

## Re-Examining the Link Between Premarital Sex and Divorce

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### Abstract

**Objective:** This study re-examined the relationship between premarital sex and divorce risk, with a focus on selection mechanisms, number of premarital partners, and gender differences.

**Background:** Premarital sex predicts divorce, but we do not know why. Scholars have attributed the relationship to selection factors such as differences in beliefs and values, but these explanations have not been tested. It is further unclear how this relationship changes by number of sexual partners, or differs by gender.

**Method:** Event-history models of divorce risk were estimated using data from the National Longitudinal Study of Adolescent to Adult Health. Models included measures of adolescent beliefs and values, parental communication with children about sex, and approximate number of premarital sexual partners. All models were re-estimated with an interaction term between premarital sex and gender.

**Results:** The relationship between premarital sex and divorce is highly significant and robust. Compared to people with no premarital partners other than eventual spouses, those with six or more partners exhibit the highest divorce risk, followed by those with one to two partners. There is no evidence of gender differences.

**Conclusion:** Previously-theorized selection mechanisms thought to explain the relationship between premarital sex and divorce are not supported. Future research should explore either alternative selective or causal explanations for this link.

*Keywords:* Premarital sex; Divorce; Marital dissolution

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Premarital sex is linked to higher rates of divorce (Kahn and London, 1991; Paik, 2011), particularly when it involves partners other than one's eventual spouse (Teachman, 2003), but the nature of this relationship is poorly understood. Three key questions remain unanswered, concerning explanatory mechanisms, variable effect sizes, and sex differences. Scholars have speculated that the effect of premarital sex on divorce may be related to beliefs and values about marriage and commitment, religious background, or learned relationship patterns (Paik, 2011; Teachman, 2003), but these hypotheses have not been tested. Past research has not examined how the effect of premarital sex on divorce varies by the *number* of sexual partners. Finally, we do not know whether the effect of premarital sex partners differs between men and women.

These represent key gaps in our understanding of the link between past and present intimate relationships, especially given the prevalence of premarital sex in the United States. Upwards of 90% of Americans first have sex prior to marriage, usually with someone other than their eventual spouse (Finer, 2007; Teachman, 2003; Wu, Martin, & England, 2017). The average number of premarital partners reported by women has increased in recent years (Wolfinger, 2016). These trends may have implications for divorce rates if premarital sex adversely affects marital stability. Given gender differences in sexual behaviors, motivations, and social attributions (England & Bearak 2014; Regnerus & Uecker 2011; Wells & Twenge 2005), these implications may differ between men and women. An improved understanding of the link between premarital sex and divorce is therefore relevant for scholars of sexuality, marriage, and gender alike.

Previous research in this area has offered noteworthy insights, but has been limited by use of cross-sectional data and all-female samples. In this study we build on existing scholarship by using longitudinal data on men and women from the Add Health survey to examine a)

whether the effect of premarital sex on divorce can be explained by commonly-cited selection factors, b) how this effect changes according to the number of premarital partners, and c) whether this effect differs between men and women. We find no support for common explanations based on selection—the effect of premarital sex on divorce is robust to controls for beliefs and values, religious background, family relationships, personality characteristics, and mental health in adolescence. Divorce risk is strongest for survey respondents with six or more premarital partners, followed by those with one or two partners; surprisingly, there is no significant difference in divorce risk between people with either no partners or between three and five. We find no evidence for differences between men and women in the relationship between premarital sex and marital dissolution.

#### PRIOR RESEARCH

Although scholars have long been interested in the causes of divorce, the predictive role of premarital sexual partnerships has received relatively little research attention. What we do know is primarily based on three studies. Kahn and London (1991) compared women who reported any premarital sexual experience to those with none, and found higher divorce risk in the former group. Expanding on this finding, Teachman (2003) showed that there is elevated divorce risk only for those with premarital partners other than their eventual spouse, i.e., sex with a future spouse alone does not predict divorce (but see Paik, 2011). Furthermore, he found that adverse effects of premarital cohabitation with someone other than a future spouse disappeared when controlling for premarital sex. Finally, Paik (2011) showed that the adverse effect of early sexual debut on marital stability can be explained by the fact that those who have sex earlier are more likely to have premarital sexual partners other than future spouses. Other studies also have

demonstrated in passing that premarital sex predicts divorce (e.g., Heaton, 2002; Manning & Cohen, 2012).

These three studies have suggested various possible explanations for their findings, which largely mirror the literature on cohabitation and divorce (e.g., Rosenfeld & Roesler, 2019; Sassler & Lichter, 2020). Premarital sex may be an indicator of permissive attitudes toward sex and marriage, low religiosity, or a predilection for sexual variety, all of which are linked to higher divorce risk (Kahn & London, 1991; Paik, 2011; Vaaler, Ellison, & Powers, 2009). In this case, the premarital sex-divorce link is best understood in terms of selectivity. Alternatively, the experience of premarital sex itself, especially with multiple partners, may contribute to the development of more permissive attitudes toward sex or a greater awareness of sexual alternatives, either of which may serve to undermine marital stability (Paik, 2011; Teachman, 2003). In this case, the premarital sex-divorce link is better understood in terms of causality.

#### EXTENDING PRIOR RESEARCH

Past research on premarital sex and divorce has relied almost entirely on data from the National Survey of Family Growth (NSFG), and thus presents with many of the same strengths and limitations. The NSFG contains detailed information on both marital timelines and sexual histories, and is therefore well suited to establishing the link between premarital sex and marriage dissolution. However, NSFG data are also limited in two key respects. First, as they are cross-sectional, they lack information on early-life factors which may contribute to both sexual behavior and marital outcomes. Second, they contain incomplete information on premarital sexual histories for men, leading to exclusive use of female samples in past research.

In this study, we rely on longitudinal data from the Add Health study to address three questions not resolved in past research. 1) To what extent is the effect of premarital sex on

divorce explained by early-life factors such as beliefs and values about sex and marriage, religious background, personality traits, or family socialization? 2) How does risk of divorce vary according to the number of premarital sexual partners? 3) Does the relationship between premarital sex and divorce differ between men and women?

### *Selection Factors*

As identified above, past scholarship has argued that the link between premarital sex and divorce is best explained in terms of selectivity based on beliefs and values about sex and marriage, low religiosity, or preferences for sexual variety (Kahn & London, 1991; Paik, 2011). Premarital sexual behavior is further associated with factors known to predict divorce, including depression (Khan et al. 2009; Wade & Pevalin, 2004), low risk-aversion (Hoyle, Fejfar, & Miller, 2000; Kelly & Conley, 1987), and poor family relationships (Amato & Patterson, 2017; Kerpelman et al., 2016). Given that these factors are variable over time and may be a consequence as well as a cause of sexual behaviors and marital experiences (Teachman, 2003), cross-sectional data are insufficient for untangling cause and effect. In this study we address this concern by including measures of individual attributes during adolescence, prior to marriage and in relatively early stages of sexual development.

### *Variable Effect Size*

Past research has offered limited comparisons of divorce risk, contrasting virgins with people who only had premarital sex with a future spouse, and those with other premarital partners (Paik, 2011; Teachman, 2003). However, there is substantial variation in the *number* of premarital sexual partners reported by respondents, which may have as-yet-unexplored implications for divorce risk. For instance, recent NSFG estimates indicate a median of two premarital sexual partners among married women, and that over 10% report more than ten

partners (Centers for Disease Control and Prevention, 2020). The full extent of the relationship between premarital partner counts and divorce risk holds considerable practical relevance for our larger understanding of the link between past and present intimate relationships.

Prior research and theory offer relatively little guidance in predicting the functional form of the association between number of premarital sexual partners and marital dissolution (but see Wolfinger, 2016). Specifically, it is unclear whether we should expect the effect of premarital sex to become stronger or weaker as partners accumulate. On the one hand, it is plausible that having *any* premarital partners indicates a departure from idealized traditional linkages between sex and marriage, so that divorce risk should increase most strongly for lower-order counts of sexual partners and then level off. On the other hand, it may be that those with fewer premarital partners remain within a normative range and thus have relatively conventional attachments to institutional marriage or high-commitment relationship patterns, in which case we should see divorce risk rise most sharply for those with many partners.

#### *Gender Differences*

Prior research is unclear as to whether the effects of premarital sex on divorce risk might be stronger for men or women. We do know that men have stronger preferences for sexual frequency and variety, and women's sexual behavior is tied more strongly to a particular relationship (Baumeister et al., 2001; Wells & Twenge, 2005). Paik (2011) claims that a predilection for sexual variety can undermine marital commitment (but see Perry, 2020). This suggests that the effect of premarital sex on divorce rates should be stronger for men, given their predisposition to sexual variety.

But there's also a strong counterargument. Sex has stronger adverse consequences for mental and emotional health for women than men (Regnerus & Uecker, 2011; Townsend,

Marshall, & Wasserman, 2011). Furthermore, women are subjected to a sexual double-standard in which they may face negative evaluations for sexual behavior, resulting in greater social consequences (England & Bearak, 2014; Sprecher, Treger, & Sakaluk, 2013). For these reasons, it is possible premarital sex will have a stronger effect on marital functioning, and ultimately the risk of divorce, for women than men.

## DATA AND METHODS

The data for this study come from the first, third, and fourth waves of the National Longitudinal Study of Adolescent to Adult Health (Add Health) (<https://addhealth.cpc.unc.edu/>) (Harris et al., 2009). The first wave of data collection occurred in 1994-1995 and consisted of 20,745 adolescents from grades 7-12, as well as 17,670 parents (mother if available, another adult in the household if not). Data for Wave III (N = 15,197) were collected in 2001-2002 when respondents were 18-26 years old. Wave IV took place in 2008-2009 and consisted of 15,701 of respondents, aged 24-32.

This study uses two separate samples from Add Health. The first sample is limited to those who had ever been married as of Wave IV (N = 7,797), had a valid sample weight (N = 7,393), and had sufficient data to calculate marital duration (N = 7,286). We remove 67 cases where respondents, despite having been married, report no lifetime sexual partners, as this likely indicates an invalid response. An additional 166 cases were excluded due to reporting having no mother or father or any other household caregiver who serves this role at Wave I (e.g., grandparents, aunts/uncles), as some items regarding parental relationships are included in the analysis. A further 23 cases were removed due to reporting already being married as of Wave I. This leaves an analytic sample of 7,030 respondents who had been in either opposite-sex (N =

6,990) or same-sex (N = 41) marriages. The second sample is a subset of the 7,030 which includes only respondents whose first marriages did not start until after Wave III (N = 3,506).

Each sample contains distinct advantages and disadvantages. The first sample is larger, more representative, and offers a longer duration of observation of marriage, and is thus better suited to testing for selection mechanisms. The second sample is smaller and is selective of later marriages, but contains less ambiguity regarding the time ordering of sexual partners. This allows for greater approximation of the number of *premarital* partners needed in order to examine the shape of the association between sexual history and divorce risk.

### *Measures*

*Dependent variable.* The dependent variable in this study is the duration of first marriage in months. In Wave IV, respondents were asked to provide complete event histories on their marriage(s). If respondents reported their marriages were ongoing, the end date was set as the date of the Wave IV interview and observations were right-censored.

*Independent variables.* The key independent variables in this study are measures of premarital sexual partnerships. In Wave III, respondents were asked to provide their total lifetime number of vaginal sexual partners, as well as the total number of vaginal, oral or anal partners they had had since 1995. In Wave IV, respondents were asked about their total lifetime number of sexual partners, including prior to the age of 18. These items, in tandem with marital timelines, were used to develop a dichotomous indicator of whether respondents had any premarital sexual partners other than their spouse. For 434 cases there was insufficient information available to make this determination; values for these cases were imputed. (See Appendix for more detailed description of the criteria used to code the indicator of premarital sexual partners).

For the subsample of those who did not marry until after Wave III, we first take the highest number of sexual partners reported across three items: lifetime vaginal partners as of Wave III, total sexual partners of any kind between 1995 and Wave III data collection, or partners of any kind prior to age 18 as reported at Wave IV. The partners counted in these three measures may overlap, and so we use the highest number to capture as many partners as possible. We subtract one from this number (unless respondents report no partners), accounting for the possibility that one partner may be the respondent's eventual spouse, and divide the remaining number of partners into quartiles, a common approach from research on sexual histories (Kahn & Halpern, 2018; Pedersen & Blekesaune, 2003). The advantage to this approach is that it better captures the variation in partners compared to a dichotomous indicator. The disadvantages are that it requires a restricted sample, and that any premarital partners in between Waves III and IV are not counted. The latter concern may result in measurement error, leading to estimates biased downwards. Results from this analysis should thus be regarded as conservative.

To account for commonly-theorized selection factors, we include several measures of respondents' Wave I beliefs and values, religious involvement, and other characteristics. We measure religious identity using a modified version of Lehman and Sherkat's (2018) recent typology (the key modification is that Latter-Day Saints are coded to the "Sectarian" category due to considerations of small cell sizes). Wave I religious attendance is included as a continuous variable. Unfortunately, Add Health respondents from Wave I who reported no religious affiliation were not asked about religious behaviors; these cases were coded as having no attendance.

Table 1. Descriptive Statistics for Ever-Married Respondents as of Add Health Wave IV

Variables	W1 (Full)		W1 (Late-Marrying)		Range
	M (SD) or Proportion		M (SD) or Proportion		
Marital dissolution by Wave IV <sup>a</sup>	.21		.10		
Premarital sexual partners (excluding first spouse) <sup>a</sup>	.84				
0			.24		
1-2			.24		
3-5			.23		
6+			.29		
Female	.57		.55		
White	.62		.62		
Black	.13		.13		
Hispanic	.16		.14		
Other race	.09		.11		
Parent has <HS education	.10		.07		
Parent has HS diploma/GED	.25		.22		
Parent has some college	.30		.29		
Parent has a college degree	.35		.41		
Household income (logged)	3.58	(0.82)	3.68	(0.80)	0–6.9
Parents not together	.48		.43		
Parents in less happy marriage	.22		.24		
Parents in happy marriage	.30		.34		
Family structure transitions	0.76	(1.10)	0.69	(1.08)	0–5
Respondent has <HS education	.06		.04		
Respondent has HS diploma	.16		.12		
Respondent has some post-HS	.47		.42		
Respondent has BA or higher	.32		.43		
Age at first marriage <sup>a</sup>	23.80	(3.17)	25.70	(2.31)	14.8–32.3
Premarital birth <sup>a</sup>	.21		.22		
Premarital cohabitation <sup>a</sup>	.70		.75		
First sex before age 16	.38		.34		
First sex at ages 16-17	.32		.32		
First sex at age 18 or older	.30		.34		
Coercive sex as minor <sup>a</sup>	.12		.10		
No religion	.10		.10		
Sectarian	.32		.28		
Catholic	.26		.28		
Moderate/liberal Protestant	.27		.29		
Other religion	.05		.05		
Religious attendance frequency	2.81	(1.18)	2.85	(1.18)	1–4
Taken virginity pledge	.15		.15		
Sex in perfect relationship	.27		.27		
Depressive symptoms	0.52	(0.37)	0.49	(0.35)	0–3
Delinquent behaviors	0.27	(0.33)	0.26	(0.32)	0–3
Cautious decision-making style	3.67	(0.57)	3.67	(0.57)	1–5
Parent-child relationship quality	4.39	(0.66)	4.44	(0.63)	1–5
Parent-child activities in past 4 weeks	3.71	(1.90)	3.78	(1.91)	1–9
Parent talks about sex with child	2.99	(0.83)	2.93	(0.84)	1–4
Parent would not approve of child having sex	4.26	(1.16)	4.36	(1.12)	1–5
No. of observations	7,030		3,506		
Marriage-months	389,197		131,769		

Notes: The late-marrying sample is a subset of the full sample whose first marriages did not begin until after Wave III.

We include two additional dichotomous variables to capture beliefs and values about premarital sex. The first indicates whether or not the respondent had ever taken a virginity pledge (Bearman & Brückner, 2001; Uecker, 2008). The second indicates whether adolescents report that in an ideal relationship, they would expect to have sex, but not get married, in the next year. Specifically, respondents were given a set of cards identifying different relationship activities (e.g., going out together in a group, holding hands, meeting partner's parents, getting married), and asked to return to the interviewer any cards indicating activities they would *not* want to happen in the next year in their ideal relationship. If they kept the card for having sex, but returned the card for getting married, they were coded as a "1" on this indicator.

The analysis also includes scales of Wave I depressive symptoms, delinquent behaviors, and decision-making style, as these all may be associated with both sexual behavior and marital outcomes. The depression scale uses ten items on the frequency of experiencing various depressive symptoms, drawn from the CES-D depression inventory (e.g., "You felt you were too tired to do things") ( $\alpha = .72$ ). The delinquency scale includes 15 items on frequency of various delinquent activities in the past year (e.g., damaging property, lying to parents about activities) ( $\alpha = .83$ ). Finally, adolescents were asked to assess their own personalities. We use five items pertaining to decision-making (e.g., "When you have a problem to solve, one of the first things you do is get as many facts about the problem as possible,") to create a scale measuring a cautious approach to making decisions ( $\alpha = .64$ ) (Uecker, Regnerus, & Vaaler, 2007).

An additional four items are included to capture potential parental influences on children's sexual and later marital outcomes. As positive parent-child relationships may serve as a protective factor against high-risk sexual behaviors (McElwain & Bub, 2018; Price & Hyde, 2009), we measure parent-child relationship quality using a scale of five items indicating the

adolescent's perception of closeness to each parent (e.g., "Most of the time, your mother is warm and loving toward you") ( $\alpha = .85$ ). This scale used responses about mothers where available, fathers otherwise. We further include a cumulative measure of the number of activities respondents report doing with their parent in the past four weeks (e.g., gone shopping, played a sport). In addition to the general effects of parent-child relationship quality, parents' views and practices with respect to their children's sexuality may also play a role. We therefore include a mean scale of four items measuring the frequency with which parents have discussed issues surrounding sex with their adolescent (e.g., consequences of getting [someone] pregnant, concerns about sexual morality) ( $\alpha = .86$ ). The final parent item is a Likert scale indicating the extent to which parents state they would disapprove of their children having sex at that time in their life.

Based on past studies a number of controls are included to account for potential spuriousness in the relationship between premarital sex and marital stability. From Wave I, these include sex, race, highest level of parent education in four categories, and logged household income of family of origin. We also use an indicator of parental marital quality. At Wave I, parents were asked to rate how happy their relationship with their current partner was on a scale of one to ten. Based on the distribution for this item, we create a three-category measure of parental marital quality: *Parents had a happy marriage*, *Parents had a less happy marriage*, and *Parents were not married*. We further include measures of the number of family structure transitions experienced as of Wave I (Gaydosh & Harris, 2018; Martinson & Wu, 1992). From Wave IV, we add respondent education and indicators of the respondent's relationship history. These include age at first marriage, any premarital birth, any premarital cohabitation, age at first

sex in three categories (before age 16, at ages 16 or 17, and age 18 or later), and a binary indicator of the experience of nonconsensual sex as a minor.

### *Analytic Strategy*

In all analyses, we use discrete-time event history models to test the effects of premarital sex and other predictors on the rate of dissolution of first marriage. Specifically, we apply a complementary log-log estimator to data shaped to a marriage-month format, with one observation contributed for each month of first marriage of each respondent. Event history methods are ideal for studying divorce as they account for right censoring: some respondents will end their marriages subsequent to the most recent wave of data.

The first set of analyses includes the full sample of those who were ever married as of Wave IV. In a series of models, we examine the effects of having any premarital sexual partners on divorce risk in bivariate, with basic controls, with child characteristics, and finally with parent variables included. This serves as a test of the hypothesis that the effects of premarital sex are explained by selectivity. We proceed to conduct a second, nearly identical set of analyses on the subsample of those who were not married until after Wave III, the only difference being that we use a measure of approximate quartiles of sexual partners rather than the dichotomous variable. This provides an estimate of the shape of the relationship between premarital partners and divorce risk. Finally, we re-estimate all models with an interaction between premarital sex and gender in order to test for differences in effects between men and women. For all analyses, the baseline hazard is specified as the quadratic of marital duration in months. This produced substantively similar results from models specifying the baseline hazard with binary indicators for one-year marriage intervals, so the quadratic in months was chosen for the sake of parsimony.

Missing data were handled via multiple imputation. Specifically, we used the “mice” package in R to create ten imputed data sets for each subsample, conduct analyses for each data set, and pool the results, adjusting estimates for uncertainty in the imputed values (Van Buuren, 2018). All analyses include a survey weight and are adjusted for clustering and stratification.

## RESULTS

Descriptive statistics are shown in Table 1. Of respondents who had ever been married as of Wave IV, approximately 21% had a marriage which ended in divorce. Seventy-nine percent of respondents reported having premarital, non-spousal sexual partners. For the late-marrying subsample, the proportion whose first marriage ended in dissolution is less than 10%. Later marriage is a protective factor against dissolution (e.g., Teachman, 2002), and these marriages have shorter durations of observation, and hence a shorter period in which to observe divorce. In this group, about a quarter reported one or zero sexual partners as of Wave III, and about 29% reported having had six partners or more.

Results for the first set of discrete-time models are shown in Table 2. The most important takeaway is that premarital sex is a highly significant predictor of divorce at the  $p < .001$  level in every model. This effect remains robust even with the inclusion of the full set of selection factors relating to beliefs or values, religious practice, family characteristics, and parenting approaches. The effect size is both large and stable: across models, those with premarital sexual partners have more than twice the odds of divorce as do those without (ORs = 2.29—2.42). We thus find no evidence that the link between premarital sex and divorce is due to selectivity based on early-life religiosity or beliefs and values. In fact, few of the other independent variables predict divorce, aside from those confirmed in past research: African Americans are at higher risk of divorce compared to whites, people with a college degree or a

Table 2. Hazard Ratios from Discrete-Time Event History Models Predicting Dissolution of First Marriage

Variable	M1		M2		M3		M4	
Any premarital sexual partners	2.42	(0.12)***	2.31	(0.13)***	2.29	(0.13)***	2.29	(0.13)***
Female			0.90	(0.07)	0.91	(0.07)	0.92	(0.07)
Black			1.20	(0.11) †	1.27	(0.11)*	1.27	(0.11)*
Hispanic			0.91	(0.12)	0.88	(0.13)	0.87	(0.13)
Other race			1.21	(0.14)	1.19	(0.14)	1.19	(0.13)
Parent has HS diploma/GED			1.17	(0.17)	1.17	(0.17)	1.18	(0.17)
Parent has some college			1.23	(0.16)	1.22	(0.16)	1.23	(0.16)
Parent has a college degree			1.02	(0.18)	1.02	(0.18)	1.02	(0.18)
Household income (logged)			1.00	(0.05)	1.00	(0.05)	1.00	(0.05)
Parents in less happy marriage			0.89	(0.09)	0.89	(0.10)	0.89	(0.10)
Parents in happy marriage			0.90	(0.09)	0.90	(0.09)	0.90	(0.09)
Family structure transitions			1.04	(0.04)	1.04	(0.04)	1.04	(0.04)
Respondent has HS diploma			0.81	(0.14)	0.82	(0.14)	0.82	(0.14)
Respondent has some post-HS			0.93	(0.12)	0.94	(0.12)	0.95	(0.12)
Respondent has a BA			0.61	(0.17)**	0.62	(0.18)**	0.63	(0.18)*
Age at first marriage			0.87	(0.02)***	0.87	(0.02)***	0.87	(0.02)***
Premarital birth			0.99	(0.09)	0.99	(0.09)	0.99	(0.09)
Premarital cohabitation			1.06	(0.09)	1.01	(0.09)	1.01	(0.09)
First sex at ages 16-17			0.91	(0.07)	0.92	(0.07)	0.92	(0.07)
First sex at age 18 or older			0.94	(0.09)	0.97	(0.09)	0.97	(0.09)
Coercive sex as minor			0.94	(0.10)	0.94	(0.10)	0.94	(0.10)
Sectarian					0.89	(0.16)	0.89	(0.16)
Moderate/liberal Protestant					0.94	(0.15)	0.94	(0.15)
Catholic					0.98	(0.17)	0.99	(0.17)
Other religion					0.88	(0.20)	0.87	(0.20)
Religious attendance frequency					0.98	(0.04)	0.98	(0.04)
Taken virginity pledge					1.01	(0.10)	1.01	(0.10)
Sex in perfect relationship					0.98	(0.09)	0.98	(0.09)
Depressive symptoms					0.97	(0.10)	0.97	(0.10)
Delinquent behaviors					1.10	(0.10)	1.11	(0.10)
Cautious decision-making style					0.96	(0.06)	0.96	(0.06)
Parent-child relationship quality							1.02	(0.06)
Parent-child activities in past 4 weeks							0.99	(0.02)
Parent talks about sex with child							1.01	(0.04)
Parent disapproves of child having sex							1.01	(0.03)
Months	1.02	(0.00)***	1.02	(0.00)***	1.02	(0.00)***	1.02	(0.00)***
Months squared	1.00	(0.00)***	1.00	(0.00)***	1.00	(0.00)***	1.00	(0.00)***
Deviance	19,982		19,651		19,643		19,643	

Notes: N = 389,197 (marriage-months). Standard errors are in parentheses. Reference categories: White, respondent has less than a high school diploma, parent has less than a high school diploma, parents unmarried at Wave I, first sex before age 16, no religion.

† p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001 (2-tailed tests)

post-graduate degree have lower divorce risk, and age at marriage is strongly and negatively linked to divorce.

Analyses of the subsample of those who did not marry until after Wave III are shown in Table 3. To reiterate, the purpose of using this sample is to be able to capture the variation in premarital sexual partners more effectively. The key results here are mostly consistent across models: those with the highest number of premarital sexual partners as of Wave III (six or more) have more than double the odds of divorce compared to those with none (ORs = 2.29—2.43). Notably, this effect becomes stronger as controls are added to the model, indicating such hypothesized selection factors as sociodemographic or religious characteristics actually suppress, rather than help explain, the effect of premarital sex for those with the highest number of partners.

Those with one to two partners are also at greater risk of divorce, though this coefficient is weaker than for those with six or more partners. Specifically, the odds of divorce for those with 1-2 partners are approximately 75% higher than those with none (ORs = 1.71—1.73). This effect is also not attenuated as controls are added to the model, reinforcing the finding that explanations based on selection are not supported. Unexpectedly, there is *not* a significant difference in divorce risk between those with no Wave III partners and those with three to five, and the coefficient, though positive in all models, is smaller than for the other categories. It is unclear what explains this finding. Taken together, these results suggest that the relationship between number of premarital partners and marital dissolution is nonlinear. Furthermore, these results are more consistent with the notion that the effect of premarital sex on divorce becomes stronger, not weaker, as sexual partners accumulate.

Table 3. Hazard Ratios from Discrete-Time Event History Models Predicting Dissolution of First Marriage among Late-Marrying Respondents

Variable	M1		M2		M3		M4	
1-2 premarital partners	1.71	(0.23)*	1.73	(0.24)*	1.73	(0.23)*	1.71	(0.23)*
3-5 premarital partners	1.27	(0.23)	1.26	(0.26)	1.34	(0.26)	1.31	(0.26)
6+ partners	2.29	(0.19)***	2.37	(0.25)***	2.43	(0.25)***	2.35	(0.25)***
Female			1.20	(0.16)	1.21	(0.17)	1.17	(0.17)
Black			1.03	(0.23)	1.12	(0.23)	1.08	(0.24)
Hispanic			0.76	(0.29)	0.77	(0.30)	0.75	(0.31)
Other race			1.26	(0.24)	1.08	(0.24)	1.13	(0.25)
Parent has HS diploma/GED			0.84	(0.34)	0.83	(0.34)	0.82	(0.34)
Parent has some college			1.01	(0.36)	0.98	(0.36)	0.96	(0.35)
Parent has a college degree			1.03	(0.37)	0.98	(0.36)	0.97	(0.36)
Household income (logged)			0.89	(0.12)	0.90	(0.12)	0.91	(0.12)
Parents in less happy marriage			1.07	(0.23)	1.02	(0.22)	1.05	(0.22)
Parents in happy marriage			0.95	(0.18)	0.92	(0.19)	0.94	(0.19)
Family structure transitions			1.03	(0.06)	1.01	(0.06)	1.02	(0.06)
Respondent has HS diploma			0.65	(0.31)	0.66	(0.31)	0.67	(0.31)
Respondent has some post-HS			0.70	(0.25)	0.73	(0.25)	0.73	(0.25)
Respondent has a BA			0.40	(0.32)**	0.41	(0.32)**	0.42	(0.32)**
Age at first marriage			0.90	(0.04)*	0.91	(0.04)*	0.91	(0.04)*
Premarital birth			0.86	(0.19)	0.91	(0.20)	0.91	(0.20)
Premarital cohabitation			1.43	(0.24)	1.43	(0.26)	1.47	(0.26)
First sex at ages 16-17			0.85	(0.19)	0.86	(0.19)	0.86	(0.19)
First sex at age 18 or older			1.27	(0.18)	1.29	(0.20)	1.30	(0.20)
Coercive sex as minor			0.90	(0.22)	0.91	(0.22)	0.89	(0.22)
Sectarian					0.42	(0.32)**	0.40	(0.31)**
Moderate/liberal Protestant					0.47	(0.32)**	0.46	(0.26)**
Catholic					0.48	(0.30)*	0.46	(0.28)**
Other religion					0.75	(0.35)	0.76	(0.35)
Religious attendance frequency					1.06	(0.10)	1.04	(0.10)
Taken virginity pledge					1.23	(0.21)	1.23	(0.20)
Sex in perfect relationship					0.86	(0.17)	0.83	(0.18)
Depressive symptoms					0.76	(0.20)	0.79	(0.22)
Delinquent behaviors					1.14	(0.22)	1.18	(0.22)
Cautious decision-making style					0.98	(0.12)	0.96	(0.12)
Parent-child relationship quality							1.05	(0.13)
Parent-child activities in past 4 weeks							1.04	(0.04)
Parent talks about sex with child							1.15	(0.10)
Parent disapproves of child having sex							0.93	(0.06)
Months	1.04	(0.01)***	1.04	(0.01)***	1.04	(0.01)***	1.04	(0.01)***
Months squared	1.00	(0.00)*	1.00	(0.00)*	1.00	(0.00)*	1.00	(0.00)*
Deviance	5,003		4,931		4,901		4,893	

Notes: N = 131,769 (marriage-months). Standard errors are in parentheses. Reference categories: No premarital sexual partners as of Wave 3, White, respondent has less than a high school diploma, parent has less than a high school diploma, parents unmarried at Wave I, first sex before age 16, no religion.

† p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001 (2-tailed tests)

Finally, to test for differences in the effect of premarital sex on divorce between men and women, we repeat all analyses from Tables 2 and 3 and include an interaction between gender and premarital sex variables. The results are straightforward: we do not any evidence of sex differences in the link between premarital sex and divorce risk in any model for either sample. Although there is theoretical reason to expect such a difference, our results suggest otherwise.

## DISCUSSION

Past research has established a clear link between premarital sex, particularly with partners other than an eventual spouse, and the risk of marital dissolution (Kahn & London, 1991; Paik, 2011; Teachman, 2003). Thus far, however, we know little about the nature of this link. The purpose of this study was to shed light on three areas which have not been fully addressed in past literature: the possible role of early-life factors in explaining this relationship, the possibility of nonlinear effects of premarital sexual partnerships on divorce risk, and whether the relationship varies between men and women. A better understanding of these factors contributes to our knowledge of the links between early-life and later-life relationship experiences and outcomes, an important focus of theory and research on the family life course (Sassler, 2010).

We do not find support for prominent theories emphasizing selection in the premarital sex-divorce link. This study shows that the effect of premarital sex remains highly significant after accounting for a wide range of early-life characteristics often posited as selection mechanisms in past research, such as nontraditional views on sex and marriage, fewer religious attachments, or lower-quality family relationships (Kahn & London, 1991; Paik, 2011), as well as additional factors such as child personality or parent socialization. Needless to say, our analysis does not rule out the possibility that unmeasured variables might be driving selection.

Future research should endeavor to test for the potential causal effects of premarital sex on divorce, and to elaborate on possible selection processes which have not been considered in past scholarship.

As expected, we find evidence of a nonlinear relationship between the number of sexual partners and the risk of divorce. Those in the highest category of partners (six or more) consistently show the highest divorce risk, and those with one to two partners evince a significantly higher risk than those with none. Unexpectedly, those with three to five partners have the same risk as those with zero. These results make it difficult to make strong claims about the effect of low numbers of sexual partners on divorce risk, but clearly indicate elevated risk for those with higher partner counts. These findings highlight the importance of incorporating the variation in sexual history into research in this area, rather than relying on dichotomous indicators of premarital sex. A possible implication here is that the robust effect of premarital sex found in past studies is being driven by a minority of respondents with especially high levels of both sexual partners and divorce rates. This reflects the fact that although partner counts of five or less have become increasingly normative, having more partners may indicate distinctive characteristics which are not conducive to marital stability.

We find no evidence of gender differences in the link between premarital sex and divorce. This is a surprising finding—the domains of sexuality and marriage are highly gendered (e.g., Monin & Clark, 2011; Okami & Shackelford, 2001; Oliver & Hyde, 1993), and there are many plausible theoretical pathways by which the premarital sex-divorce relationship might be expected to differ between men and women. Future research might consider if the mechanisms linking premarital sex and divorce function the same way for men and women.

This study has contributed to our understanding of the link between premarital sex and marital dissolution by taking advantage of the mixed-sex sample and longitudinal design of the Add Health study in order to address some of the limitations of past literature. Yet Add Health has its own limitations with respect to the aims of this study. At the start of data collection, respondents ranged from early to late adolescence, and many had already had sex. On a related note, in some cases it is unclear whether sexual partnerships occurred before, during or after marriage. To ensure proper temporal ordering, tests of the effects of the *number* of sexual partners were only performed on a late-marrying subsample, and the measure used did not capture all partners. Nevertheless, it represents a more detailed measure than prior studies have used. Needless to say, a more exact measure for the full sample would be ideal. Similarly, we relied on proxies for beliefs and values about marriage and divorce as well as marital quality, so more precise measures would be preferable. Finally, though Add Health data are well-suited to ruling out some of the hypothesized selection processes explaining the premarital sex-divorce link, they are less appropriate for examining possible causal mechanisms. This would require more detailed timelines of sexual histories and more frequent waves of data collection than Add Health provides.

This study makes a contribution to our understanding of the link between premarital sex and divorce, which has been heretofore limited in key respects. It reinforces the finding that the effect of premarital sex is robust, and shows that it applies equally to men as well as women. Moreover, our findings help to rule out common explanations offered by past research. The results here also serve to highlight the importance of conceptualizing sexual history more broadly, taking into account its extent and timing, when considering how it might affect marriages. As relationship experiences over the life course have become more varied and

complex in recent decades (Sassler & Lichter, 2020), it is increasingly vital that theory and analysis adjust to take account of these developments.

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## APPENDIX

*Coding Criteria for Indicator of Any Premarital, Nonspousal Sexual Partners*

Measures used:

- Wave IV
  - Total male + female lifetime vaginal, oral, or anal sexual partners
  - Total male + female vaginal, oral, or anal sexual partners prior to age 18
  - Divorce status
  - Report of any concurrent sexual partners during first marriage (available for all respondents currently on first marriages, but only some respondents whose first marriages had dissolved)
  - First marriage began prior to Wave III (determined by comparing reported start date of first marriage to date of Wave III interview)
  - Age at first marriage (determined by subtracting birth date from first marriage date)
- Wave III
  - Total lifetime vaginal sexual partners
  - Total vaginal, oral, or anal sexual partners since the summer of 1995
    - Start and end dates for sexual relationships since the summer of 1995 (only available for a subset of respondents)

Respondents were coded as having any premarital, nonspousal sexual partners (“1”) if they met any of the following conditions:

- They were in their first marriage as of Wave IV, reported more than one lifetime partner, and reported no partners concurrent with marriage
- They were unmarried as of Wave III and reported more than one partner ever as of Wave III
- They were married prior to Wave III, had available data on start and end dates of sexual relationships since 1995, and reported any sexual relationships which had *ended* prior to when first marriage *started*
- They married after age 18 and report more than one sexual partner before age 18

Respondents were coded as having no premarital, nonspousal sexual partners (“0”) if they met the following conditions:

- They reported no more than one partner on any Wave IV or Wave III measure
- They reported no more than one partner prior to Wave III, and had already married by Wave III
- They were married by 18, and reported only one sexual partner prior to age 18

Cases were coded as missing if they could not be coded based on any of the above criteria. This was disproportionately true of those who were either divorced or reported any partners concurrent with their marriage as of Wave IV, as this prevented logical certainty regarding the time ordering of reported sexual partners. This pattern of missing data meets the conditions for being missing at random (MAR). Although it may introduce bias into measures, these biases can be accounted for in the analysis through the use of multiple imputation.

Table A1. *Distribution of Premarital Sexual Partners (as of Wave III) by Sex*

Number of partners	Men	Women	All
0	368 (0.23)	475 (0.25)	843 (0.24)
1	194 (0.12)	245 (0.13)	439 (0.13)
2	159 (0.10)	232 (0.12)	391 (0.11)
3	132 (0.08)	174 (0.09)	306 (0.09)
4	147 (0.09)	176 (0.09)	323 (0.09)
5	81 (0.05)	109 (0.06)	190 (0.05)
6	63 (0.04)	98 (0.05)	161 (0.05)
7	54 (0.03)	69 (0.04)	123 (0.04)
8	23 (0.01)	38 (0.02)	61 (0.02)
9	81 (0.05)	87 (0.05)	168 (0.05)
10+	274 (0.17)	223 (0.12)	497 (0.14)
Total	1,576 (1.00)	1,926 (1.00)	3,502 (1.00)

*Notes:* Proportion by column in parentheses. Sample is limited to those whose first marriages began after Wave III (N = 3,502 after removing four missing observations). One partner is subtracted for each respondent to ensure only partners other than eventual spouses are counted.

Table A2. Hazard Ratios from Discrete-Time Event History Models Predicting Dissolution of First Marriage among Late-Marrying Respondents – Alternative Measure of Sexual Partners

Variable	M1		M2		M3		M4	
Number of partners (Reference: 0)								
1	1.61	(0.27)†	1.74	(0.27)*	1.74	(0.27)*	1.72	(0.27)†
2	1.81	(0.29)*	1.81	(0.28)*	1.82	(0.27)*	1.80	(0.27)*
3	1.19	(0.29)	1.22	(0.30)	1.30	(0.30)	1.24	(0.30)
4	1.16	(0.29)	1.19	(0.32)	1.29	(0.31)	1.24	(0.31)
5	1.59	(0.39)	1.59	(0.43)	1.65	(0.41)	1.59	(0.41)
6	2.12	(0.33)*	2.17	(0.38)*	2.08	(0.36)*	2.10	(0.35)*
7	1.13	(0.46)	1.29	(0.47)	1.36	(0.47)	1.35	(0.47)
8	1.31	(0.63)	1.19	(0.65)	1.12	(0.65)	1.02	(0.67)
9	2.68	(0.30)**	3.06	(0.34)**	3.37	(0.35)***	3.26	(0.35)**
10+	2.64	(0.21)***	2.89	(0.25)***	3.04	(0.26)***	2.90	(0.26)***
Months	1.04	(0.01)***	1.04	(0.01)***	1.04	(0.01)***	1.04	(0.01)***
Months squared	1.00	(0.00)*	1.00	(0.00)*	1.00	(0.00)*	1.00	(0.00)*
Basic controls			X		X		X	
Child characteristics					X		X	
Parent variables							X	
Deviance	4,990		4,917		4,885		4,877	

Notes: N = 131,769 (marriage-months). Standard errors of log-log coefficients in parentheses. † p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001 (2-tailed tests)