Institute for Research on Poverty
Discussion Paper no. 1165-98

# Family Change and Early Sexual Initiation

Lawrence L. Wu
Department of Sociology
Center for Demography and Ecology
University of Wisconsin–Madison
E-mail: lwu@ssc.wisc.edu

Elizabeth Thomson
Department of Sociology
Center for Demography and Ecology
University of Wisconsin–Madison

July 1998

We gratefully acknowledge research funding from the National Institute of Child Health and Human Development (HD 29550), the Faculty Scholars Program of the William T. Grant Foundation, and from the Office of Assistant Secretary for Planning and Evaluation to the Institute for Research on Poverty. Additional support was provided by a core grant to the Center for Demography and Ecology (NICHD HD 05876). We thank Jiyeun Chang, Daniel Long, and Steven Martin for research assistance; John Prineas for programming assistance; and Andrew Cherlin, Aimee Dechter, Daniel Long, Steven Martin, and Perry Steichen for helpful comments and discussions.

**Abstract**

In this paper, we examine the effects of family structure on age at first sexual intercourse before 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 number and types of parents in the respondent's household between birth and age 18. We use these measures to test the effects of prolonged exposure to a single-mother family, prolonged absence of a biological father, parental presence during adolescence, and instability in family structure. For white women, age-specific rates of first sexual intercourse are significantly and positively associated with time-varying measures for the number of family transitions; for black women, age-specific rates are significantly and positively associated with time-varying variables for having resided in a mother-only or father-only family during adolescence. Net of other effects of family structure, we find no significant effects for white or black women of being born out of wedlock, prolonged exposure to a single-mother family, or prolonged absence of a biological father. We interpret our results for white women as consistent with a turbulence and instability hypothesis, but as providing little support for socialization or parental-control hypotheses; for black women, our results are consistent with the parental-control hypothesis, but provide little support for the socialization and turbulence hypotheses. Overall, these findings suggest that the processes influencing the transition to sexual activity may vary quite markedly for white and black women.

# Family Change and Early Sexual Initiation

Family structure has consistently been implicated as an important factor associated with the sexual behavior of adolescents. Numerous studies have found that sexual initiation occurs later for adolescent women who resided with both biological parents than for those who have experienced a parental divorce or who have never lived with their biological father (Billy, Brewster, and Grady 1994; Booth, Brinkerhoff, and White 1984; Brewster 1994a,b; Flewelling and Bauman 1990; Hogan and Kitagawa 1985; Inazu and Fox 1980; Newcomer and Udry 1984; Thornton and Camburn 1987; Trent and South 1992; Weinstein and Thornton 1989; Whitbeck et al. 1996). This empirical association between family structure and age at first intercourse is of particular policy interest because of concerns that early sexual activity may increase the risk of contraceptive nonuse, sexually transmitted diseases, teenage pregnancy, teen motherhood, and out-of-wedlock childbearing (Kiernan and Hobcraft 1997; McElroy and Moore 1997; Mosher and Bachrach 1996; Wu, Cherlin, and Bumpass 1997).

Despite this substantial body of empirical work, the precise mechanisms linking family structure to the initiation of sexual activity are not well understood. One difficulty has been the reliance of much previous research on relatively crude measures of family structure—typically a child's family structure at age 14. Such snapshot measures say little about what aspect of family structure influences adolescent behavior, in part because they ignore variation in an adolescent's family trajectory that is, we argue, important in explaining the timing of first intercourse. In this paper, we use data from the National Longitudinal Survey of Youth (NLSY) to analyze age-specific rates of first sexual intercourse prior to a first marriage for women who entered adolescence during the 1970s and early 1980s. We exploit detailed family histories available in the NLSY to estimate the effects of the number of family transitions, prolonged exposure to specific types of families, and family structure during adolescence. Our results provide evidence on the relative importance for young women's entry into sexual activity of hypothesized effects of parental socialization, parental supervision during adolescence, and family turbulence and instability.

## THEORY

We focus on three potential linkages between family structure and age at first sexual intercourse. The first emphasizes the processes of parental socialization for sexual behavior, the second parental supervision and control during adolescence, and the third the cumulative effects of family turbulence accompanying frequent change in family membership and circumstance. These distinctions are not absolute: socialization under certain family circumstances may impair effective parental supervision; similarly, family instability may disrupt parental supervision or divert the socialization process. We interpret our findings with these observations in mind.

*Socialization processes.* Researchers drawing from a socialization perspective argue that parents convey sexual attitudes and behaviors to children in direct and indirect ways. For example, a number of researchers have argued that parents who have not married prior to a child's birth or who have separated at a later date have more permissive attitudes toward sexuality than parents who bear and raise children together in marriage, and that they transmit those views to their children (Newcomer and Udry 1984; Thornton and Camburn 1987; Weinstein and Thornton 1989). As a result, adolescents whose parents have not remained together are less likely to believe that nonmarital sexual intercourse is wrong, and these beliefs, it is argued, lead to earlier entry into sexual activity than for adolescents in intact families.

All available empirical evidence concerns the sexual attitudes of mothers, a plausible emphasis given the greater role of mothers in childrearing. For young women, mothers are a more likely source of sexual information and advice than are fathers. In addition, children who reside with one parent are most likely to live with their mother (Maccoby and Mnookin 1992); this would further reduce the influence of fathers' attitudes if, as is likely, the influence of parental attitudes on child behavior is stronger when a child or adolescent resides with the parent.

A less direct mechanism of socialization for early sexual behavior is through parental modeling. This argument holds that adolescents model their sexual behavior on that of salient others (Gagnon and Simon 1973). Since many single mothers or fathers engage in nonmarital sexual intercourse, children may conclude that nonmarital sexual intercourse—including premarital intercourse during adolescence—is acceptable (Inazu and Fox 1980; McLanahan and Sandefur 1994; Thornton and Camburn 1987). Even if parents convey disapproval of adolescent sexual activity, their offspring may reject parental views as inconsistent and hypocritical. Inazu and Fox (1980) provide evidence consistent with a modeling hypothesis, reporting that a mother's cohabitation significantly hastened child's entry into sexual activity.[1]

Modeling effects may be stronger for the same-sex parent, whose sexuality is most like that of the adolescent. But as noted above, modeling effects may also be stronger for the resident parent, regardless of gender, since adolescents can more easily observe the sexual activity of resident parents. Finally, the sexual behavior of single mothers, as opposed to single fathers, may be more salient for adolescent sexuality because of a sexual double standard—because nonmarital sexual activity is often perceived as more deviant for mothers than for fathers, mother's behavior may be more strongly associated with adolescents' sexual attitudes and behavior.

Finally, the sexual socialization of adolescents is commonly argued to occur indirectly through the construction of gender identities. One view from this perspective is that an adolescent's attachment to, and identification with, the mother is important to how adolescents view themselves in a variety of behavioral domains, including gender and sexuality (McCord, McCord, and Thurber 1961). Proponents of this view assert

[1] Several studies demonstrate the effects of modeling by siblings (Haurin and Mott 1990; Hogan and Kitagawa 1985) or suggest peer modeling effects through the influence of community characteristics on sexual initiation (Billy, Brewster, and Grady 1994; Brewster 1994a,b). See also Wilson (1987).

that a mother's sexual behavior (both past and present) may shape and define the adolescent's understanding of gender and sexual roles; if so, adolescents who have resided in a mother-only family for most of their lives and who thus lack alternative role models for sexual socialization are more likely to initiate sexual relations early. Others emphasize the role of prolonged absence of a father figure, with the social stigma and feelings of desertion or abandonment accompanying father absence argued as influential in lowering adolescent self-esteem and inhibiting the development of a healthy gender identity, appropriate sex-typed behavior, and a positive sexual self-image (Freud [1925] 1961; Goode 1956; Hetherington 1972, 1981).

An important distinction between these variants of the socialization hypothesis is that the modeling hypothesis emphasizes the period of adolescence, whereas the father-absence hypotheses emphasize the duration and timing of father absence. Herzog and Sudia (1973, p. 162–4) note that one variant of this hypothesis stresses the prolonged and continuing absence of a father, whereas another holds that "if the father is present until the child reaches a specific age . . . appropriate sex-role learning will have occurred, and absence after this critical period will have less effect." Thus, in the literature on socialization effects, some authors have emphasized the child's early experience of an absent father (including father absence at birth), others prolonged exposure to a single-mother family or to a father-absent family, and still others the modeling of parental behaviors by offspring during adolescence.

*Parental control during adolescence.* A second type of family influence is parental control of adolescents' sexual behavior. One direct mechanism of control is parental supervision of adolescent children. In particular, two parents are more easily able than one to monitor adolescents' activities, and therefore reduce their opportunities for engaging in sexual intercourse (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).

Since even vigilant parents cannot exercise continual supervision of adolescents, effective parental control depends not only on the socialization processes discussed above, but on the child's attachment to the parent. Adolescents who are strongly attached to and who identify with parents are more likely to have internalized the parents' standards for the adolescents' conduct. Empirical research on parental attachment and adolescent sexual activity is mixed. Some researchers using small or convenience samples report that sexual activity occurs later for daughters who have closer or more supportive relationships with their mother (Inazu and Fox 1980; Jessor and Jessor 1975; Small and Luster 1994). Others report no significant association (Newcomer and Udry 1984; Yamaguchi and Kandel 1987).

Theoretical distinctions between internal and external control are sharpened when considering possible differences between two biological-parent families and stepfamilies. Many studies report that adolescent supervision is as problematic in stepfamilies as in single-parent families (Booth, Brinkerhoff and White 1984; Dornbusch et al. 1985; Flewelling and Bauman 1990; but see Newcomer and Udry 1984), perhaps as a result of ambiguity concerning the role, duties, and responsibilities of stepparents (Cherlin 1978; Furstenberg 1987; Furstenberg and Nord 1985; Price-Bonham and Balswick 1980; Seltzer and Bianchi 1988). Stepfathers, in particular, may not be able to influence or monitor stepdaughters' sexual behavior as effectively as biological fathers. Indeed, when such attempts are made by stepfathers, considerable conflict can result (Cherlin 1978; Amato 1987; Furstenberg 1987; Walker and Messinger 1979).[2] Thus, while stepfamilies and two biological-parent families may possess seemingly similar resources

[2]Sexual 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.

to impose external control on adolescent behavior, internalized self-control may be lower for adolescents residing in stepfamilies than in intact families.

*Family turbulence and instability.* A third mechanism concerns turbulence in the family environment that often accompanies parental divorce, remarriage, and redivorce (Capaldi and Patterson 1991; Capaldi, Crosby, and Stoolmiller 1996; Kurdek and Fine 1993; Wu 1996; Wu and Martinson 1993). Although there is widespread consensus that a parental divorce constitutes a major stressor in the lives of children and adolescents (Garmezy 1983), divorce is often only the first step in a long sequence of events for children and parents (Furstenberg and Cherlin 1991; Hetherington 1987). Indeed, substantial fractions of recent cohorts of children and adolescents will experience both a parental divorce and parental remarriage (Bumpass 1984) and family trajectories have become increasingly complex for successive cohorts of children and adolescents (Martinson and Wu 1992).

How might family turbulence affect children and adolescents? One argument, derived from the literature on the effects of divorce, is that much of the observed effect of divorce is attributable to parental conflict that predates the actual date of divorce (Cherlin et al. 1991). Adolescents exposed to high levels of parental conflict may disengage from the family and look to peer groups for emotional support, thereby hastening adolescent entry into sexual activity (Hetherington 1981). A variant of this hypotheses argues that such effects typically decline with time as family turbulence recedes in the period following a divorce (Hetherington, Camara, and Featherman 1983). An alternative argument emphasizes selection—families marked by frequent conflict or turbulence may be drawn disproportionately from households in which parental competence is low on many dimensions. If so, poorer outcomes may be associated with both parental divorce and remarriage.

Other lines of argument and a growing body of empirical evidence suggest potentially more complex relationships between family transitions, familial conflict, and offspring outcomes. For example, a common finding is that outcomes are poorer for children and adolescents who resided in nonintact families, but that no consistent pattern of disadvantage emerges for outcomes for those who resided in mother-only families or stepparent families at age 14—outcomes are sometimes poorer for those in stepparent than single-mother families, and other times not significantly different (see, e.g., McLanahan and Bumpass 1988; Wu and Martinson 1993). These findings are consistent with research on child and adolescent adjustment in "blended" or "reconstituted" families, which finds that individuals in stepfamilies encounter numerous problems that do not arise in intact families—the appropriate roles of stepparents and noncustodial parents in disciplining children, emotional attachments (or lack thereof) between nonkin, the fiscal and legal responsibilities of stepparents and nonkin children, and even the proper terms to describe nonkin (Amato 1987; Cherlin 1978; Furstenberg 1987; Price-Bonham and Balswick 1980; Walker and Messinger 1979). Others have speculated about "sleeper" effects of divorce, with detrimental effects emerging only much later in life (Chase-Lansdale, Cherlin, and Kiernan 1995; Wallerstein and Blakeslee 1989). Despite some differences in emphasis, these arguments place less emphasis on the effects of the type of family change (e.g., divorce vs. remarriage) than on the consequences of the frequency and intensity of family change for child and adolescent outcomes.

Family change may also affect socialization and parental control. For custodial parents, both divorce and remarriage represent significant life events that may reduce the time and attention devoted to resident children (Hetherington and Clingempeel 1992). For offspring, a parental divorce or remarriage may lead the child or adolescent to question parental commitment or authority, especially in matters concerning nonmarital sexual activity. Family change is associated with other disruptions in the lives of children, adolescents, and parents; these include changes in residence, neighborhoods, and schools; weakened ties to the nonresident parent's extended family;

and changes in the family economy and work situation of custodial parents. These observations suggest that family change and the processes associated with it may weaken parental control and parental effectiveness as a socialization agent, while simultaneously increasing adolescent rebellion and negativity.

As our discussion has emphasized, distinctions between socialization, parental control, and family change are not absolute, and there may be much to be gained by viewing them as complex interactive processes. Still, this emphasis on family change raises the possibility that parental control and effectiveness may vary less with particular family configurations observed at one point in time (e.g., differentials in adolescent outcomes in intact and mother-only families) than with the *trajectory* of family experience for families, parents, and children.

## SEXUAL INITIATION, FAMILY EVENTS, AND FAMILY STRUCTURE

Our review of socialization theory has suggested that (1) early childhood experience of family structure may have long-term effects on the child's sexual behavior; (2) longer exposure to particular types of family structure will reinforce those effects; (3) the effects of living in a single-parent family are likely to be stronger when the single parent is the mother rather than the father. Early childhood family structure is most likely to influence sexual socialization through gender-identity processes, since very young children are unlikely to be seeking models or acquiring attitudes that will remain in force when they begin to understand and think about their own sexuality. Gender-identity processes imply a positive association between the risk of first sexual intercourse and being born out of wedlock, prolonged exposure to a mother-only family, and prolonged absence of the biological father. Parental modeling and the intergenerational transmission of permissive attitudes are typically linked to the single mother's role. Taken together, these arguments suggest that indicators of the mother's nonmarital sexual activity or sexual permissiveness will be associated with higher age-specific risks of first sexual intercourse. The measure most relevant to this hypothesis is a variable indicating if a respondent was born out of wedlock, but measures of prolonged lifetime residence with a single mother, and residence with a single mother or single father during adolescence also are relevant. Finally, adolescent modeling of parental sexual activity may be especially salient for adolescents in stepfamilies, since the single parent's relationship with a stepparent often will have included a sexual component prior to remarriage.

Arguments on parental control, which emphasize the role of current family situation, predict higher age-specific rates of sexual initiation for adolescents residing with a single mother or single father. Because adolescents typically view biological parents as possessing more legitimate authority than stepparents, rates of sexual initiation for adolescents living in stepfamilies are predicted to fall between those for single-parent and intact families. Finally, if fathers are more central to control than mothers, as some have argued, adolescent females living with a single father or with a biological father and stepmother are predicted to have lower rates of sexual initiation than those living with a single mother or with a biological mother and stepfather.

Arguments concerning family turbulence suggest that a key determinant of early sexual initiation will be the total number of transitions in the child's family history, transitions that may involve moves into or out of a two-biological-parent family or into or out of other family configurations.

## DATA

We use data from the 1979-87 National Longitudinal Survey of Youth (NLSY). The NLSY began with a household-based national probability sample of persons aged 14-21 in 1979. Of the 12,686 respondents, 6,111 were from the main sample, 5,295 from an oversample of minorities and poor whites, and 1,280 from a sample of 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 home-leaving histories. Sample attrition has been low, with 10,485 respondents (83 percent of the 1979 sample) reinterviewed in 1987, for an average annual retention rate of 98 percent.

Of the 6,283 women present at the initial 1979 interview, we excluded (1) racial and ethnic minorities other than white and black women ($n = 1,738$); (2) the military oversample ($n = 384$); (3) those reporting first intercourse prior to age 10 ($n = 7$) or missing data on first intercourse ($n = 125$); (4) those missing data on age at menarche ($n = 41$); (5) those with missing parent histories ($n = 284$); and (6) those missing data on various control variables or who did not know their mothers ($n = 46$).[3] These restrictions yield a sample of 2,401 white women and 1,257 black women.

*Age at sexual initiation.* Data on age at first sexual intercourse were obtained in the 1984 and 1985 or 1986 interviews, when all respondents were at least 18 years old. In 1984, age was obtained to the nearest year. In 1985, all female respondents were asked the year and month in which menarche and first sexual intercourse took place. These questions were repeated in 1986 for 1985 female nonrespondents. We computed the young woman's age in months at first premarital sexual intercourse using data from the 1985 and 1986 waves, using a hot-deck procedure to impute missing data on

[3] We excluded women in the military sample because women in the military in 1979 may have been self-selected in ways that could affect our analyses. Because the NLSY parent histories were gathered in 1987, missing parent history data occurs primarily because of sample attrition. These 284 respondents with missing parent history data represent a modest fraction of the cases we analyze; hence, their exclusion is unlikely to substantially bias our estimates. Finally, we conducted a series of analyses to test if data could be pooled for white, black, and Hispanic women; based on these tests, we report results from separate models for white and black women only. Although we were unable to reject the null hypothesis that effects of family structure in Tables 4–8 were equal for white and black women, the test statistics approached significance and inspection of individual coefficients suggested significant (and substantively important) interactions for some family structure variables. We therefore chose not to pool data for white and black women. We were also unable to reject a similar null hypothesis regarding pooling of white and Hispanic women. Unlike tests for pooling white and black women, these tests did not approach significance; however, our inability to reject this null hypothesis could be due to heterogeneity in this group or the small sample of Hispanic women ($n = 702$). Results for the pooled sample of white and Hispanic women closely resemble those for white women reported in Tables 4–8; however, we have chosen, somewhat conservatively, not to pool data for white and Hispanic women. Results of pooling tests, and estimated parameters and standard errors from pooled models are available upon request from the first author.

calendar month at first sexual intercourse. We censored women at their age at interview in 1985 or 1986 (depending on the year in which they were asked the question) if they reported that they had never engaged in sexual intercourse prior to interview, or at their age at first marriage if they reported that they had initiated sexual intercourse on or after the date of first marriage.[4]

*Measures of Family Structure.* We used a retrospective parent history from the 1987 wave to construct our measures of family structure. In these parent histories, we observed NLSY respondents in 23 possible types of family situations between birth and age 18. We merged these data with a home-leaving history constructed from an item in the parent history and from the annual household rosters. Note that because Table 1 simply lists the possible types of families observed at each yearly age, it does not describe the trajectory of NLSY respondents' family experience and hence understates the full over-time complexity of family arrangements in these data (see, e.g., Wu 1996).

To examine the effects of family structure, we begin with a standard set of snapshot measures distinguishing between four types of family situations (intact, mother-only, step, and a residual "other" category) in which the respondent resided at age 14. A second set of measures examines prolonged exposure to a mother-only family or to a family in which a biological father is absent. Because prolonged residence with a single mother and prolonged absence of a biological father differ in their theoretical implications, we constructed five such measures: (1) a non-time-varying dummy variable coded 1 if the respondent was born out of wedlock and 0 otherwise; (2) a non-time-varying variable for the proportion of life spent in a mother-only family

[4]Because these data are based on retrospective self-reports, we compared the distribution of age at first intercourse for our sample of NLSY women with age at first intercourse for comparable birth cohorts in the 1988 National Survey of Family Growth. The aggregate distributions (see Table A1 in the Appendix) show close agreement between distributions. Note also that while 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.

between ages 0 and 5; (3) a time-varying variable for the proportion of life spent in a mother-only family between age 0 and age $t$; (4) a non-time-varying variable for the proportion of life spent in a family without a biological father between ages 0 and 5; and (5) a time-varying variable for the proportion of life spent in a family without a biological father between age 0 and age $t$. Differences between the measures of prolonged absence of a biological father and prolonged exposure to a mother-only family will occur when a biological father is present but a biological mother is absent—examples include families with a biological father and a stepmother. Available sample sizes are not large enough to reliably estimate effects that vary with duration of exposure to a father-only or mother-only family.

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 all other families. We define these variables so as capture the adolescent's family situation between ages 10 and 18—a critical period for our outcome—by setting these variables to zero at age 19 and later. We include controls for home-leaving and for remaining in the parental household after age 19 to distinguish between respondents who: (1) resided in various family structures between ages 10 through 18, (2) have left the parental household (and who are presumably less subject to parental control), and (3) are age 19 or older but still residing in the parental household.[5]

To measure family instability, we use a time-varying variable that cumulates the number of changes in family structure experienced between birth and age $t$, where change refers to any transition between family situations listed in Table 1. Table 2

[5]Note that after age 19, respondents will be classified either as having left the parental household or as older than age 19 but remaining in the parental household. This specification lets the omitted category for this set of variables (respondents who resided with both biological parents) refer only to the period between age 10 and 18.

provides descriptive statistics (means and standard deviations for non-time-varying variables, and person-month means and standard deviations for time-varying variables) for our measures of family structure.

*Control Variables.* Several observed characteristics of children, parents, or families may be associated with family structure or sexual initiation. We control for the age of the respondent's mother at first birth because it may be associated with attitudes that affect the timing of intimate relationships. Because of variation across women in age at sexual maturation, we include a time-varying dummy variable equal to 1 after age (to the nearest month) at menarche and 0 otherwise. Other controls are number of siblings, Catholicism, mother's education, the socioeconomic index (SEI) of the respondent's father (or adult male figure) when the respondent was age 14, and a count of the presence of magazine, newspapers, or library cards at age 14 (range 0-3). Finally, we also include a dummy variable indicating if another adult was present during questions about sexual intercourse or if the interview was conducted by phone, a dummy variable if the calendar month of first sexual intercourse was imputed, and five dummy variables for missing data on mother's education, father's SEI (father did not work, father not present, and a residual category for missing father's SEI), and mother's age at first birth. Table 3 reports descriptive statistics for these variables.

## RESULTS

Figure 1 presents smoothed nonparametric estimates for the logarithm of the rate of first premarital sexual intercourse by race using a procedure described in Wu (1989). The curve for black women is slightly higher than that for white women, but the 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 and age intervals 10–18.5 and 18.5+ (see Wu 1996 for similar models).

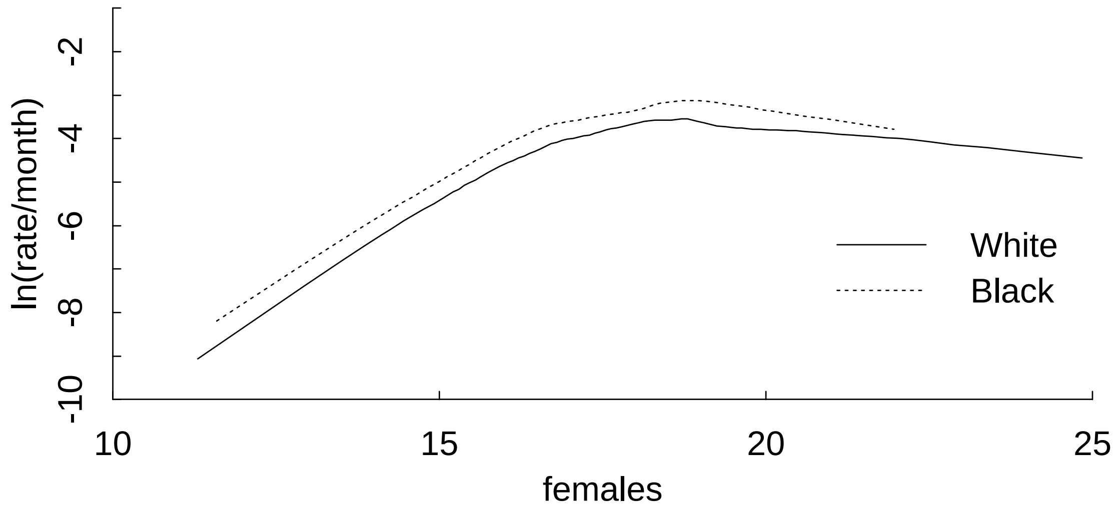


**Figure 1.** Smoothed nonparametric estimates of the logarithm of the age-specific rate of first sexual intercourse for white women ($n = 2{,}401$) and black women ($n = 1{,}257$). National Longitudinal Survey of Youth, 1979-87.

---

*Snapshot analyses.* We begin by estimating the effects on the risk of first premarital sexual intercourse of standard snapshot measures of family structure used in previous studies. Table 4 reports proportional hazard estimates for the standard measure of family structure at age 14, after controlling for effects of home-leaving and the background and control variables in Table 3. The omitted category for family structure consists of respondents who resided with both biological parents at age 14. We present separate models for white and black women.

Overall, the coefficients for family structure agree closely with those reported in previous research, with higher rates of sexual initiation for respondents who resided in any of three nonintact family situations at age 14. We observe the highest rates for young women who resided in a stepfamily, although the differences between the categories of nonintact family situation are not statistically significant. As expected, mother's age at first birth and mother's education are negatively associated with rates of first sexual intercourse. However, the coefficient for mother's age at first birth is significant only for white women, while the coefficient for mother's education is significant only for black women. The coefficient for number of siblings is virtually zero. Although father's SEI is negatively associated with rates of sexual initiation, as expected, parameter estimates are not significant for either white or black women. Similarly, although we observe positive coefficients for the variables for missing data on father's SEI (dummy variables for respondents with fathers who did not work or who were not present at age 14 and for the residual category for missing data on father's SEI), none of these coefficients is significant except the coefficient for white women for the residual category for missing data on father's SEI.[6] Consistent with expectations, the coefficients for Catholic and the scale for the presence of reading materials at age 14 are negative, but these effects are small and not significant for both white and black women. There are, however, large, positive, and highly significant coefficients for the time-varying dummy variable for menarche and the non-time-varying dummy variable for imputed calendar month of first intercourse for both race/ethnic groups.

*Dynamic analyses.* Table 5 presents estimates for dynamic measures of family structure for white women. The first column (labelled "0") gives a set of baseline estimates of the effects of family structure drawn from seven models in which each model controls for the background variables and one of the following representations of family structure: (1) the number of changes in family structure, (2) the three time-varying dummy variables for family structure during adolescence,[7] (3) the dummy variable for born out of wedlock, (4) the time-varying variable for the proportion of life spent in a mother-only family during early childhood, (5) the proportion of life

[6] In other models (not reported), we dropped father's SEI and home-leaving to determine the sensitivity of results to (1) the correlation between residing in a mother-only family and missing data on father's SEI and (2) potential endogeneities of home-leaving. These specifications do not substantially change our reported findings in Tables 4–8. Estimates and standard errors are available upon request from the first author.

[7] In all models in Tables 5–8, we control for the time-varying dummy variable for respondents who are age 19 or older but who still reside in the parental household. Note that we do not specify effects of this variable in Table 4. Estimates and standard errors for all control variables in Tables 5–8 are available upon request from the first author.

spent in a mother-only family between birth and age $t$, (6) the proportion of life spent without a biological father during early childhood, and (7) the time-varying variable for the proportion of life spent without a biological father between birth and age $t$.

Results from these seven baseline models show that, net of the of the control variables, each measure (or set of measures) of family structure has coefficients in the expected direction. However, estimated coefficients are significant for only five of the nine measures of family structure: the time-varying measure for number of changes in family structure, the time-varying dummy variables for residing in a stepfamily or the residual other type of family during adolescence, and the two time-varying variables for the proportion of life spent in a mother-only family or father-absent family between birth and age $t$.

Although these baseline results control for the effects of the background variables, they do not contrast hypotheses on family turbulence and instability, parental control, and socialization. This is done in Models 1–5 in columns 2–6 of Table 5. Estimated coefficients for the number of changes in family structure are consistently positive and highly significant in Models 1–5, even after controlling for the effects of other measures of family structure and of the background variables. Note in particular that change in family structure appears to account for the effects of family structure during adolescence and prolonged exposure to a mother-only or absent-father family that were observed in the baseline models. For example, we observe positive and significant baseline coefficients for residing in any of the three nonintact types of family structures during adolescence, but coefficients for these variables become substantially smaller and not significant in Models 1–5. A similar pattern of results holds for the measures of exposure to a mother-only family or to a absent-father family. The coefficients for proportion of life spent in a mother-only family between birth and age $t$ remains relatively large in Model 3, but is not statistically significant.

Table 6 repeats the analyses in Table 5, but expands the categories of family structure during adolescence to identify respondents residing in father-only families and in two types of stepfamilies (mother/stepfather and father/stepmother). Overall, results are similar to those in Table 5. We continue to observe a consistently positive and highly significant association between the number of family changes and age-specific rates of sexual initiation and small and not significant coefficients for the measures of exposure to a mother-only family or to a absent-father family. Although Tables 5 and 6 both suggest a pattern of somewhat higher risks for women who did not reside with two biological parents during adolescence, Table 6 hints at an additional pattern—that risks are highest for women who resided in a father-only family, and that risks are somewhat higher for women who resided during adolescence in a mother/stepfather family than in a father/stepmother family. Nevertheless, none of the coefficients for these family types is statistically significant in Models 1-5; hence, we cannot reject the null hypothesis in either Table 5 or 6 that risks are equal for women who resided in intact and nonintact families during adolescence. Thus, results for white women in Tables 5 and 6 provide at best weak support for the socialization and parental-control hypotheses, but are consistent with the instability hypothesis.[8]

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 (.00) with the effect of one change in family situation (.18), which is identical to the zero-order estimate of living in a

[8] Although several estimates appear identical in in Models 1-5 in Tables 5 and 6, there are small differences across these tables in all estimated coefficients.

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.

Tables 7 and 8 present results for black women, which follow patterns both similar to and substantially different from those for white women in Tables 5 and 6. We begin with Table 7. Results from the seven baseline models (column labelled "0") show that, net of the effects of the control variables, each family structure measure (or set of measures) is positively associated with entry into sexual activity, with statistically significant coefficients for seven of the nine measures. In Models 1–5 in columns 2–6 of Table 7, we observe small, sometimes negative, and statistically insignificant coefficients for the five exposure measures for black women, a pattern of results similar to those for white women.

Results in Models 1–5 also differ substantially from those for white women. The number of changes in family structure has no significant effect on rates of sexual intercourse, net of the other family structure variables. Instead, we observe higher rates for black women who resided in a nonintact family during adolescence compared to those who resided with both biological parents during adolescence. The highest rates in Models 1–5 occur for women who resided in a mother-only family during adolescence, while the coefficients for women who resided in stepfamilies during adolescence are not statistically significant; note, however, that the coefficients for women in different types of nonintact families do not differ significantly from one another.

Table 8 expands the categories for family situation during adolescence and provides a somewhat more informative picture of entry into sexual activity for black women. The baseline estimates (column labelled "0") suggest that the highest risks occur for women who resided during adolescence in a father-only family, followed by those in a mother-only family, mother-stepfather family, and in the residual category for all remaining types of families. Estimated coefficients change only slightly in Models 1–5, with the coefficients for women who resided during adolescence in a mother-only and father-only family remaining statistically significant. Note that we observe a negative (but not significant) coefficient for women who resided during adolescence in a father/stepmother family in Models 1–5.

Overall, the results for black women shown in Tables 7 and 8 provide at best weak support for the family turbulence and socialization hypotheses, but are consistent with the parental-control hypothesis. The latter provides a reasonably parsimonious explanation of the overall pattern of results observed for black women—that sexual initiation occurred later for women who resided during adolescence with two parents rather than one parent. One apparent anomaly—the somewhat higher rates of sexual initiation among black women who resided during adolescence with a mother and stepfather—is consistent with the hypothesis that biological fathers are, on average, better able to monitor and influence the sexual activity of their adolescent daughters than are stepfathers.

Nevertheless, our results for black women can be viewed as consistent with alternatives to the parental-control hypothesis. For example, the very large positive effect on sexual activity of living in a father-only family could be interpreted as consistent with a socialization hypothesis, particularly one emphasizing processes of modeling. That is, if black single fathers are more sexually active than black single mothers, adolescent daughters residing in a father-only family during adolescence may exhibit especially high rates of entry into sexual activity, and women residing in either family circumstance may exhibit higher rates than those residing in families with both biological parents. Alternatively, the observed high rate for women in father-only families may reflect the selection of especially problematic adolescents or mothers—as when a mother is unable or unwilling to care for the adolescent—or the selection of problematic men into different fathering situations. We view selection arguments stressing the role of problematic daughters as less plausible because the family destinations of problematic daughters presumably include both father-only and father/stepmother families. That is, arguing that problematic daughters are sent to live with their biological father is consistent with the positive and highly significant coefficient for residing in a father-only family, but inconsistent with the negative (although not significant) coefficient for residing in a father/stepmother family. Arguments stressing father selection are more plausible, since unmarried men may be drawn disproportionately from a pool of "unmarriageable" males with low education, few job skills, low income, and perhaps also poor relationship skills (Wilson 1987). Conversely, having resided with a married black father during adolescence (i.e., situations reflected by the omitted category and by the category for residing in a father/stepmother family) may reflect families in which black men possess greater human capital, stabler employment histories, and stronger relationship skills.

These results provide mixed support for assertions that the biological fathers of black women are a key factor in monitoring and setting standards for the sexual behavior of their adolescent daughters. Residence with a biological father during adolescence is associated with two of the lowest rates—those for women residing with both biological parents or with a biological father and stepmother—but with also the highest rate—that for women residing in a father-only family. It is possible that, for black women, biological fathers exert an influence over the sexual activity of daughters in ways that biological mothers or stepfathers do not, but that this role is contingent on marital status. We must also keep in mind that for black women, father-only and father-stepmother families are uncommon, often resulting from situations in which the mother has been unable or unwilling to care for her child, or in which custody has been awarded to the biological father. Disruptions in the mother-daughter relationship could also underlie the relatively high risk of premarital sexual intercourse for young women living with their single father. Still, if the father remarries, providing the possibility for a substitute mother-daughter relationship—as well as a "marital model" for sexual activity—adolescent sexual initiation may be delayed, although our data provide insufficient sample sizes to estimate such associations precisely.

**DISCUSSION**

Our results suggest three, broadly descriptive, findings. First, for white women, but not for black women, we observe a consistently positive association between the number of changes in family situation experienced between birth and age $t$ and a woman's risk of first sexual intercourse at age $t$. Second, for black women, but not for white women, we observe increased risks during the adolescent years of having resided in a mother-only, father-only, or mother-stepfather family during adolescence relative to having resided in an intact family during adolescence. Finally, for both white or black women, we observe no significant effect on the rate of first sexual intercourse of having been 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, net of these other family effects.

We interpret these results as suggesting that family turbulence is a primary source of the higher rates of sexual intercourse for white women. These effects are consistent with findings by Capaldi, Crosby, and Stoolmiller (1996) on the timing of first intercourse for a sample of adolescent males in Oregon and with findings by

Wu and Martinson (1993) and Wu (1996) for premarital first births for U.S. women. By contrast, our results for black women suggest that parental control may be an important conduit by which family structure influences sexual activity. However, our results are also consistent with the hypothesis that the sexual activity of adolescents residing with a single parent increases when the single parent is sexually active, or with various selection arguments. Finally, our results for both white and black women provide little support for socialization arguments which hypothesize that prolonged exposure to a mother-only family or prolonged absence of a biological father increase rates of entry into sexual activity. Overall, these findings suggest that the processes influencing the transition to sexual activity may vary quite markedly for white and black women.

In interpreting our findings, we caution that we do not observe several crucial intervening elements implied by our theoretical discussion that may be more proximate determinants of our observed effects of family change and family structure. These include, for example, the formation of gender and sexual identity, parents' sexual behavior, intergenerational transmission of sexual attitudes, parent-child attachment, parental supervision, adolescent distress, residential moves, and changes affecting the family economy, kin, or community ties. Because temporal data on such intervening variables are lacking in nationally representative surveys, we have instead attempted to infer effects from different family experiences that may be linked to alternative processes of family influence on adolescent sexual activity.

Our results therefore leave open the issue of how family instability for white women or family structure during adolescence for black women leads to early sexual initiation. For whites, does family instability weaken attachment between parents and children, in turn increasing adolescent rebellion, rejection of parental authority, and a search for intimate relationships outside the parental household? Or does instability weaken parenting skills, efficacy, or supervision? The former process involves the parent/child dyad, while the latter involves the parent alone, as might occur when distressed parents provide a poor model for adolescents or find it difficult to exert appropriate levels of influence, supervision, and control. Alternatively, instability might produce higher rates of sexual initiation through forces external to children and parents, including associated changes in neighborhood, schools, parental employment, or the adolescent's peer groups.

Our results for black adolescent women generate similar questions. For blacks, do two-parent families—particularly those with biological fathers present—provide more effective supervision of adolescent daughters, thus deterring early sexual activity? Or does the sexual activity of single parents—particularly that of single fathers and, to a lesser extent, single mothers—provide an example that hastens daughter's entry into sexual activity? Our analyses do not let us disentangle these effects. It may be that black fathers are selected into married or single fatherhood on the basis of other characteristics that make them better or less able to exert parental control, or that make them more or less appropriate role models for their adolescent daughters. These observations provide important cautionary notes for observers who assert that biological fathers play (or should play) a key role in monitoring and setting standards for the sexual behavior of their adolescent daughters.

An important finding for both black and white women concerns the *absence* of effects commonly thought to influence entry into sexual activity. Neither being born out of wedlock, nor prolonged exposure to a mother-only family during early childhood or during childhood and adolescence, nor prolonged absence of a biological father during early childhood or during childhood and adolescence is significantly associated with age-specific rates of sexual initiation. On the one hand, these results raise questions about hypotheses that view effects of family structure as evidence of the intergenerational transmission of parental values, norms, and behaviors to offspring in the area of sexual activity and fertility. On the other hand, for white women, we find a significant negative association between mother's age at first birth and age at first sexual intercourse, results that are consistent with important facets of the intergenerational transmission hypothesis.

These observations make clear the nonexperimental nature of our data, which complicates efforts to infer whether an observed association is causal, spurious, or the result of one of various forms of selection. Similarly, our attempts to disentangle the effects of family change, family situation during adolescence, exposure to a mother-only family, and absence of a biological father rely on assumptions implicit in our theoretical conceptualization and empirical specification of these effects. Nevertheless, we believe that our use of dynamic measures of family structure and family change provides a more informative and a richer substantive picture of the underlying family processes associated with initiation of sexual activity than is possible with analyses employing snapshot measures of family structure. Thus, while dynamic measures of family structure may only roughly proxy the more subtle social and psychological processes experienced by children, adolescents, and parents, they do underscore the importance of tracing the consequences for parents and children of different trajectories of family experience.

**REFERENCES**


Amato, Paul R. 1987. "Family Processes in One-Parent, Stepparent, and Intact Families: The Child's Point of View." *Journal of Marriage and the Family* 49(2): 327–37.

Billy, John O. G., Karin L. Brewster, and William R. Grady. 1994. "Contextual Effects on the Sexual Behavior of Adolescent Women." *Journal of Marriage and the Family* 56(2): 387–404.

Booth, Alan, David B. Brinkerhoff, and Lynn K. White. 1984. "The Impact of Parental Divorce on Courtship." *Journal of Marriage and the Family* 46(1): 85–94.

Brewster, Karin L. 1994a. "Neighborhood Context and the Transition to Sexual Activity Among Young Black Women." *Demography* 31(4): 603–14.

Brewster, Karin L. 1994b. "Race Differences in Sexual Activity Among Adolescent Women: The Role of Neighborhood Characteristics." *American Sociological Review* 59(3): 408–24.

Bumpass, Larry L. 1984. "Children and Marital Disruption: A Replication and Update." *Demography* 21(1): 71–82.

Capaldi, Deborah M., Lynn Crosby, and Mike Stoolmiller. 1996. "Predicting the Timing of First Sexual Intercourse for At-Risk Adolescent Males." *Child Development* 67(2): 344–59.

Capaldi, Deborah M., and G. R. Patterson. 1991. "Relation of Parental Transitions to Boys' Adjustment Problems: I. A Linear Hypothesis. II. Mothers at Risk for Transitions and Unskilled Parenting." *Developmental Psychology* 27(3): 489–504.

Chase-Lansdale, P. Lindsay, Andrew J. Cherlin, and Kathleen E. Kiernan. 1995. "The Long-Term Effects of Parental Divorce on the Mental Health of Young Adults: A Developmental Perspective." *Child Development* 66: 1614–34.

Cherlin, Andrew J. 1978. "Remarriage as an Incomplete Institution." *American Journal of Sociology* 83(3): 634–50.

Cherlin, Andrew J., Frank F. Furstenberg, Jr., P. Lindsay Chase-Lansdale, Kathleen E. Kiernan, Philip K. Robins, Donna Ruane Morrison, and Julien O. Teitler. 1991. "Longitudinal Studies of Effects of Divorce on Children in Great Britain and the United States." *Science* 252(5011): 1386–89.

Dornbusch, Sanford M., J. Merrill Carlsmith, Steven J. Bushwall, Philip L. Ritter, Herbert Leiderman, Albert H. Hastorf, and Ruth T. Gross. 1985. "Single Parents, Extended Households and the Control of Adolescents." *Child Development* 56(2): 326–41.

Flewelling, Robert L., and Karl E. Bauman. 1990. "Family Structure as a Predictor of Initial Substance Use and Sexual Intercourse in Early Adolescence." *Journal of Marriage and the Family* 52(1): 171–81.

Freud, Sigmund. 1961 [1925]. "Three Essays on Sexuality." In J. Strachey (ed. and trans.), *The Standard Edition of the Complete Psychological Works of Sigmund Freud* (Volume 7). London: Hogarth.

Furstenberg, Frank F., Jr. 1987. "The New Extended Family: The Experience of Parents and Children after Remarriage." Pp. 42–61 in Kay Pasley and Marilyn

Ihinger-Tallman (Eds.), *Remarriage and Stepparenting: Current Research and Theory.* New York: Guilford.

Furstenberg, Frank F. Jr., and Andrew J. Cherlin. 1991. *Divided Families: What Happens to Children when Parents Part.* Cambridge, MA: Harvard University Press.

Furstenberg, Frank F. Jr., and Christine Winquist Nord. 1985. "Parenting Apart: Patterns of Childrearing After Marital Dissolution." *Journal of Marriage and the Family* 47(4): 893–904.

Gagnon, John H., and William Simon. 1973. *Sexual Conduct: The Social Sources of Human Sexuality.* Chicago: Aldine.

Garmezy, Norman. 1983. "Stressors of Childhood." Pp. 43–84 in Norman Garmezy and Michael Rutter (Eds.), *Stress, Coping, and Development in Children*. New York: McGraw Hill.

Goode, William J. 1956. *After Divorce*. Glencoe, IL: Free Press.

Haurin, R. Jean, and Frank L. Mott. 1990. "Adolescent Sexual Activity in the Family Context: The Impact of Older Siblings." *Demography* 27(4): 537–58.

Herzog, Elizabeth, and Cecilia E. Sudia. 1973. "Children in Fatherless Families." Pp. 141–232 in B. M. Caldwell and H. N. Ricciuti (Eds.), *Review of Child Development Research Vol. 3*. Chicago: University of Chicago Press.

Hetherington, E. Mavis. 1972. "Effects of Father Absence on Personality Development in Adolescent Daughters." *Developmental Psychology* 7(3): 313–26.

Hetherington, E. Mavis. 1981. "Children and Divorce." Pp. 33–58 in R. W. Henderson (Ed.), *Parent-Child Interaction: Theory, Research, and Prospects*. New York: Academic Press.

Hetherington, E. Mavis. 1987. "Family Relations Six Years After Divorce." Pp. 185–205 in Kay Pasley and Marilyn Ihinger-Tallman (Eds.), *Remarriage and Stepparenting: Current Research and Theory.* New York: Guilford.

Hetherington, E. Mavis, and W. Glenn Clingempeel. 1992. *Coping with Marital Transitions*. Chicago: Society for Research in Child Development.

Hogan, Dennis P., and Evelyn M. Kitagawa. 1985. "The Impact of Social Status, Family Structure, and Neighborhood on the Fertility of Black Adolescents." *American Journal of Sociology* 90(4): 825–55.

Inazu, J. K. and G. L. Fox. 1980. "Maternal Influence on the Sexual Behavior of Teenage Daughters." *Journal of Family Issues* 1(1): 81–102.

Jessor, Shirley, and Richard Jessor. 1975. "Transition from Virginity to Nonvirginity among Youth: A Social-psychological Study over Time." *Developmental Psychology* 11: 473–84.

Kiernan, Kathleen E., and John Hobcraft. 1997. "Parental Divorce during Childhood: Age at First Intercourse, Partnership, and Parenthood." *Population Studies* 51(1): 41–55.

Kurdek, Lawrence A., and Mark A. Fine. 1993. "The Relation Between Family Structure and Young Adolescents' Appraisals of Family Climate and Parenting Behavior." *Journal of Family Issues* 14(2): 279–90.

Maccoby, Eleanor E., and Robert H. Mnookin. 1992. *Dividing the Child: Social and Legal Dilemmas of Custody.* Cambridge, MA: Harvard University Press.

McCord, Joan, William McCord, and Emily Thurber. 1962. "Some Effects of Paternal Absence on Male Children." *Journal of Abnormal and Social Psychology* 64(5): 361–9.

Martinson, Brian C., and Lawrence L. Wu. 1992. "Parent Histories: Patterns of Change in Early Life." *Journal of Family Issues* 13(3): 351–77.

Matsueda, Ross L., and Karen Heimer. 1987. "Race, Family Structure, and Delinquency: A Test of Differential Association and Social Control Theories." *American Sociological Review* 52(6): 826–40.

McElroy, Susan Williams, and Kristin A. Moore. 1997. "Trends over Time in Teenage Pregnancy and Childbearing: The Critical Changes." Pp. 23–54 in Rebecca A. Maynard (Ed.), *Kids Having Kids: Economic Costs and Social Consequences of Teen Pregnancy.* Washington, D.C.: Urban Institute.

McLanahan, Sara S., and Larry L. Bumpass. 1988. "Intergenerational Consequences of Family Disruption." *American Journal of Sociology* 94(1): 130–52.

McLanahan, Sara S., and Gary Sandefur. 1994. *Growing Up with a Single Parent.* Cambridge, MA: Harvard University Press.

Miller, Brent C., J. Kelly McCoy, Terrance D. Olson, and Christopher M. Wallace. 1986. "Parental Discipline and Control Attempts in Relation to Adolescent Sexual Attitudes and Behavior." *Journal of Marriage and the Family* 48(3): 503–12.

Mosher, William D., and Christine A. Bachrach. 1996. "Understanding U.S. Fertility: Continuity and Change in the National Survey of Family Growth, 1988–1995." *Family Planning Perspectives* 28(1): 4–12.

Newcomer, Susan F., and J. Richard Udry. 1984. "Mothers' Influence on the Sexual Behavior of Their Teenage Children." *Journal of Marriage and the Family* 46(2): 477–85.

Price-Bonham, Sharon, and Jack O. Balswick. 1980. "The Noninstitutions: Divorce, Desertion, and Remarriage." *Journal of Marriage and the Family* 42(4): 225–38.

Seltzer, Judith A., and Suzanne M. Bianchi. 1988. "Children's Contact with Absent Parents." *Journal of Marriage and the Family* 50(3): 663–77.

Small, Stephen, and Tom Luster. 1994. "Adolescent Sexual Activity: An Ecological, Risk-Factor Approach." *Journal of Marriage and the Family* 56(1): 181–192.

Thomson, Elizabeth, Sara S. McLanahan, and Roberta Braun Curtin. 1992. "Family Structure, Gender, and Parental Socialization." *Journal of Marriage and the Family* 54(2):368–78.

Thornton, Arland, and Donald Camburn. 1987. "The Influence of the Family on Premarital Sexual Attitudes and Behavior." *Demography* 24(3): 323–40.

Trent, Katherine, and Scott J. South. 1992. "Sociodemographic Status, Parental Background, Childhood Family Structure, and Attitudes Towards Family Formation." *Journal of Marriage and the Family* 54(2): 427–39.

Walker, Kenneth N., and Lillian Messinger. 1979. "Remarriage After Divorce: Dissolution and Reconstruction of Family Boundaries." *Family Process* 18(2): 185–92.

Wallerstein, Judith S., and Sandra Blakeslee. 1989. *Second Chances: Men, Women, and Children a Decade after Divorce*. New York: Ticknor and Fields.

Weinstein, Maxine, and Arland Thornton. 1989. "Mother-Child Relations and Adolescent Sexual Attitudes and Behavior." *Demography* 26(4): 563–77.

Whitbeck, Les B., Ronald L. Simons, and Elizabeth Goldberg. 1996. "Adolescent Sexual Intercourse." Pp. 144–56 in Ronald L. Simons and associates (Eds.), *Understanding Differences Between Divorced and Intact Families: Stress, Interaction, and Child Outcome.* Thousand Oaks, CA: Sage Publications.

Wilson, William Julius. 1987. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. Chicago: University of Chicago Press.

Wu, Lawrence L. 1989. "Issues in Smoothing Empirical Hazards." Pp. 127–59 in Clifford C. Clogg (Ed.), *Sociological Methodology 1989*. Washington: American Sociological Association.

Wu, Lawrence L. 1996. "Effects of Family Instability, Income, and Income Instability on the Risk of a Premarital Birth." Forthcoming, *American Sociological Review*.

Wu, Lawrence L., Andrew J. Cherlin, and Larry L. Bumpass. 1997. "Family Structure, Early Sexual Behavior, and Premarital Births." Discussion Paper No. 1125–97, Institute for Research on Poverty, University of Wisconsin-Madison.

Wu, Lawrence L., and Brian C. Martinson. 1993. "Family Structure and the Risk of a Premarital Birth." *American Sociological Review* 58(2): 210–32.

Yamaguchi, Kazuo, and Denise Kandel. 1987. "Drug Use and Other Determinants of Premarital Pregnancy and Its Outcome: A Dynamic Analysis of Competing Events." *Journal of Marriage and the Family* 49(2): 257–70.

**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 for family structure variables, white and black females, National Longitudinal Survey of Youth, 1979-87.

| | Whites | Blacks |
|---|---|---|
| *Family structure at age 14* | | |
| 1 if intact family | .75 | .52 |
| 1 if mother-only family | .11 | .30 |
| 1 if stepfamily | .09 | .10 |
| 1 if other type of family | .05 | .09 |
| *Family structure during adolescence*[a] | | |
| 1 if intact family | .71 | .53 |
| 1 if mother-only family | .09 | .26 |
| 1 if stepfamily | .07 | .09 |
| 1 if mother/stepfather family | .06 | .08 |
| 1 if father/stepmother family | .01 | .01 |
| 1 if other family | .04 | .07 |
| 1 if father-only family | .01 | .02 |
| 1 if other type of family | .03 | .06 |
| 1 if left parental household | .02 | .01 |
| 1 if in parental household but not an adolescent | .07 | .05 |
| *Stress and instability*[a] | | |
| Number of family changes | .30 | .43 |
| *Exposure to a mother-only/father-absent family* | | |
| 1 if born out of wedlock | .03 | .18 |
| Prop. of life in a mother-only family, ages 0–5 | .04 | .19 |
| Prop. of life in a mother-only family, all ages[a] | .06 | .21 |
| Prop. of life without a biological father, ages 0–5 | .08 | .25 |
| Prop. of life without a biological father, all ages[a] | .12 | .12 |

[a] Person-month mean for time-varying variable.

*Note:* Categories for family structure at age 14 and for family structure during adolescence may not sum to 1.00 because of rounding error.

**Table 3.** Means and standard deviations (in parentheses) for background variables, white and black females, National Longitudinal Survey of Youth, 1979-87.

| | Whites | Blacks |
|---|---|---|
| Mother's age at first birth | 22.15 | 20.31 |
| | (4.31) | (4.34) |
| 1 if missing | .07 | .11 |
| Mother's education | 11.61 | 10.76 |
| | (2.52) | (2.63) |
| 1 if missing | .04 | .07 |
| Father's SEI, age 14 | 36.87 | 24.66 |
| | (17.04) | (10.49) |
| 1 if father did not work | .07 | .07 |
| 1 if father not present | .12 | .34 |
| 1 if father's SEI missing | .07 | .10 |
| Number of siblings | 3.28 | 4.83 |
| | (2.09) | (3.10) |
| 1 if Catholic | .34 | .07 |
| Scale for reading materials in home | 2.31 | 1.67 |
| | (.88) | (1.05) |
| 1 if not in parental household[a] | .02 | .01 |
| 1 if in parental household but not an adolescent[a] | .08 | .05 |
| 1 if menarche[a] | .66 | .63 |
| 1 if other adult present | .06 | .06 |
| 1 if phone interview | .03 | .02 |
| 1 if calendar month of first intercourse imputed | .23 | .35 |
| Person months | 242,467 | 114,219 |
| Sample size | 2,401 | 1,257 |

[a] Person-month mean for time-varying variable.

**Table 4.** Effects of snapshot measures of family structure on the age-specific rate of first intercourse, white and black females, National Longitudinal Survey of Youth, 1979-87.

| | Whites | Blacks |
|---|---|---|
| *Family structure at age 14* | | |
| Mother-only family | .32** | .19* |
| | (.10) | (.09) |
| Stepfamily | .41*** | .34** |
| | (.08) | (.11) |
| Other type of family | .15 | .27* |
| | (.11) | (.11) |
| *Background and control variables* | | |
| Mother's age at first birth | −.03*** | −.01 |
| | (.01) | (.01) |
| Mother's age at first birth missing | .14 | .02 |
| | (.09) | (.10) |
| Mother's education | −.01 | −.03* |
| | (.01) | (.01) |
| Mother's education missing | .08 | .30* |
| | (.12) | (.12) |
| Number of siblings | .01 | .00 |
| | (.01) | (.01) |
| Father's SEI | −.002 | −.003 |
| | (.001) | (.003) |
| Father did not work | .17 | .06 |
| | (.09) | (.12) |
| No father present | .13 | .14 |
| | (.10) | (.09) |
| Father's SEI missing | .19* | .04 |
| | (.09) | (.11) |

**Table 4.** (Continued.)

| | Whites | Blacks |
|---|---|---|
| *Background and control variables* | | |
| Catholic | −.03 | −.02 |
| | (.05) | (.12) |
| Scale, reading materials | −.02 | −.04 |
| | (.03) | (.03) |
| Left parental household | .23* | −.21 |
| | (.11) | (.24) |
| Menarche | 1.51*** | 1.38*** |
| | (.22) | (.22) |
| Other adult present at interview | .30** | −.13 |
| | (.09) | (.13) |
| Phone interview | −.28* | −.21 |
| | (.13) | (.20) |
| Imputed month of first intercourse | .56*** | .45*** |
| | (.05) | (.06) |

*Note:* Standard errors in parentheses. All models control for age, home-leaving, and the background variables.

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

**Table 5.** Effects of dynamic measures of family structure on the age-specific rate of first intercourse, white females, National Longitudinal Survey of Youth, 1979-87.

| | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| *Stress and instability* | | | | | | |
| Number of family changes | .20*** (.03) | .18*** (.04) | .18*** (.04) | .17*** (.04) | .18*** (.04) | .17*** (.04) |
| *Family structure during adolescence* | | | | | | |
| Mother-only family | .19 (.09) | .00 (.10) | .00 (.10) | −.07 (.11) | .00 (.10) | −.02 (.11) |
| Stepfamily | .42*** (.09) | .12 (.11) | .11 (.11) | .10 (.11) | .11 (.11) | .09 (.12) |
| Other type of family | .29* (.11) | .06 (.12) | .05 (.12) | .05 (.12) | .05 (.13) | .03 (.13) |
| *Exposure to a mother-only/absent-father family* | | | | | | |
| Born out of wedlock | .05 (.13) | −.02 (.13) | | | | |
| Proportion of life in a mother-only family, ages 0–5 | .19 (.13) | | .02 (.14) | | | |
| Proportion of life in a mother-only family, all ages | .40** (.14) | | | .24 (.16) | | |
| Proportion of life without a biological father, ages 0–5 | .19 (.10) | | | | .01 (.11) | |
| Proportion of life without a biological father, all ages | .38*** (.09) | | | | | .06 (.12) |

*Note:* Standard errors in parentheses. All models control for age, home-leaving, and the background variables. See text for additional details.

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

**Table 6.** Effects of alternative dynamic measures of family structure on the age-specific rate of first intercourse, white females, National Longitudinal Survey of Youth, 1979-87.

| | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| *Stress and instability* | | | | | | |
| Number of family changes | .20*** (.03) | .18*** (.04) | .18*** (.04) | .17*** (.04) | .18*** (.04) | .17*** (.04) |
| *Family structure during adolescence* | | | | | | |
| Mother-only family | .18 (.09) | .00 (.10) | .00 (.10) | −.07 (.11) | .00 (.10) | −.02 (.11) |
| Father-only family | .46* (.19) | .18 (.21) | .18 (.20) | .17 (.20) | .17 (.20) | .18 (.20) |
| Mother/stepfather family | .43*** (.09) | .13 (.12) | .13 (.12) | .11 (.12) | .12 (.12) | .09 (.13) |
| Father/stepmother family | .37 (.20) | .07 (.22) | .07 (.22) | .06 (.22) | .07 (.22) | .08 (.22) |
| Other type of family | .23 (.13) | .02 (.14) | .01 (.14) | .01 (.14) | .00 (.15) | −.04 (.15) |
| *Exposure to a mother-only/absent-father family* | | | | | | |
| Born out of wedlock | .05 (.13) | −.02 (.13) | | | | |
| Proportion of life in a mother-only family, ages 0–5 | .19 (.13) | | .02 (.14) | | | |
| Proportion of life in a mother-only family, all ages | .40** (.14) | | | .24 (.16) | | |
| Proportion of life without a biological father, ages 0–5 | .19 (.10) | | | | .02 (.11) | |
| Proportion of life without a biological father, all ages | .38*** (.09) | | | | | .10 (.13) |

*Note:* Standard errors in parentheses. All models control for age, home-leaving, and the background variables. See text for additional details.

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

**Table 7.** Effects of dynamic measures of family structure on the age-specific rate of first intercourse, black females, National Longitudinal Survey of Youth, 1979-87.

| | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| *Stress and instability* | | | | | | |
| Number of family changes | .13** (.04) | .06 (.05) | .06 (.05) | .04 (.05) | .05 (.05) | .05 (.05) |
| *Family structure during adolescence* | | | | | | |
| Mother-only family | .38*** (.09) | .32** (.11) | .31** (.11) | .43** (.13) | .33** (.11) | .37** (.12) |
| Stepfamily | .28* (.11) | .18 (.14) | .17 (.14) | .25 (.14) | .19 (.14) | .24 (.15) |
| Other type of family | .36** (.12) | .28* (.14) | .27 (.14) | .33* (.14) | .28 (.15) | .32* (.15) |
| *Exposure to a mother-only/absent-father family* | | | | | | |
| Born out of wedlock | .14 (.08) | .05 (.09) | | | | |
| Proportion of life in a mother-only family, ages 0–5 | .19* (.09) | | .07 (.10) | | | |
| Proportion of life in a mother-only family, all ages | .15 (.10) | | | −.16 (.14) | | |
| Proportion of life without a biological father, ages 0–5 | .17* (.08) | | | | .03 (.09) | |
| Proportion of life without a biological father, all ages | .24** (.08) | | | | | −.04 (.12) |

*Note:* Standard errors in parentheses. All models control for age, home-leaving, and the background variables. See text for additional details.

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

**Table 8.** Effects of alternative dynamic measures of family structure on the age-specific rate of first intercourse, black females, National Longitudinal Survey of Youth, 1979-87.

| | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| *Stress and instability* | | | | | | |
| Number of family changes | .13** (.04) | .05 (.05) | .05 (.05) | .03 (.05) | .05 (.05) | .04 (.05) |
| *Family structure during adolescence* | | | | | | |
| Mother-only family | .38*** (.09) | .33** (.11) | .32** (.11) | .45*** (.13) | .33** (.11) | .36** (.12) |
| Father-only family | .76** (.23) | .68** (.24) | .68** (.24) | .73** (.24) | .69** (.24) | .70** (.24) |
| Mother/stepfather family | .34** (.12) | .26 (.15) | .25 (.15) | .33* (.14) | .25 (.15) | .30 (.17) |
| Father/stepmother family | −.17 (.32) | −.23 (.33) | −.23 (.33) | −.20 (.33) | −.23 (.33) | −.21 (.33) |
| Other type of family | .26 (.13) | .19 (.15) | .19 (.15) | .24 (.15) | .18 (.16) | .23 (.17) |
| *Exposure to a mother-only/absent-father family* | | | | | | |
| Born out of wedlock | .14 (.08) | .04 (.09) | | | | |
| Proportion of life in a mother-only family, ages 0–5 | .19* (.09) | | .06 (.10) | | | |
| Proportion of life in a mother-only family, all ages | .15 (.10) | | | −.17 (.14) | | |
| Proportion of life without a biological father, ages 0–5 | .17* (.08) | | | | .04 (.09) | |
| Proportion of life without a biological father, all ages | .24** (.08) | | | | | −.03 (.12) |

*Note:* Standard errors in parentheses. All models control for age, home-leaving, and the background variables. See text for additional details.

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

**Table A1.** Comparison of the cumulative percentage experiencing first intercourse by age, white women born 1958–65, National Longitudinal Survey of Youth (NLSY) and National Survey of Family Growth (NSFG).

| 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 |