.1. *Dependent Variable: Time to Marriage*

The dependent variable for both data sets is time-to-marriage. This is measured monthly for the NSFG data and annually for the NLSY97 data. Monthly event histories are available in NLSY97, but most independent variables are only measured annually.

4.3.2. *Independent Variables*

For the NSFG, the reported number of non-marital sex partners is treated as a set of dummy variables.⁸ (This count of non-marital sex partners includes participants' eventual spouse if they did marry.) The bivariate probit analysis (see below) also uses measures of race (white = reference, African American, Latino, other), urban residence (urban = reference, suburban, rural), age, survey year, parental education (less than high school = reference, high school graduate, some college, four-year college graduate), respondent education (less than high school = reference, high school graduate, some college, four-year college graduate), family structure of origin, and age at menarche. All are dummy variables except age; the linear functional form of age was verified via lowess models (Moran, 1984).

⁸ A recent appraisal suggests that survey measures of reported sex partners are accurate. The appraisal contrasted the results of three different surveys, using a variety of question wording, and found consistent results (Wolfinger, n.d; see also Wolfinger, 2021a). In contrast, big data suggest reporting biases in survey sex data (Perry and Whitehead, 2021; Stephens-Davidowitz, 2017; Whitehead and Perry, 2018), but do not offer any indication of systematic misreporting that would affect the results reported here.

For the NLSY97, we construct separate measures for annual and lifetime counts of sex partners. Annual partners is measured with a set of dummies, top-coded at five. Lifetime partners, highly variable, skewed to the right, and reflecting many partners counted multiple times, is a logged (base-2) continuous variable.⁹ Lowess regression revealed a large departure from linearity in the relationship between marriage and the logged count of sex partners that corresponded to respondents reporting no lifetime sex partners, so a dichotomous variable measuring lifetime partners versus no lifetime partners is included with the logged variable.¹⁰ Both annual sex partners and lifetime sex partners are time-varying independent variables, measured at each round of NLSY97.¹¹

Analyses based on NLSY97 employ a variety of independent variables intended to account for the observed relationship between non-marital sex and marriage timing: 1) maternal education (less than high school = reference, high school graduate, some college, four-year college graduate); 2) non-marital fertility and cohabitation;¹² 3) respondent education (less than high school = reference, high school graduate, some college, four-year college graduate); and 4) respondent religiosity (religious tradition and attendance at religious services). Religious tradition is coded using the familiar scheme set out by Steensland et al. (2000). Attendance at

⁹ The base of 2 is selected to facilitate interpretation (see Tufte, 1974: 129).

¹⁰ Predictably this dummy is strongly correlated ($r = .65$) with the dummy measuring no annual sex partners, but this correlation is not particularly problematic given the large sample size. We repeated the analysis without the dummy for lifetime partners and obtained virtually identical results.

¹¹ We repeated the analysis with sex variables lagged a year and the results were substantively identical.

¹² Cohabitation is included in addition to premarital fertility given its strong relationship with sex, marriage, and fertility.

religious services contrasts weekly attendees at religious services with those who attend less often (Perry and Schleifer, 2018; Wilcox and Wolfinger, 2007, 2016).

All NLSY97 analyses control for race (white = reference, African American, Latino, other), age at the inaugural survey wave, geographic region (East = reference, South, Midwest, West), urban residence (urban = reference, suburban, rural), and whether respondents were raised in intact families. All of these variables are antecedents of both marriage and sexual behavior. Non-marital fertility, respondent education, religiosity, region, and urbanicity are all time-varying independent variables.¹³ Except for age, all are categorical variables.

4.4. Plan of Analysis

We conduct two sets of analyses with the NSFG data. First, we present a variety of life tables showing entrance into marriage by premarital sex partners. Second, we use seemingly unrelated bivariate probit models that jointly estimate the probability of being in the upper quartile of reported sex partners (six or more partners) and of getting married (e.g., Greene, 2017).¹⁴ Given proper identification, the simultaneous estimation controls for the effects of unmeasured covariates. The model is identified with a set of dummy variables measuring age at

¹³ We acknowledge that region and urbanicity might be partially endogenous to sexual behavior since those who wish to have a more active sex life might intentionally relocate to meet more potential partners.

¹⁴ Upper-quartile promiscuity is a somewhat arbitrary cut point for dichotomizing this variable, a requirement for the bivariate probit model. We repeated the analysis with different cut-points (lower quartile promiscuity, upper decile promiscuity, etc.) and obtained largely similar results. There is one exception: when the cut-point measures respondent virginity. ρ , the term measuring the error correlation between equations, is much larger, and unmeasured individual attributes suppress much of the strong relationship between being a virgin and low marriage rates. In other words, the already low marriage rates for those who had not yet had sex would be even lower if not for unmeasured characteristics that affect both marriage and virginity.

menarche.¹⁵ Early menses predicts early sexual debut (Baams et al., 2015) and in turn predicts greater numbers of sex partners (Rector et al., 2003) but has no logical direct relationship to marriage.¹⁶ For comparison purposes we also estimate naïve single-equation probit models of marriage.¹⁷

NLSY97 data are analyzed via discrete time event history models, estimated via complementary log-log regression. The complementary log-log is a better estimator than logit or probit when discrete data approximate a continuous time process (Allison, 1995: 216-219). Duration dependence is modeled using a continuous variable, a specification verified via a lowess model.

5. RESULTS

5.1. NSFG

5.1.1. *Marriage Entry*

¹⁵ NLSY97 also measures menarche, as well as age at male puberty. We repeated the bivariate probit analysis using these data and obtained essentially identical results: the unobserved differences between respondents did not explain the effects of sexual biography on marriage timing. In the interest of brevity, we simply report the NSFG bivariate probit results. NLSY97 also lacks alternate variables for model identification available in NSFG (see footnote 16).

¹⁶ The NSFG contains a perhaps even better variable for model identification: whether respondents ever received abstinence-only sex education (as have 71% of respondents). This should have an even larger effect on sexual behavior than age at menarche. Unfortunately this variable is only included in our last two waves of data, and is only asked of a subsample (N = 3,822) of respondents ages 15-24—not an optimal age range for studying marriage. Be that as it may, using both sex education and age at menarche as identification variables in a bivariate probit model produced results very similar to those presented here, based on menarche only.

¹⁷ Admittedly, probit models are not the best estimators for marriage, a dependent variable properly analyzed via event history analysis. This is a trade-off, as there is not an appropriate event history model that will accommodate multiple equations and correlated errors. The coefficients for the bivariate probit models will be biased on account of right censoring. For this reason we do not provide substantive interpretation of their magnitude. This will be addressed by the event history models of NLSY97 data, shown below.

Figure 1 reveals a strong relationship between the reported number of non-marital sex partners and the odds of a first marriage by age 40 (Past that point the marriage rate is low, although it's still higher than the chances of being killed by terrorists [Cherlin, 1990; Garber, 2016]). Ninety-five percent of women reporting one non-marital sex partner are married by age 40. For most, that one partner is presumably the man they married. The rate dips to 89% for women with two partners. Somewhat fewer (87%) women who had not yet had sex eventually got married. Otherwise, the differences in marriage rates are small for women who report five or fewer non-marital sexual partners.

[FIGURE 1 ABOUT HERE]

Marriage rates decline noticeably for women with more than five non-marital sex partners. About three-fourths (76%) of women with between six and nine male partners are married by 40. That goes down to about two-thirds (67%) for women with ten or more sex partners prior to marriage. This represents a substantial difference in marriage rates compared to women with one non-marital sex partner: 67% vs. 95%, almost a 30-percentage point gap.

Figure 1 also offers insight into the marital behavior of women in their twenties. Predictably, women with six or more non-marital sex partners have much lower marriage rates as young adults. At age 25, for instance, 69% of women reporting a single non-marital sex partner have entered marriage, while less than 30% of those with six or more partners have married. Women with four or five non-marital sex partners have substantially lower early marriage rates than those with fewer partners, but by their mid 30s, their marriage rates are more comparable. Four or five partners may mean four or five long-term relationships, thereby delaying marriage.

Finally, women in their teens or early twenties who have had more than five non-marital sex partners already have lower marriage rates. It is possible some of these young women are

having sex with men who they do not consider marriageable, with a corresponding decline in marriage rates. For others, it is a spurious correlation: that is, they do not expect marriage until later on, so nonmarital sex ensues. Since the NSFG data on sex partners and marriage are retrospective, we cannot make causal assertions about whether having more non-marital sex partners delays marriage.

It should be remembered that the median American woman has had a total of three sex partners (Wolfinger, 2018b), so most women do not have sexual biographies that affect their marriage rates. This is apparent in Table 1, which suggests even more restrained sexual histories: 52% of women have had two or fewer lifetime partners. The oldest NSFG respondents are 44 years old, so data representing American women of all ages would reveal slightly more extensive sexual biographies. At the other end of the distribution, 40% of women have had four or more sex partners. Per Figure 1, this is the sort of sexual background that is associated with lower marriage rates. Interestingly, never-married adult women are much more likely to be virgins (27%) than are their married peers by the time they were married (13%), suggesting that married persons were already more likely to engage in sexual relationships. Apparently finding a prince often requires kissing some frogs.

[TABLE 1 ABOUT HERE]

The large sample size of the NSFG allows for insight to marital behavior at the margins: people who have had comparatively many non-marital sex partners. Thirteen percent of the sample, or 3,884 respondents, report ten or more non-marital sex partners. What does having 20 or 30 sexual partners do to the odds of marriage? Do marriage rates continue to decline for survey respondents with unusually large numbers of partners, or are there diminishing returns? Figure 2 offers some answers. Consistent with Figure 1, the more non-marital sex partners a

woman has, the less likely she is to get married. As we have already seen, 85% of women with nine or fewer non-marital sex partners are married by age 40. That percentage falls to 68% for women with 10 to 19 partners, 62% for 20 to 29 partners, and 57% for women with 30 or more partners. To be sure, these are unusually high numbers. Only 5% of American women have had 16 or more partners and only 1% have had over 35 partners (Wolfinger 2018c). Marriage rates are comparably low for these outliers. Nonetheless, Figure 2 shows that the majority of women will still get married no matter how many partners they have had prior to marriage.

[FIGURE 2 ABOUT HERE]

5.1.2. Marriage Timing

Demographers have documented the median marriage age creeping upward for decades (Rabin, 2018). The median woman is now 27 years old when she gets married. Thus far, we have focused on marriage *rates*. How does marriage *timing* vary by having multiple non-marital sex partners?

Overall marriage rates are lower for people who have had many partners. So are youthful marriage rates. However, Figure 3 does not reveal large differences in marriage timing. Women who have had more than three non-marital sex partners tend to be just a couple of years older when they get married than are their counterparts with fewer partners, so it is clear that most of their sexual relationships are not long-term relationships. Indeed, one study found that among women reporting multiple sex partners in the previous year, more respondents (7%) had concurrent partners than serial monogamous relationships (5%) (Magnusson, Nield, and Lapane, 2015). Predictably, the remaining 88% of sexually active women were in monogamous unions.

[FIGURE 3 ABOUT HERE]

5.1.3. Have These Patterns Changed Over Time?

The median American's sexual behavior has shown little change in recent decades (Wolfinger 2018b), although being in the top percentiles of sex partner counts has become more common for women (but less frequent for men [Wolfinger, 2018c]). Despite relative stability in median sexual behavior, it is possible that its impact on marriage rates has risen or fallen over time. As the median marriage age rose, did the association between non-marital sex partners and marriage rates change over time? Figure 4 shows that the answer to this question is no, with one partial exception. Irrespective of sexual activity, the median marriage age slowly crept up across the four waves of NSFG data analyzed here. The exception is for women with six or more non-marital sex partners: their median marriage ages rose more sharply than they did for their peers with fewer partners. In other words, the gap in median marriage age between women with more or fewer non-marital sex partners has grown over time. Unfortunately, the retrospective nature of the NSFG data make it impossible to determine why marital behavior has changed for women uncommonly large numbers of sex partners.

[FIGURE 4 ABOUT HERE]

5.1.4. Modeling Self-Selection

Seemingly unrelated bivariate probit models offer a way of modeling endogeneity in the relationship between non-marital sex partners and marriage rates. These results, shown in Table 2, suggest that higher numbers of non-marital sex partners have a causal effect on marriage. We estimate two bivariate probit models. The first includes minimal control variables, while the second adds a variety of independent variables intended to account for the relationship between non-marital sex and marriage. For comparison purposes, we also estimate two “naïve” univariate probit models of marriage (naïve in that they do not account for unmeasured differences between respondents).

[TABLE 2 ABOUT HERE]

There are two ways of ascertaining whether unobserved variables are driving the relationship between sexual biography and marriage rates. First, the rho (ρ) parameter measures the error correlation between the two equations in each bivariate probit model. A small and statistically non-significant rho means no error correlation; in other words, the two equations of the model can be estimated separately. Second, the coefficients for the equation examining the predictors of marriage can be compared to their counterparts from the naïve probit model.

The results suggest little endogeneity. The rho parameter estimates are quite small (.02 in one model, -.04 in the other) and lack statistical significance. This means that higher reported numbers of non-marital sex partners and marriage timing do not share meaningful omitted variables. This is evidence supporting the notion that the effect of non-marital sex partners on marriage timing is not a product of omitted variable bias. At the same time, we cannot rule out reverse causality: a woman who marries early leaves the market, reducing her opportunity to acquire more sexual partners.

A comparison of coefficients between naïve and bivariate probit models tells a slightly more nuanced story. In the smaller model, with limited control variables, there is virtually no difference between coefficients in the naïve and bivariate models, but some differences emerge in the full models. The coefficient for zero non-marital sex partners in the naïve model is much larger (-.75) than its counterpart in the bivariate model (-.47). The low odds that women who have not yet had sex will get married is partially explained by unmeasured variables; in other words, the effect of virginity on marriage rates is not fully causal. Otherwise, unmeasured differences are suppressing the effects of greater numbers of non-marital sex partners on

marriage: the coefficients in the bivariate model are larger than in the naïve model. This is evidence that higher numbers of non-marital sex partners have a direct effect on marriage.

Finally, the additional independent variables in the full model—mothers' education and respondent's education—have relatively little impact on the coefficients measuring sexual history. In other words, the association between non-marital sex partners and marriage does not appear to be spurious.

5.2. NLSY97

5.2.1. Recent or Lifetime Sexual Partners?

Despite the usefulness of bivariate probit models, the retrospective and cross-sectional nature of the NSFG data complicates causal assertions about the relationship between non-marital sex partners and the odds of marriage. We therefore turn to the longitudinal NLSY97. This analysis examines both the number of recent sex partners as well as lifetime sexual biography. If lifetime sexual biography matters more for predicting marriage rates than recent sex history, it would suggest that stable individual characteristics might incline some men and women to engage in less committed sexual activity and forsake marriage altogether. Alternately, perhaps a history of many lovers makes a person less attractive as a mate. In contrast, if recent sex history matters more for marriage rates, it would suggest a short-term pattern where individuals engage in sex with multiple partners for a season and thereby signal temporary disinterest in marriage—but their lifetime sexual history does not necessarily indicate persistent disinterest in marriage or an inability to attract a spouse.

Table 3 makes clear that recent partners matter more. Model 1 includes dummy variables tapping annual numbers of non-marital sex partners, Model 2 examines the lifetime measures, and Model 3 includes both lifetime and annual measures. Although the measures of lifetime sex

partners are statistically significant for both men and women in Model 2, they lose significance and magnitude in Model 3. Put simply, recent sexual behavior, not complete sexual biographies, is what matters for marriage rates.

[TABLE 3 ABOUT HERE]

How big are the effects of annual sex partners on marriage rates? Hazard ratios, appearing in Table 4, show that the effects are uniformly large, and similar for men and women.¹⁸ Respondents who have anything aside from a single non-marital sex partner have between 66% and 86% lower odds of marriage. These are large effects. Thus the highest chances of marriage correspond to having a single annual sex partner, represented in Tables 2 and 3 by the reference category. Anything else—zero partners, multiple partners—produces much lower odds of marriage.

[TABLE 4 ABOUT HERE]

The lowest likelihood of marriage for both men and women is for those with zero partners. Presumably the majority of people with no sex partners are either not pursuing romantic relationships or have been persistently unsuccessful on the marriage market. Furthermore, the number of people in virgin marriages is just too small to be driving these results. According to NSFG data, just 5% of women getting married in the past 10 years did so as virgins (Wolfinger 2016).¹⁹

¹⁸ The hazard ratios are based on Model 1 in Table 2.

¹⁹ Table 3a does suggest that virgin marriage is thriving for one segment of the population. In Model 4, introducing controls for maternal education reveals a suppressed effect: men—and only men—with no lifetime sex partners are 23% ($\exp[.21] = 1.23$, $p < .05$) more likely to get married than are men who had not yet had sex. This effect only grows stronger after more control variables are introduced in subsequent models, and is irrespective of sexual activity in the past year.

People with multiple non-marital sex partners in the past year are nearly as unlikely to get married as their sexless contemporaries are, and it does not matter whether they have two partners, or five or more. Indeed, the differences here are fairly small, a result that seemingly favors sample selection over causation. If romantic complications delayed marriage, we might expect more romantic complications to delay marriage more, but that does not seem to be the case. Instead, people just have multiple partners when marriage does not seem to be on the horizon.

No measured variable can account for the relationship between annual non-marital sex partners and marriage. Models 4-7 in Table 3 show that adjusting for myriad differences between respondents, including parental education, respondent education, non-marital fertility, cohabitation status, and religiosity, do not much influence the regression coefficients measuring the effects of sex partners on marriage. This is a surprising result given how strongly related all these measured differences are with both non-marital sex and marriage rates. Parental education reduces both non-marital sex (Small and Luster, 199; Price and Hyde, 2009) and offspring marriage rates (Wolfinger, 2003). In contrast, respondent education reduces non-marital sex (Wolfinger, 2018b, 2021b) but makes marriage more likely (Sweeney, 2002). Marriage rates go up after a non-marital pregnancy, but down after a non-marital birth (Lichter and Graefe, 2001;

What does it mean, and why is it only true for men? The NLSY97 data show that having a college-educated mother produces sharply lower marriage rates, even holding other factors constant. At the same time, the sons of college-educated mothers are ten percentage points more likely to have not had sex by the time of the 2015 wave of NLSY97, when respondents are between 29 and 33 years old—and additional analysis (available upon request) reveals that higher levels of maternal education produce generally higher rates of virgin marriages. Controlling for religiosity (Model 7 in Table 3a) attenuates the virgin marriage regression coefficient, but it remains large and statistically significant. It is worth repeating that this effect holds only for male survey respondents. The reason for this appears to be the fact that maternal education has virtually no effect on whether female NLSY97 respondents remain virgins by time of the 2015 survey.

Wilcox and Wolfinger, 2007). Yet controlling for non-marital fertility has only a modest effect on the sex-marriage relationship. The same holds true with religiosity, which is strongly related to both the number of reported non-marital sex partners and marriage rates (Perry, 2020; Wilcox and Wolfinger, 2016).

5.2.2. Self-Selection or Causation?

We have provided nuanced evidence regarding whether the association between the number of non-marital sex partners and marriage rates is causal. But we have not eliminated the possibility of self-selection: are the kind of people liable to have more numerous non-marital sex partners in any given year also inclined to avoid marriage? The alternate argument is that there are not contextual or dispositional differences between those who have more or fewer sex partners, but that having more non-marital sex partners in itself influences the likelihood of marriage. Based on the data analysis reported here, the answer appears to be both. The bivariate probit analysis based on the NSFG ostensibly suggests causality, but based on retrospective data. The prospective data from NLSY97 show that multiple non-marital sex partners in the past year reduce the odds of marriage, but lifetime partners do not. In other words, it matters what you are doing, but not what you have done.

We can picture how this scenario unfolds. If marriage appears on the horizon, people only have sex with their partners. Conversely, continuing to have sex with non-marital partners may also make marriage less likely. Either way, it is a short-term effect: a man or woman who is still engaging with multiple sex partners as a young adult does not compromise his or her marriage prospects down the road. The only exception consistent with the data is the survey respondent who continues the same pattern of casual sex over all seventeen waves of the NLSY.

Yet these people are rare, as Table 5 makes clear (see also Wolfinger, 2018c). More than 75% of men report two or fewer years of 5+ partners; less than 3% report ten or more years of five-partner behavior. The numbers are even lower for women: 72% never have a five-partner year. Just over 6% of women have three or more such years. In short, the people who are having sex with multiple non-marital partners annually are not average Americans.

[TABLE 5 ABOUT HERE]

Despite the evidence for causality, Figure 3 also offers some indirect evidence for self-selection. Median marriage ages for women with many non-marital sex partners are just a couple of years higher than they are for their contemporaries with fewer partners. If causation were really making a difference, surely having a higher number of partners would delay marriage to a greater extent. A year spent in multiple sexual relationships is likely a year less spent deepening a relationship with a prospective spouse. In short, engaging in multiple non-marital sexual relationships usually takes time, but that is not really reflected by the relatively modest differences in marriage age shown here.

There is another clue in Figure 3 that favors the selection argument: marriage rates are already much higher for younger respondents, those in their late teens and early 20s, who report fewer lifetime partners. It should be kept in mind that these are retrospective data, meaning that the higher reported number of non-marital sex partners may be years in the future—and it cannot be directly affecting youthful marriage rates if it has not yet happened. Instead, Americans who have few or many non-marital sex partners must be different in ways that affect marital behavior. People with a high need for sexual novelty seek out multiple sex partners, and, at the same time, place less emphasis on finding a spouse. Indeed, their interest in having many different partners implies that some will not be interested in marriage at all. Americans with higher reported

numbers of non-marital sex partners tend to be smart, highly educated, Jewish or secular, slightly less happy, and live in western states (Wolfinger 2018c). Thus there are ample distinguishing characteristics that might be driving both marriage rates and a proclivity for multiple sex partners.²⁰

6. DISCUSSION AND CONCLUSION

This study sought to determine whether having a higher number of non-marital sex partners lowered the likelihood that people would eventually get married. Our analyses demonstrate that having more numerous sex partners is indeed associated with lower odds of marriage, but only in the short term. Longitudinal data from 17 waves of the National Longitudinal Survey of Youth 1997 cohort indicate that multiple partners decreases the immediate likelihood of marriage. But there is scant indication that promiscuity has a lasting impact on marriage rates. All the evidence suggests an association that is spurious in the long run but consequential in the short term. Spouses-to-be may have extensive sexual biographies, but they will become monogamous when they are ready to get married.

Our study makes a number of contributions to our understanding the link between nonmarital sex and marriage in the United States. First and foremost, our results provide little evidence for Regnerus's (2017; Regnerus and Uecker, 2011) controversial theory that "cheap sex," sexual activity with little to no commitment, is driving the retreat from marriage (see also Perry, 2020). Indeed, the sexual biographies of most Americans do not reflect the prioritization

²⁰ In supplementary analyses, we sought to test whether stated intentions to marry potentially confounded our results. Such questions were unfortunately only available in two survey years, in 2000 and 2001. Question YEXP-4750, in 2000, asks respondents to assess the percentage chance they'll get married in the next five years. The question was repeated the following year, but only half the sample was queried. We tested out both items in our analysis. Each had a positive and statistically significant effect on marriage chances, but virtually no impact on the relationship between premarital sex partners and marriage.

of serial liaisons over lasting relationships. Perhaps Regnerus's hypothesis—that singles, especially men, who anticipate plenty of low-commitment sex will be less interested in marriage—holds true for the small minority of the adult population which reports an unusually large number of sex partners year after year (see Table 4). Yet even if that is the case, it should be reiterated that male promiscuity is becoming less common (Wolfinger, 2018c) at the same time the marriage rate continues to decline (Swanson, 2015).

Our results suggest a *seasonal* association between having multiple sex partners and marriage likelihood, one that is attributable both to self-selection and the causal effect of sustaining multiple sexual relationships. On the self-selection side, it is almost certainly the case that people who regularly pursue unmarried sex with multiple partners will be less interested in settling down at that moment compared to their peers who opt for monogamous sexual relationships. Our data indeed suggest that having many sex partners has an adverse short-term causal effect on the likelihood marriage. It is more difficult to get serious about one person when he or she has romantic rivals. And when people become ready to settle down, they are more likely to shed their casual relationships and invest in a monogamous partner.

Although this seasonal effect of having multiple sex partners may contribute to delaying marriage, declining rates of marriage cannot be broadly explained by access to “cheap sex.” This is even more true given that sex frequency and the number of sex partners is declining among young people (Lei and South, 2020; South and Lei, 2021; Twenge et al., 2017).

Related to this finding, our study also shows that the sexual activity of single women neither deters their long-term interest in marriage, nor does it appear to make them “undesirable” as marriage partners. Heterosexual women have historically been stigmatized for having casual sex (Armstrong, England, and Fogerty, 2012), with men often the ones standing in judgment

(Allison and Risman, 2014; England and Bearak, 2014). Yet our analyses indicated that women with multiple sex partners are just as likely to get married as those with no partners, though somewhat later, for the reasons we discussed above.

Our findings underscore the continued decoupling of sex from marriage (D’Emilio and Freedman, 2012). Wu et al. (2017) recently documented that Americans engaged in premarital sex decades before traditionalist cultural tropes would lead many to believe. In addition, our findings overturn assumptions that having multiple non-marital sex partners somehow signals a lasting disinclination or inability to engage in the kind of long-term relationship that surveys show most Americans anticipate engaging in (Newport and Wilke, 2013; Parker and Stepler, 2017). On the contrary, our findings highlight how *seasons* of sexual activity with different partners likely signals an interest in sexual exploration and perhaps multiple intimate relationships rather than monogamy, both of which contribute to a temporary, not permanent, postponing of marriage.

It is worth speculating about how the link between sexual activity and marital behavior may evolve in the future in light of changing family demographics. We have noted that non-marital sex frequency has been declining among young people (Lei and South, 2020; South and Lei, 2021; Twenge et al., 2017), undercutting the thesis that the cultural acceptance of casual sex would lead to an explosion of promiscuity and the wholesale devaluing of monogamy. That has not happened. Yet the decline in sex frequency and partners among young people itself may point to a future in which marriage rates continue to decline. Lei and South (2021) demonstrate that part of the decline is due to the fact that young people are choosing to engage in fewer romantic relationships, in part because they’re drinking less alcohol. Our findings suggest that fewer romantic relationships should lead to less marriage, insofar as virginity reduces the odds of

tying the knot. Lei and South (2021; but see South and Lei, 2021) show that sex frequency is also tied to decreased earnings, which in turn is associated with declining marriage rates (Cherlin, 2014). The economic hardship resulting from COVID-19 coupled with greater isolation due to lockdowns and social distancing restrictions may result in an extreme shock to both unwed sexual activity and marriage rates. Indeed, some preliminary analyses are already documenting a decline in marriage due to COVID-19 (see Manning and Payne, 2021; Wagner et al., 2020). Even the “seasonal” association we identify between having multiple sex partners and marriage rates may be disrupted in light of current realities.

Our analyses based on decades of data from large samples of Americans have provided important clarity regarding the interaction between marriage and promiscuity. We find little evidence that having non-marital sexual relationships with multiple partners signals a disruption of some exchange mechanism that previously contributed to marriage, or signals the future disinclination of singles to marry eventually, or somehow contributes to their being less marriageable. Rather, the link appears to be seasonal, perhaps delaying marriage in the short-term but culminating in marriage sometime down the road.

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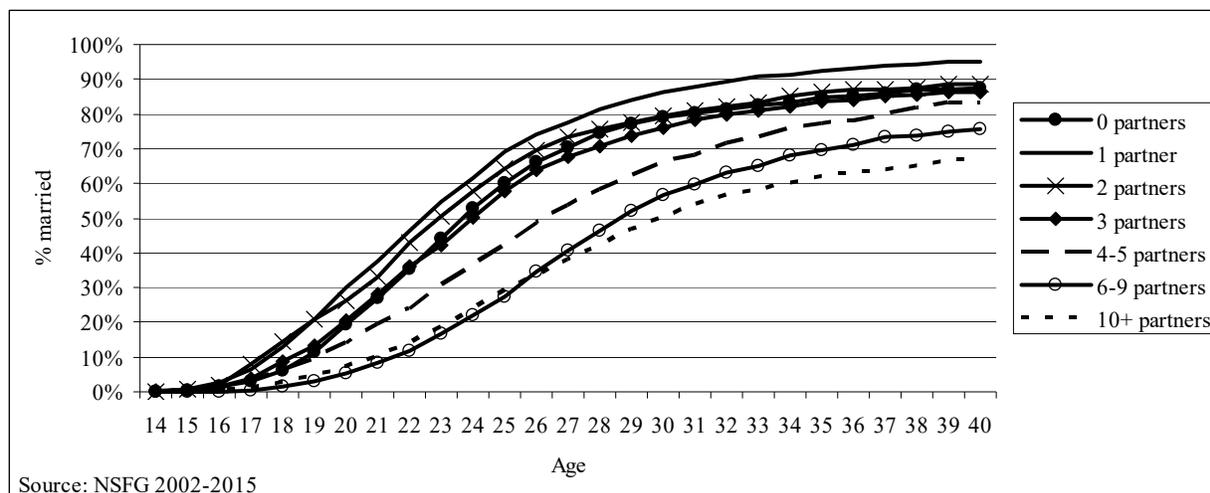
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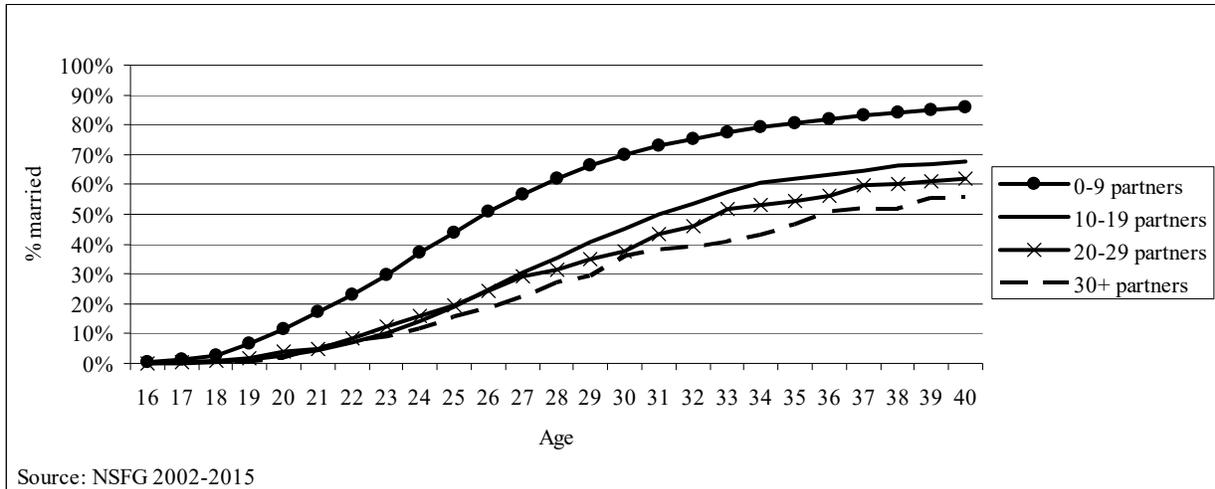
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Figure 1. Women's Chances of First Marriage Between Age 16 and 40 by Reported Number of Non-Marital Sex Partners.



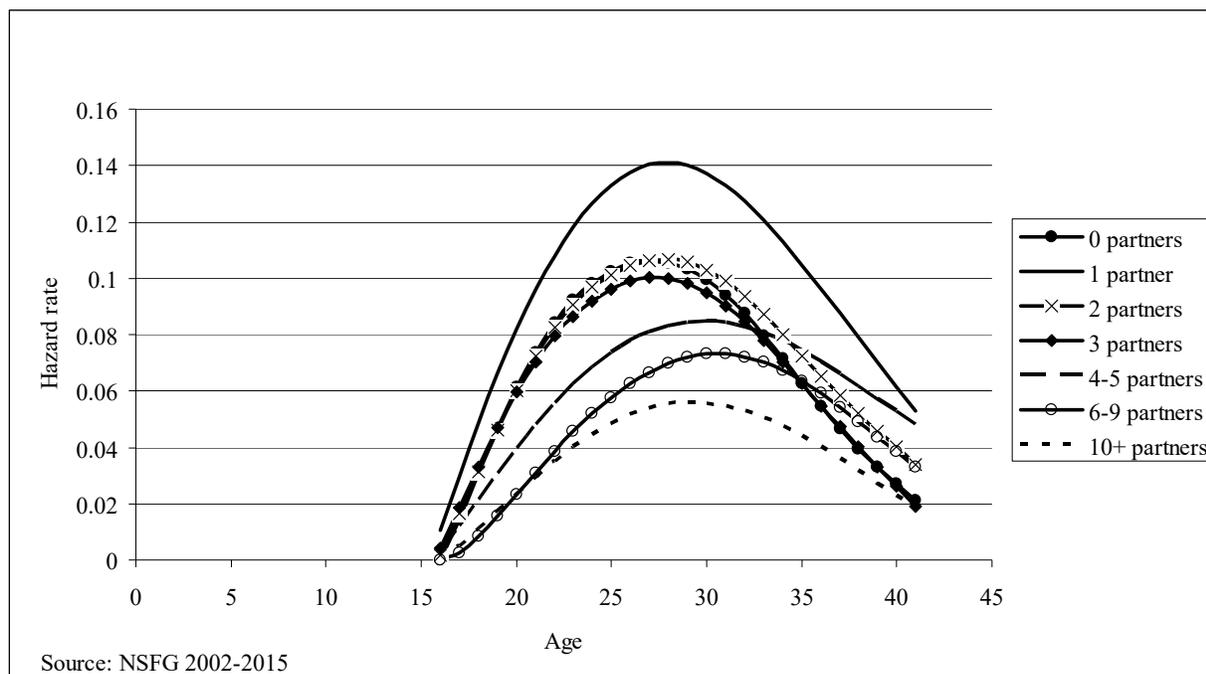
Notes: N = 29,905. Data are weighted to make the results nationally representative.

Figure 2. Chances of First Marriage Between Age 16 and 40 for Women with Unusually High Numbers of Sex Partners.



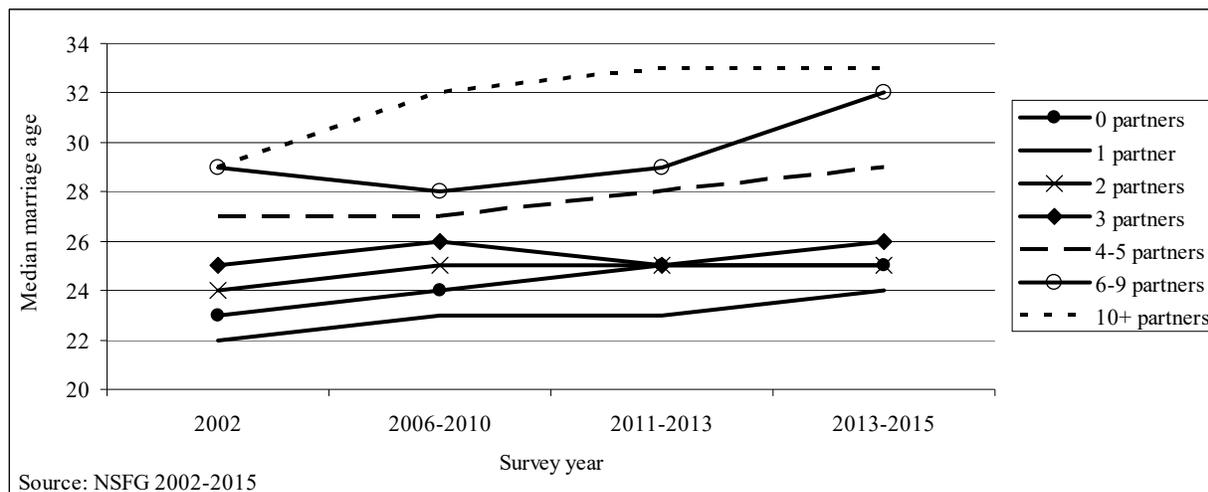
Notes: N = 29,905. Data are weighted to make the results nationally representative.

Figure 3. Sex Partners and Marriage Timing.



Notes: N = 29,905. Data are weighted to make the results nationally representative.

Figure 4: Sex Partners and Median Marriage Age by Survey Year



Notes: N = 29,905. Results are weighted to make the data representative.

Table 1. The Distribution of Women's Sexual History by Marital Status

# of Sex Partners	Never Married Women	Ever Married Women	All Women
0	27%	13%	20%
1	14%	25%	20%
2	9%	14%	12%
3	8%	11%	10%
4-5	15%	16%	16%
6-9	13%	11%	12%
10+	14%	10%	12%
	100%	100%	100%

Source: NSFG 2002-2015

Notes: N = 29,905. Data are weighted to make the results nationally representative.

Table 2. Bivariate Probit Estimates of Marriage.

	Naïve probit		Bivariate probit		Naïve probit		Bivariate probit	
	<u>Married</u>		<u>6+ partners</u>	<u>Married</u>	<u>Married</u>		<u>6+ partners</u>	<u>Married</u>
Age at menarchy								
11	--		--	--	--		--	--
12	--		0.06	--	--		0.05	--
13	--		-0.04	--	--		-0.06	--
14	--		-0.04	--	--		-0.04	--
Premarital sex partners					***			
0	-0.49	***	--	-0.49	***	-0.75	***	--
1	--		--	--		--		--
2	-0.27	***	--	-0.27	***	-0.16	***	--
3	-0.40	***	--	-0.40	***	-0.21	***	--
4-5	-0.59	***	--	-0.59	***	-0.35	***	--
6-10	-0.76	***	--	-0.80	***	-0.54	***	--
10+	-1.00	***	--	-1.03	***	-0.66	***	--
Mother's education								
No high school	--		--	--	--		--	--
High school grad	--		--	--	-0.30	***	0.17	***
Some college	--		--	--	-0.59	***	0.30	***
College graduate	--		--	--	-0.68	***	0.25	***
Missing data					-0.18	*	0.17	*
Respondent education								
No high school	--		--	--	--		--	--
High school grad	--		--	--	0.48	***	--	-0.20***
Some college	--		--	--	0.61	***	--	-0.24***
College graduate	--		--	--	1.04	***	--	-0.26***
Intact family of origin	--		--	--	0.10	***	0.30	***
Rho	--		.02	--	--		-0.04	--
Log-likelihood	-13,063.70		-2.267e+08		-1.422e+08		-2.007e+08	
N = 29,791					Source: NSFG 2002-2015			

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

Notes: N = 29,791. Results are weighted to make the data representative. Coefficients for region, urbanicity, survey wave, family structure of origin, race, and age are not shown.

Table 3a: Discrete-Time Event History Results for Marriage on Sexual Behavior for Men

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Annual sex partners	Lifetime Partners	Lifetime + annual	+ parental education	+ premarital birth/ cohabitation	+ education	+ religion
Annual sex partners							
0	-1.80 ***	--	-1.85 ***	-1.84 ***	-1.66 ***	-1.65 ***	-1.70 ***
1	--	--	--	--	--	--	--
2	-1.27 ***	--	-1.21 ***	-1.21 ***	-1.03 ***	-1.02 ***	-1.06 ***
3	-1.21 ***	--	-1.14 ***	-1.15 ***	-0.97 ***	-0.97 ***	-0.95 ***
4	-1.19 ***	--	-1.12 ***	-1.13 ***	-0.96 ***	-0.94 ***	-0.96 ***
5+	-1.15 ***	--	-1.13 ***	-1.13 ***	-1.00 ***	-0.98 ***	-1.01 ***
Log-lifetime sex partners	--	-0.14 ***	0.01	0.01	0.00	-0.01	0.00
No lifetime sex partners	--	-0.16	0.21 *	0.38 ***	0.18 **	0.17 **	0.38 ***
Log likelihood	-4283	-4598	-4280	-4261	-4110	-4105	-4089

N = 4,598; 19,928 person years

Source: NLSY97 1997-2015

All models control for age at the first survey wave, race/ethnicity, region, urbanicity, family structure of origin, & duration dependence.

Table 3b: Discrete-Time Event History Results for Marriage on Sexual Behavior for Women

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Annual sex partners	Lifetime Partners	Lifetime + annual	+ parental education	+ premarital birth/ cohabitation	+ education	+ religion
Annual sex partners							
0	-1.87 ***	--	-1.89 ***	-1.89 ***	-1.69 ***	-1.69 ***	-1.79 ***
1	--	--	--	--	--	--	--
2	-1.34 ***	--	-1.30 ***	-1.30 ***	-1.17	-1.17 ***	-1.17 ***
3	-1.22 ***	--	-1.18 ***	-1.17 ***	-1.00 ***	-0.99 ***	-0.99 ***
4	-1.86 ***	--	-1.80 ***	-1.80 ***	-1.56 ***	-1.55 ***	-1.52 ***
5+	-0.98 ***	--	-0.91 ***	0.91 ***	-0.76 ***	-0.75 ***	-0.73 ***
Log-lifetime sex partners	--	-0.19 ***	0.01	-0.01	0.17	0.16	0.12
No lifetime sex partners	--	-0.29 ***	-0.07	0.06	0.10	0.08	0.08

N = 4,377; 21,477 person-years

Source: NLSY1979-2015

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

Notes: N for men is 4,598 (19,928 person years); N for women is 4,377 (21,477 person years). Coefficients for duration dependence, region, urbanicity, family structure of origin, race, and age are not shown.

Table 4: The Effect of Annual Sex Partners on Marriage Rates

Sex partners in past year	Men		Women	
0	-84%	***	-85%	***
1	--		--	
2	-72%	***	-74%	***
3	-70%	***	-70%	***
4	-70%	***	-84%	***
5+	-68%	***	-62%	***

***p < .001

Source: NLSY97 1997-2015

Table 5: Higher numbers of non-marital sex partners across eighteen years of NLSY97

# of years with 5+ sex partners	<u>Men</u>	<u>Women</u>
0	51%	72%
1	17	15
2	9	6
3	6	3
4	4	1
5	3	0.5
6	3	0.71
7	2	0.25
8	2	0.25
9	1	0.14
10	0.87	0.05
11	0.72	0.05
12	0.5	0.09
13	0.33	0.09
14	0.17	0.05
15	0.11	--
16	0.15	--
17	0.04	--
N	4,599	4,385

Source: NLSY 1997-2015