

FAMILY CHANGE AND EARLY SEXUAL INITIATION

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ABSTRACT

In this paper, we examine effects of family structure on age at entry into first sexual intercourse prior to marriage for recent cohorts of women. Previous research on the linkage between family structure and sexual initiation has employed relatively crude measures of family structure—typically a snapshot of the respondent’s family structure at age 14. We use retrospective parent histories from the 1979–87 National Longitudinal Survey of Youth to construct dynamic measures of family structure using information on the numbers and types of parents in the respondent’s household between birth and age 18. These measures allow us to adjudicate between hypotheses on the effects of prolonged exposure to a single-mother family, prolonged absence of a biological father, parental control during adolescence, and instability in family structure. We find no effect, net of other family effects, of being born out-of-wedlock, prolonged exposure to a single-mother family, or prolonged absence of a biological father on age at first sexual intercourse. Our results are, however, consistent with effects predicted by an instability hypothesis and a variant of the parental control hypothesis that stresses the role of fathers.

The consequences of growing up in a single-mother family has emerged as a topic of serious concern to policy-makers and the general public alike. Opinion among social scientists remains sharply divided, with some emphasizing the detrimental outcomes often associated with families headed by a single mother (McLanahan and Sandefur 1994), and others placing greater emphasis on the increasingly complex family lives of many children and adolescents (Furstenberg and Cherlin 1991). These concerns have, in turn, been reflected in the large and growing literature examining the effects of family structure on various outcomes during adolescence and young adulthood.

In this paper, we examine effects of dynamic measures of family structure on the age-specific rate of entry into first premarital sexual intercourse. A widely replicated finding is that age at first sexual intercourse is earlier for women in nonintact families than intact families. Much of this research has relied on relatively crude measures of family structure—typically, a snapshot of family situation at age 14. Results from such studies necessarily say little about questions of sociological, demographic, and policy interest—for example, whether being born out of wedlock or prolonged exposure to a single mother family is associated with an earlier age at sexual initiation. Thus, a primary goal of this paper is to provide evidence on such questions for recent cohorts of young women using data from the National Longitudinal Survey of Youth (NLSY).

A second goal of this paper is to test competing hypotheses on the effects of family structure on age at entry at first sexual intercourse. The positive association between residing in a nonintact family at age 14 and early onset of sexual activity has typically been interpreted by researchers as consistent with three hypotheses. A first hypothesis holds that women with prolonged exposure to a single-mother family or for whom a biological father is absent for much of life are socialized in ways that lead to higher risks of sexual activity. A second hypothesis stresses issues of parental control during adolescence—that, all else being equal, adolescent supervision is more difficult in one-parent than two-parent families. A final hypothesis focuses on family

instability—that some children and adolescents experience significant instability in family life, which may in turn undermine attachment between parents and adolescents or lead adolescents to seek emotional intimacy outside the family.

THEORY

Socialization and the parental role model. A first explanation holds that socialization experiences in nonintact families generate higher risks of early sexual activity. Authors within this general perspective have identified three conceptually distinct subprocesses: acquisition of gender and sexual identities, direct modeling of parental behaviors, and the intergenerational transmission of permissive attitudes towards sexuality.

Several authors have argued that the absence of a father in single-mother families inhibits the development of a healthy gender identity, appropriate sex-typed behaviors, and a positive sexual self-image (Freud [1925] 1961; Goode 1956; Hetherington 1972, 1981). Fathers are viewed as important during the developmental stages in which gender and sexual identity emerges in childhood and adolescence by providing a role model that might guide a young woman's selection of, and attachment to, future sexual partners. Hetherington (1972), in particular, argues that father absence contributes to sexual acting out among adolescent girls, thus raising the risk of early entry into sexual activity. Other research suggests that the father's social and developmental role is not easily assumed by stepfathers in reconstituted families (Cherlin 1978; Furstenberg 1987; Seltzer and Bianchi 1988), which places particular emphasis on the consequences of prolonged exposure to families in which a biological father is absent.

Others have argued that exposure to the sexual activity of a single mother may hasten entry into sexual activity of adolescents in such families. Proponents of this view typically hold that adolescents model or script their sexual behaviors on those of salient role models (Gagnon and Simon 1973); hence, residing with a sexually active single mother may provide an inappropriate role model or, alternatively, may undermine

the single parent's ability to proscribe the sexual activity of their adolescent offspring (Inazu and Fox 1980; McLanahan and Sandefur 1994; Thornton and Camburn 1987).

Empirical studies of modeling effects have focused largely on never-married, divorced, or remarried mothers (Inazu and Fox 1980; Newcomer and Udry 1987; Thornton and Camburn 1987; Trent and South 1992; Weinstein and Thornton 1989; Whitbeck et al. 1994).¹ Several report higher rates of sexual activity for women in nonintact families than intact families (Billy, Brewster, and Grady 1994; Booth, Brinkerhoff, and White 1984; Brewster 1994ab; Flewelling and Bauman 1990; Hogan and Kitagawa 1985; Inazu and Fox 1980; Newcomer and Udry 1987), but these findings typically employ static measures of family structure and provide at best indirect evidence concerning modeling effects. More direct evidence for socialization and modeling effects is reported by Hogan and Kitagawa (1985), who report higher rates of first sexual intercourse for black women in Chicago with a sister who gave birth while a teenager, and Inazu and Fox (1980), who find that mother's cohabitation is significantly associated with early sexual initiation for a random sample of students from seven Detroit high schools.

A third socialization hypothesis stresses the intergenerational transmission of attitudes regarding sexual behaviors. Analyses of attitudinal data have found that divorced or never-married parents have more permissive or less conventional attitudes towards sexuality; such attitudes are in turn associated with greater sexual activity among offspring raised in such families (Newcomer and Udry 1987; Thornton and Camburn 1987; Weinstein and Thornton 1989).

While the socialization mechanisms described above might appear sensible at first glance, some puzzles emerge from a closer inspection of these arguments. For example,

¹Exceptions are Haurin and Mott (1990) and Hogan and Kitagawa (1985), who focused on modeling effects of siblings, and several studies of the effects of community characteristics on sexual initiation (Billy, Brewster, and Grady 1994; Brewster 1994ab), effects which, following Wilson (1987), are interpreted as evidence of peer modeling.

by equating father absence with residence in a mother-only family, most researchers have implicitly assumed that the sexual activity of a non-residential biological father has no effect on a young woman's age at entry into sexual activity—a somewhat paradoxical assumption given the historical and theoretical emphasis on the father role for the sexual behavior of daughters. Furthermore, the available evidence suggests that sexual activity is greater among divorced fathers than divorced mothers and among never-married fathers than never-married mothers (Laumann et al. 1994). These observations raise questions about a prevalent assumption underlying much of the empirical literature—that daughters' sexual behavior is influenced by the behaviors of present mothers, but not that of absent fathers.

Parental supervision during adolescence. A second explanation holds that deviant outcomes are more prevalent among adolescents who are less well supervised and that, all else being equal, one parent is less able to exercise adequate supervision of adolescents than two parents (Dornbusch et al. 1985; Hogan and Kitagawa 1985; Matsueda and Heimer 1987; McLanahan and Bumpass 1988; Thomson, McLanahan, and Curtin 1992). Empirical findings generally support this hypothesis, with several studies reporting that greater parental supervision is associated with lower sexual activity among adolescents (Hogan and Kitagawa 1985; Inazu and Fox 1980; Jessor and Jessor 1975; Miller et al. 1986; Small and Luster 1994).

One difficulty with this hypothesis as commonly stated is that it assumes similar outcomes for women in intact and stepfamilies. This assumption is questionable both empirically (Booth, Brinkerhoff, and White 1984; Dornbusch et al. 1985; Flewelling and Bauman 1990; but see Newcomer and Udry 1987) and when considered in the context of the cultural norms and institutions attached to intact and nonintact families (Cherlin 1978; Furstenberg 1987; Furstenberg and Nord 1985; Price-Bonham and Balswick 1980; Seltzer and Bianchi 1988). For example, researchers typically acknowledge that control and monitoring occurs at different analytical levels: parents may attempt to

exercise direct control and monitoring, but effective control can also occur if norms and expectations are internalized, for example, by the young woman and her potential sexual partners. These considerations are also important when considering the cultural prescription that biological fathers monitor the dating by their adolescent daughters, an expectation that, while pertaining to fathers, is shared by mothers, daughters, boyfriends, and the larger social community. Stepfathers, by contrast, are not subject to such expectations and thus have fewer social or cultural incentives to monitor the sexual activity of stepdaughters. Indeed, such stepfather-stepdaughter interactions often generate considerable conflict within stepfamilies (Cherlin 1978; Amato 1987; Furstenberg 1987; Walker and Messinger 1979).²

Stress and family instability. A final explanation holds that early onset of first sexual intercourse represents one possible response by a young woman to the stresses and instability accompanying change in family situation. Social scientists generally agree that a parental divorce or remarriage constitutes a major stressor in the lives of recent cohorts of children and adolescents; moreover, emotional distress among children and adolescents following a divorce or remarriage can be considerable even in the absence of substantial conflict. Family change and instability may lead the child or adolescent to be uncertain of a parent's ability to provide emotional stability or support, as well as to question aspects of the parent/child relationship that may have previously seemed unproblematic; similarly, family change may undermine a parent's ability or effectiveness to nurture the child or adolescent (Garmezy 1983; Wallerstein and Blakeslee 1989; Maccoby and Mnookin 1992). As a result, adolescents may seek emotional support or intimacy through available sexual partners either as a direct response to family stress and instability or as an indirect response to parental ineffectiveness as a socialization agent (Wu and Martinson 1993; Wu 1994).

²Sexual abuse is also widely thought to be more prevalent in stepparent families than in other types of families, with daughters at particular risk of sexual abuse from stepfathers or stepsiblings.

Previous research has examined effects of parental attachment but has largely ignored potential confounding effects of family stress or instability.³ The empirical findings are mixed. Some researchers using small or convenience samples report older ages at onset of sexual activity for adolescents who report a close or supportive mother-daughter relationship (Inazu and Fox 1980; Jessor and Jessor 1975; Small and Luster 1994), while others find no significant effects of these variables (Newcomer and Udry 1987; Yamaguchi and Kandel 1987).

DATA

We use data from the 1979–87 National Longitudinal Survey of Youth (NLSY), a prospective survey consisting of a household-based national probability sample of young adults aged 14–21 in 1979. These data contain 12,686 respondents interviewed in 1979, with a main sample of 6,111 individuals, an oversample of 5,295 minorities and poor whites, and a military sample of 1,280 Armed Forces personnel. Since 1979, yearly data on household composition have been gathered, along with event history data on a respondent's sexual, parental, marital, and homeleaving histories. Sample attrition has been low, with 84% of the sample successfully reinterviewed in 1989, corresponding to an average annual retention rate of 98%.

Data on age at first sexual intercourse are obtained from the 1985 and 1986 interviews. In 1984, age at first sexual intercourse was obtained to the nearest year. In 1985, new questions were administered to all female respondents, which provided information on the year and month in which menarche and first sexual intercourse took place. These items were repeated in 1986 for 1985 female nonrespondents.

We constructed data on our outcome (age in months at first sexual intercourse prior to first marriage) using data from the 1985 and 1986 waves. When data on the

³Note that issues concerning parental attachment are further complicated by divorce and remarriage: for example, a young woman may report close ties with her biological mother, a highly strained relationship with her non-resident biological father, indifferent relations with a resident stepfather, and conflictual relation with her non-resident stepmother.

calendar month at first sexual intercourse was missing, we used a hot-deck procedure to impute month at onset. We censored women at their age at interview in 1985 or 1986 if they reported never having experienced sexual intercourse or at their age at first marriage if they initiated sexual intercourse on or after the date of marriage. Finally, we dropped seven cases who reported a first sexual intercourse prior to age 10.⁴

Of the 6,283 women present at the initial 1979 interview, we excluded (1) racial and ethnic minorities other than blacks and Hispanics ($n = 875$); (2) the military oversample ($n = 400$); (3) those reporting first intercourse prior to age 10 or missing data on first intercourse ($n = 166$); (4) those missing data on age at menarche ($n = 46$); (5) those with missing parent histories ($n = 381$); and (6) those missing data on various control variables or who did not know their mothers ($n = 86$). These restrictions yield 4,329 women consisting of 2,390 white, 1,249 black, and 690 Hispanic women.

Measures of Family Structure. We used a retrospective parent history from the 1987 wave to construct measures of family structure. These data provide information on the number and types of parents with whom the respondent lived at each yearly age between birth and age 18+. We merged these data with a homeleaving history constructed from an item in the parent history and from the annual household rosters to determine the family situations of respondents before they left home. Table 1 lists the 23 types of family situations observed in these data.

[Table 1 about here.]

The hypotheses discussed above identify multiple dimensions of family structure: whether a woman was born out of wedlock, prolonged exposure to a mother-only family, prolonged absence of a biological father, type of family during adolescence, and family instability. To measure family instability, we use an age-varying variable

⁴Although these data provide detailed information on the timing of first sexual intercourse, they lack information on the consensual or nonconsensual nature of the first sexual intercourse or on whether sexual intercourse was with a same-sex or opposite-sex partner.

that cumulates the number of changes in family structure experienced between birth and age t , where change refers to a transition between any of the family situations listed in Table 1. To operationalize ideas from the parental control hypothesis, we employ two sets of age-varying dummy variables, one distinguishing between intact, mother-only, stepparent, and all other types of families, and a second between intact, mother-only, father-only, mother and stepfather, father and stepmother, and other types of families. Because this hypothesis stresses the period of adolescence, we set these variables to zero at age 19+ (228+ months).

We employ several variables to measure duration of exposure to a mother-only family or to a family in which the biological father is absent. A first is a dummy variable coded 1 if the respondent was born out-of-wedlock and 0 otherwise. A second assesses prolonged exposure to a mother-only family during early childhood using a dummy variable coded 1 if the respondent spent at least 75 percent of her first six years of life in a mother-only family and 0 otherwise. A third assesses prolonged absence of a biological father during early childhood using a dummy variable coded 1 if the respondent spent less than 25 percent of the first six years of life in any family containing a biological father. Two final variables measure prolonged exposure to a mother-only family and prolonged absence of a biological father defined over all ages using two age-varying dummy variables, the first coded 1 at age t if the respondent spent 75 percent or more of life between birth and age t in a mother-only family, and the second coded 1 if the respondent spent less than 25 percent of life between birth and age t in any family containing a biological father.⁵

⁵Because the parent calendar obtains data at yearly ages, the measure of prolonged exposure to a mother-only family during childhood contrasts those who spent 5 or 6 years of early life in a mother-only family with those who spent 4 years or less in such a family, while the measure of biological father absence during childhood contrasts those who spent 0 or 1 years of early life in any family with a biological father with those who spent 5 or more years in such a family. Prolonged exposure to a mother-only family and prolonged absence of a biological father thus differ conceptually; for example, residing with a biological mother and a stepfather will decrease the percentage of life spent in a mother-only family but increase the percentage of life spent in family with a biological father absent.

Measures of education and maternal childbearing. We contrast effects of family structure with effects of educational expectations and age when the respondent's mother began childbearing. Previous research has found a strong negative association between educational attainment and age at first sexual intercourse. We employ educational expectations rather than education attainment because many women complete their education after first sexual intercourse.⁶ We use mother's age at first birth as an alternative indicator of the process by which young women model their sexual behaviors on past maternal behaviors.

Other controls. Because of variation in sexual maturation, we control for a time-varying dummy variable equal to one after age at menarche. We control for several other relevant factors: number of siblings; Catholicism; mother's education; socioeconomic index (SEI) of the respondent's father (or adult male figure) when the respondent was age 14; a variable defined by adding dummy variables indexing the presence of magazine, newspapers, or library cards at age 14; the respondent's summary score on the Armed Forces Qualifying Test (AFQT), which we standardized by age cohort; dummy variables indicating if another adult was present during questions about sexual intercourse or if the interview was conducted by phone; and a dummy variable equal to one month at first sexual intercourse was imputed. Finally, we included dummy variables for missing mother's education, missing father's SEI, missing mother's age at first birth, and missing AFQT. Table 2 presents unweighted means and standard deviations for the non-time-varying covariates used in the analyses.

[Table 2 about here.]

Tests of hypotheses. The measures of family change and family situation during

⁶Data on educational expectations were gathered in 1979; hence, these data will also have been obtained after age at first sexual intercourse for some women. Interpreting effects of educational expectations will therefore be problematic if educational expectations vary significantly with age or if entry into sexual activity significantly alters educational expectations. Clearly, these difficulties are even more pronounced for measures of educational attainment; hence, our focus on educational expectations.

adolescence provide straightforward tests of the instability and parental supervision hypotheses, respectively. Tests of the various socialization hypotheses are less direct. The first socialization variant, stressing the role of the biological father in a daughter's development of gender and sexual identity, predicts a positive association between father absence and early age at entry into sexual activity; hence, under this hypothesis we would expect positive effects on the risk of first sexual intercourse of being born out of wedlock, prolonged exposure to a mother-only family, and prolonged exposure to a family in which the biological father is absent.

Proponents of the second and third socialization variants, which emphasize parental modeling and the intergenerational transmission of permissive attitudes, typically emphasize the role played by the single mother. Under this hypothesis, we would expect that indicators of the mother's nonmarital sexual activity—for example, whether the respondent was born out of wedlock or mother's age at first birth—should increase age-specific risks of first sexual intercourse. These same indicators are also associated with more permissive or less conventional attitudes towards sexuality (Thornton and Camburn 1987); hence, the parental modeling and permissive attitude hypotheses yield identical predictions for these variables. In addition, the nonmarital sexual activity of parents typically increases after divorce and, especially, prior to remarriage (Thornton and Camburn 1987; see also Weinstein and Thornton 1989); these activities are also correlated with less traditional attitudes concerning sexual activity. Hence, both hypotheses suggest higher rates of first sexual intercourse for adolescents in nonintact families than in intact families and for those in stepfamilies than divorced families; however, these predictions are particularly indirect given the absence of data on the nonmarital sexual activity of parents.

RESULTS

How accurate are data on age at first sexual intercourse? While estimates from

vital registration sources can be used to gauge the accuracy of survey data on births, marriages, and deaths, there are no such comparable sources to gauge the accuracy of self-reported data on sexual activity. Lacking such sources, one can at best determine the relative consistency of data drawn from different surveys (Kahn, Kalsbeck, and Hofferth 1988). Table 3 reports estimates for white women on the cumulative proportion experiencing first sexual intercourse using data from the NLSY and a comparable source—the National Survey of Family Growth (NSFG).⁷ Estimates are remarkably close, with differences not statistically significant.

[Table 3 about here.]

Figure 1 presents smoothed nonparametric estimates for the logarithm of the rate of first premarital sexual intercourse by race and ethnicity using a procedure described in Wu (1989). The curve for black women is slightly higher than that for white and Hispanic women, but the three curves roughly parallel one another, as would be expected under an assumption of proportionality. Based on Figure 1, we model age dependence in the rate of first sexual intercourse using a splined two-period piecewise Gompertz model using age intervals 10–18.5 and 18.5+.

[Figure 1 about here.]

Snapshot analyses. We begin by contrasting effects of standard snapshot measures of family structure with effects of the respondent’s educational expectations and maternal age at childbearing. Table 4 reports proportional hazard estimates separately by race and ethnicity and for a model pooled across race and ethnicity. To simplify the presentation of results, we control for, but do not present estimated effects, of age, homeleaving, and the background variables.

⁷We thank Larry Bumpass for sharing estimates from the NSFG. Our estimates differ from those of Kahn, Kalsbeck, and Hofferth by (a) using data from the 1985–86 waves, as opposed to the 1984 wave, of the NLSY; (b) censoring NLSY and NSFG respondents by first marriage; and (c) restricting the NSFG sample to those birth cohorts sampled by the NLSY.

[Table 4 about here.]

Overall, estimated effects agree closely with those reported in the literature. There are strong and significant effects in the expected directions for educational expectations and age when the respondent's mother began childbearing; these effects are large in magnitude especially when evaluated at the means for these variables (between 13 and 14 years and 20 and 22 years, respectively). The results also suggest higher rates of sexual initiation for respondents in all three nonintact family situations.

Similarities in estimates by race and ethnicity suggest that effects of family structure do not differ significantly by race and ethnicity. Based on this observation, the final column of Table 4 presents pooled estimates that assume proportional effects of race and ethnicity. Tests of the pooling assumption that variation by race and ethnicity in the shape of the baseline hazard or in the effects of the family and background covariates yield no significant improvement in fit by relaxing this assumption in these and subsequent models (results available upon request). Based on these results, we henceforth confine attention to models pooled by race and ethnicity.

Dynamic analyses. Table 5 presents estimates for dynamic measures of family structure. The zero-order estimates (Model 0) present estimates of a single variable (or, in the case of family situation during adolescence, a set of variables) after controlling for age, homeleaving, and the background variables, while Models 1–5 present estimated effects after controlling for the other variables in Table 5.

[Table 5 about here.]

The results indicate that effects of education, maternal childbearing, frequent family change, and family situation during adolescence are significant and in the expected directions in all models. The effects of educational expectations and maternal childbearing are identical in direction, magnitude, and significance to those in Table 4. Similarly, frequent change in family structure and all three categories of nonintact

family situations during adolescence are associated with significantly higher rates of first sexual intercourse, with the zero-order effects of these variables larger than the effects when controlling for the other variables.⁸ Four of the five zero-order effects for prolonged exposure to a mother-only family or prolonged absence of a biological father are significant and in the expected direction, but all effects of these variables become insignificant after controlling for the other family measures.

Overall, the results in Table 5 are consistent with the instability hypothesis and provide little support for the variants of the socialization hypothesis stressing detrimental effects of prolonged exposure to a single mother or prolonged absence of a biological father. However, the estimated effects of current family situation pose something of a puzzle for arguments stressing parental supervision. Under this hypothesis, control should be greater or monitoring more effective in two-parent than one-parent families; however, estimated effects are nearly identical in magnitude across the three categories of nonintact families.

Table 6 provides a possible resolution of this puzzle by using alternative measures of family situation during adolescence that distinguish between intact, mother-only, father-only, mother and stepfather, father and stepmother, and other types of families. Using these alternative measures of adolescent family situation does not change estimated effects of respondent's educational expectation and maternal childbearing; hence, these effects are not reported in Table 6. As in Table 5, we observe significant effects of frequent family change and no significant effects of being born out of wedlock, prolonged exposure to a mother-only family during childhood, prolonged exposure to a mother-only family defined over all ages, prolonged absence of a biological father during childhood, or prolonged absence of a biological father during all ages. However,

⁸In analyses not reported, we find that estimated effects of frequent change in family structure and of family situation during adolescence are reduced in magnitude relative to the zero-order estimates when controlling for the full array of family measures, but that these estimated effects are unchanged when further controlling for measures for educational expectations and mother's age at first birth.

estimated effects of the alternative set of variables for current family situation in Table 6 provide a different and, as we argue in our concluding remarks, a more interpretable set of results than those in Table 5.

[Table 6 about here.]

As expected, estimated effects for current family situation are generally positive and significant; hence, women residing in all nonintact family situations have higher risks than women residing in intact families. However, an interesting qualitative pattern in the magnitude of effects emerges. The zero-order estimates suggest that the highest risks occur for women residing in a father-only family, followed by those in a mother-stepfather family, in a mother-only family, or in other types of families; the lowest risks occur for women residing with their father and stepmother, with risks for these women not significantly different from those in intact families. This overall pattern is largely unchanged in Models 1–5, with risks for women in father-stepmother families and other families not significantly different from those in intact families.

Note that differences between estimates in Model 0 and those in Models 1–5 can be used to roughly gauge the internal consistency of estimates in Tables 5 and 6. For example, consider a woman living in a single-mother family during adolescence. Typically, such an individual would have been born into an intact family and subsequently experienced a parental divorce; hence, this individual would have experienced one change in family situation between birth and adolescence. The predicted relative risk in Model 1 of Table 6 for such a woman would combine the effect of living in a mother-only family during adolescence (.24) with the effect of one change in family situation (.09); hence, the predicted risk of entry into sexual activity at age t is $1 - \exp(.33) = 39$ percent higher relative to a woman who resided in an intact family between birth and age t . Note in particular that this predicted risk is identical to the zero-order estimate (.33) of living in a mother-only family at age t .

Similar predictions for the effect of living in a mother-only family can be obtained for estimates in Models 2–5; these also agree closely with the estimated zero-order effect.

Consider next the predicted relative risk for a woman who currently resides with her mother and a stepfather. The typical family trajectory for such a woman would consist of two changes in family structure: a divorce by the woman's biological parents, followed by the remarriage of the woman's mother. Combining the relevant estimates in Models 1–5 yields predicted relative risks that are again nearly identical to that given by the zero-order estimate for residing in a mother-stepfather family at age t . Similar statements hold for other estimated effects in Tables 5 and 6.

DISCUSSION

Taken descriptively, our analyses suggest three main empirical findings. First, we observe a consistently positive association between the number of changes in family situation experienced by a woman between birth and age t and her risk of first sexual intercourse at age t . Second, we observe increased risks for women living in mother-only, father-only, and mother-stepfather families during the adolescent years relative to women residing in intact families during the adolescent years. Finally, and perhaps most importantly, we observe no significant effect, net of these other family effects, of being born out of wedlock, prolonged exposure to a mother-only family during early childhood, prolonged exposure to a mother-only family defined over all ages, prolonged absence of a biological father during early childhood, or prolonged absence of a biological father defined over all ages on a woman's rate of entry into first sexual intercourse. This last finding is somewhat provocative given popular expectations of detrimental effects stemming from prolonged exposure to a mother-only family or absence of a biological father.

We interpret these results as consistent with predictions from a family instability hypothesis and, more speculatively, with a variant of a parental control hypothesis

that stresses the contingent role played by biological fathers. Finally, our results provide inconsistent support for three hypotheses emphasizing effects of parent-child socialization, with some predictions receiving empirical support and others not.

As noted above, we find a significant effect in the expected direction of number of changes in family situation, a result consistent with predictions from an instability hypothesis. However, we also observe significantly higher rates of first sexual intercourse for women residing in nonintact families during adolescence than for women residing in intact families during adolescence; hence, factors other than family instability are also significant associated with entry into sexual activity.

What might these factors be? A key puzzle posed by our results is that rates of first sexual intercourse are highest for women residing in father-only families during adolescence, lowest for those in intact families and father-stepmother families, and midway between these extremes in mother-only and mother-stepfather families. While these differences are not statistically significant, we suggest that they are consistent with a variant of a parental control hypothesis. Under this hypothesis, we argue that biological fathers monitor the sexual activity of daughters in ways that biological mothers do not; we also argue further that this father-role is contingent on marital status, with married fathers providing “protective” effects, stepfathers unable to assume this father role, and the sexual activity of divorced fathers undermining their ability or authority to influence the sexual behavior of daughters who reside with them. Positing such a contingent father effect thus helps account for three findings—an overall gross differential observed between nonintact and intact families, high risks observed for respondents in father-only families, and similar risks observed for respondents in mother-only and mother-stepfather families—that otherwise do not mesh well with standard explanations. While clearly speculative in nature, these findings also raise questions about a prevalent assumption—namely, that the sexual behavior of daughters in nonintact families is influenced by mothers but not fathers.

Finally, predictions from three socialization hypotheses receive mixed support, with hypotheses supported by some findings and not by others. A first socialization hypothesis on acquisition of gender and sexual identity stresses the role of biological fathers in daughters' gender and sexual development. Our results, which indicate no significant effects of father absence on age at first sexual intercourse, provide little support for this hypothesis.

An alternative socialization hypothesis on the intergenerational transmission of sexually permissive attitudes is supported by some findings and not by others. We find a positive and significant association between the age when the respondent's mother began childbearing and early age at first sexual intercourse, which is consistent with this hypothesis. However, being born out of wedlock has no significant effect on age at first sexual intercourse, a finding that is inconsistent with this hypothesis.

Perhaps our strongest evidence in support of socialization effects concerns a modeling hypothesis that posits that adolescents model their sexual behaviors on the example set by parents. Our results suggest two findings consistent with expectations. First, we find a positive and significant association between the age when the respondent's mother began childbearing and early age at first sexual intercourse. However, this variable may also measure other similarities between mother and daughter—for example, physical attractiveness—that are unrelated to modeling effects but related to daughter's age at onset of sexual activity. A second finding, providing more indirect support, is the large, positive, and significant association between residing in a father-only family during adolescence and early at entry into first sexual intercourse. One interpretation of this finding is that it reflects a modeling effect of a divorced father's sexual activity on the behaviors of daughters residing in a father-only family. However, this finding is also consistent with a selection hypothesis, for example, that mothers who cannot control the behaviors of their daughters relinquish custody to fathers or that daughters prone to early sexual activity select themselves into

father-only families.

These observations underline the nonexperimental nature of our data, which complicate identification of these and other selection effects from the behavioral ones we have emphasized. Similarly, our attempt to disentangle the effects of family change, family situation during adolescence, exposure to a mother-only family, and biological father absence relies on various assumptions contained within our specification of these effects. For example, it may be difficult to identify specifications that posit effects of change, current family situation, prior family experience, and typical trajectories of family change. Finally, our measures rely heavily on observable aspects of family structure such as the numbers and types of parents present at different ages. While we believe that these variables are more informative than static measures of family structure, they still provide only rough proxies for what is undoubtedly a more subtle set of social and psychological processes experienced by children and adolescents.

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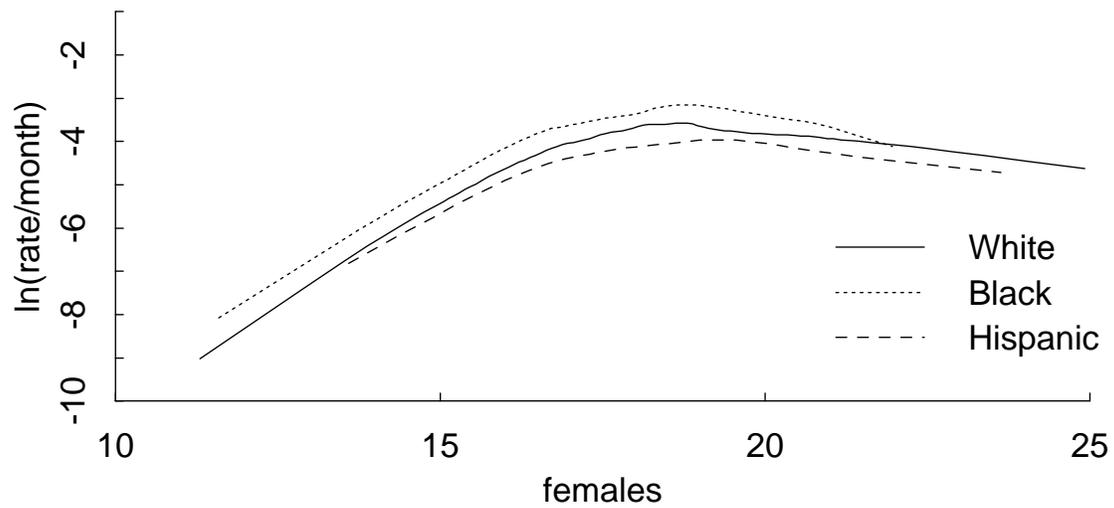


Figure 1. Smoothed nonparametric estimates of the logarithm of the age-specific rate of first sexual intercourse for white women ($n = 2,390$), black women ($n = 1,249$), and Hispanic women ($n = 690$). National Longitudinal Survey of Youth, 1979–87.

Table 1: Parental situations of white and black women, National Longitudinal Survey of Youth, 1979–87.

Family types for NLSY respondents

1. both biological parents
 2. biological father only
 3. biological mother only
 4. biological father and stepmother
 5. biological father and adoptive mother
 6. stepfather and biological mother
 7. adoptive father and biological mother
 8. two stepparents
 9. stepfather only
 10. stepmother only
 11. two adoptive parents
 12. adoptive father only
 13. adoptive mother only
 14. adoptive father and stepmother
 15. grandparents
 16. other relative
 17. foster parents
 18. friends
 19. children's home
 20. group home
 21. detention center
 22. other institution
 23. other nonparent
-

Table 2: Means and standard deviations for educational expectations, mother’s age at start of childbearing, social background, and control variables, females, National Longitudinal Survey of Youth, 1979–87.

| | Whites | Blacks | Hispanics | All |
|-------------------------------------|------------------|------------------|------------------|------------------|
| mother’s age at first birth | 22.15 (4.30) | 20.31 (4.34) | 21.20 (4.23) | 21.47 (4.38) |
| mother’s age at first birth missing | .07 | .11 | .12 | .09 |
| educational expectations | 13.73 (2.31) | 13.94 (2.22) | 13.33 (2.68) | 13.73 (2.35) |
| mother’s education | 11.61 (2.52) | 10.76 (2.63) | 7.79 (4.01) | 10.76 (3.14) |
| mother’s education missing | .04 | .07 | .06 | .05 |
| father’s SEI, age 14 | 36.88 (17.05) | 24.68 (10.51) | 24.52 (11.15) | 31.39 (15.79) |
| father did not work, age 14 | .07 | .07 | .07 | .07 |
| father not present, age 14 | .12 | .34 | .19 | .20 |
| father’s SEI missing | .07 | .10 | .06 | .08 |
| number of siblings | 3.27 (2.09) | 4.83 (3.10) | 4.73 (3.10) | 3.96 (2.70) |
| Catholic | .34 | .07 | .89 | .35 |
| AFQT | .35 (.84) | .59 (.82) | .41 (.91) | .04 (.95) |
| AFQT missing | .03 | .02 | .03 | .03 |
| reading materials in home | 2.31 (.87) | 1.67 (1.05) | 1.52 (1.06) | 2.00 (1.02) |
| other adult present | .06 | .06 | .09 | .07 |
| phone interview | .03 | .02 | .03 | .03 |
| imputed month at first intercourse | .23 | .35 | .20 | .26 |
| sample size | 2390 | 1249 | 690 | 4329 |

Table 3: Comparison of the cumulative percentage experiencing first sexual intercourse by age, white women born 1958–65, National Longitudinal Survey of Youth and National Survey of Family Growth.

| age | NLSY | NSFG |
|-----|------|------|
| 13 | 1 | 1 |
| 14 | 2 | 3 |
| 15 | 6 | 8 |
| 16 | 14 | 17 |
| 17 | 30 | 31 |
| 18 | 47 | 48 |
| 19 | 64 | 63 |
| 20 | 72 | 72 |
| 21 | 79 | 77 |
| 22 | 83 | 81 |

Table 4: Effects of education, maternal childbearing, and snapshot measures of family structure on age at first sexual intercourse, females, National Longitudinal Survey of Youth, 1979–87.

| | Whites | Blacks | Hispanics | All |
|-----------------------------------|-------------------|------------------|------------------|-------------------|
| <i>Education</i> | | | | |
| educational expectations | -.11*** (.01) | -.06*** (.02) | -.11*** (.02) | -.09*** (.01) |
| <i>Maternal childbearing</i> | | | | |
| mother's age at first birth | -.02*** (.006) | -.01 (.007) | -.02 (.012) | -.02*** (.004) |
| <i>Family situation at age 14</i> | | | | |
| mother-only family | .35*** (.10) | .19* (.09) | .28 (.17) | .24*** (.06) |
| stepfamily | .40*** (.08) | .30** (.11) | .48** (.17) | .37*** (.06) |
| other type of family | .09 (.11) | .29* (.11) | .05 (.24) | .20* (.08) |

Note: Standard errors in parentheses. All models control for age, homeleaving, and the background variables.

* $p < .05$ ** $p < .005$ *** $p < .0005$ (two-tailed test)

Table 5: Effects of education, maternal childbearing, and dynamic measures of family structure on age at first sexual intercourse, females, National Longitudinal Survey of Youth, 1979–87.

| | 0 | 1 | 2 | 3 | 4 | 5 |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <i>Education</i> | | | | | | |
| educational expectations | -.09*** (.01) | -.09*** (.01) | -.09*** (.01) | -.09*** (.01) | -.09*** (.01) | -.09*** (.01) |
| <i>Maternal childbearing</i> | | | | | | |
| mother's age at first birth | -.02*** (.004) | -.02*** (.004) | -.02*** (.004) | -.02*** (.004) | -.02*** (.004) | -.02*** (.004) |
| <i>Stress and instability</i> | | | | | | |
| number of family changes | .18*** (.02) | .10** (.03) | .10*** (.03) | .09** (.03) | .10** (.03) | .09** (.03) |
| <i>Family situation during adolescence</i> | | | | | | |
| mother-only family | .33*** (.06) | .24*** (.06) | .23*** (.07) | .26*** (.07) | .25*** (.06) | .25*** (.06) |
| stepfamily | .44*** (.06) | .24*** (.08) | .23*** (.08) | .25*** (.08) | .24*** (.08) | .24*** (.08) |
| other type of family | .40*** (.07) | .23* (.08) | .22* (.08) | .24** (.08) | .23* (.09) | .23* (.09) |
| <i>Prolonged exposure to single mother/absence of biological father</i> | | | | | | |
| born out of wedlock | .14* (.06) | .04 (.07) | | | | |
| mother-only family, 75–100% of life, ages 0–5 | .14* (.07) | | .09 (.07) | | | |
| mother-only family, 75–100% of life, all ages | .01 (.07) | | | -.02 (.08) | | |
| family with bio. father, 0–25% of life, ages 0–5 | .13* (.06) | | | | .02 (.06) | |
| family with bio. father, 0–25% of life, all ages | .20*** (.05) | | | | | .02 (.06) |

Note: Standard errors in parentheses. All models control for age, homeleaving, and the background variables. See text for additional details on the definition of models.

* $p < .05$ ** $p < .005$ *** $p < .0005$ (two-tailed test)

Table 6: Effects of alternative dynamic measures of family structure on age at first sexual intercourse, females, National Longitudinal Survey of Youth, 1979–87.

| | 0 | 1 | 2 | 3 | 4 | 5 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <i>Stress and instability</i> | | | | | | |
| number of family changes | .18*** (.02) | .09** (.03) | .10*** (.03) | .09** (.03) | .09** (.03) | .09** (.03) |
| <i>Family situation during adolescence</i> | | | | | | |
| mother-only family | .33*** (.06) | .24*** (.06) | .23*** (.07) | .26*** (.07) | .25*** (.06) | .25*** (.07) |
| father-only family | .59*** (.14) | .40* (.15) | .39* (.15) | .41* (.15) | .40* (.15) | .40* (.14) |
| mother/stepfather family | .47*** (.07) | .27** (.08) | .26** (.08) | .29*** (.08) | .28** (.08) | .27** (.08) |
| father/stepmother family | .25 (.16) | .05 (.17) | .04 (.17) | .06 (.17) | .05 (.17) | .06 (.17) |
| other type of family | .34*** (.08) | .18 (.09) | .17 (.09) | .19* (.09) | .18 (.10) | .18 (.10) |
| <i>Prolonged exposure to single mother/absence of biological father</i> | | | | | | |
| born out of wedlock | .14* (.06) | .04 (.07) | | | | |
| mother-only family, 75–100% of life, ages 0–5 | .14* (.07) | | .09 (.07) | | | |
| mother-only family, 75–100% of life, all ages | .01 (.07) | | | -.02 (.08) | | |
| family with bio. father, 0–25% of life, ages 0–5 | .13* (.06) | | | | .02 (.06) | |
| family with bio. father, 0–25% of life, all ages | .20*** (.05) | | | | | .02 (.06) |

Note: Standard errors in parentheses. All models control for age, homeleaving, and the background variables; Models 1–5 control for educational expectations and mother’s age at first birth. See text for additional details on the definition of models.

* $p < .05$ ** $p < .005$ *** $p < .0005$ (two-tailed test)