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Report

The Relationship Between Family Structure and Adolescent Sexual Activity

Samuel W. Sturgeon

Talking Points

- Adolescents from intact family structures tend to delay sexual initiation until a significantly older age than their peers from non-intact family backgrounds.
- Adolescents from intact families are less likely to have ever had sexual intercourse, have had on average fewer sexual partners, are less likely to report a sexually transmitted disease, and are less likely to have ever experienced a pregnancy or live birth when compared to their peers from non-intact families.
- The effects of family structure on all adolescent sexual outcomes other than sexual debut tend to operate primarily through the delay in sexual debut experienced by adolescents from intact families.

Introduction

Social science research over the past few decades suggests that early sexual behavior—especially if it results in a teen birth—places adolescents at a greater risk of sexually transmitted disease, depression, and other negative outcomes (Hayes, 1987; McLanahan, Astone, and Marks, 1991). Families—and especially parents—remain one of the most powerful socializing influences on the sexual attitudes and behaviors of adolescents (Miller, Benson, and Galbraith, 2001; Crosby and Miller, 2002). The purpose of this paper is to provide a systematic summary of the social science literature that has been published in the past 25 years linking adolescent sexual outcomes to variations in family structure.

The research findings are grouped into six sections based on the adolescent sexual outcome for interest. The first section discusses measures of adolescent sexual debut and initiation and is followed by a discussion of measures of the frequency of intercourse, the likelihood of contraceptive use, the likelihood of sexually transmitted diseases, and the likelihood of pregnancy and childbearing, in that order. In addition, within each of these sections, we highlight variations in the effects of family structure due to alternate definitions of family structure or due to gender, age, and racial differences among samples of adolescents. The final section discusses methodological issues associated with the study of family structure and adolescent sexual outcomes.

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Section I

Sexual Debut/Age at First Intercourse

The majority of studies examining the relationship between family structure and adolescent sexuality explore whether adolescents have ever had sexual intercourse or the age at which adolescents first engage in sexual activity. This marks a logical starting point for the review of literature on adolescent sexuality because all other sexuality variables measure outcomes and behaviors that are limited to sexually active teens.

Research on adolescent sexual debut is vast; therefore, the discussion has been further broken down by the sources of data used for the various research studies. We begin with large, nationally representative datasets because the results of these datasets are more likely to represent the experiences of the actual population of adolescents and we can more easily generalize the results to the entire population of adolescents.

NSFG, NSAM

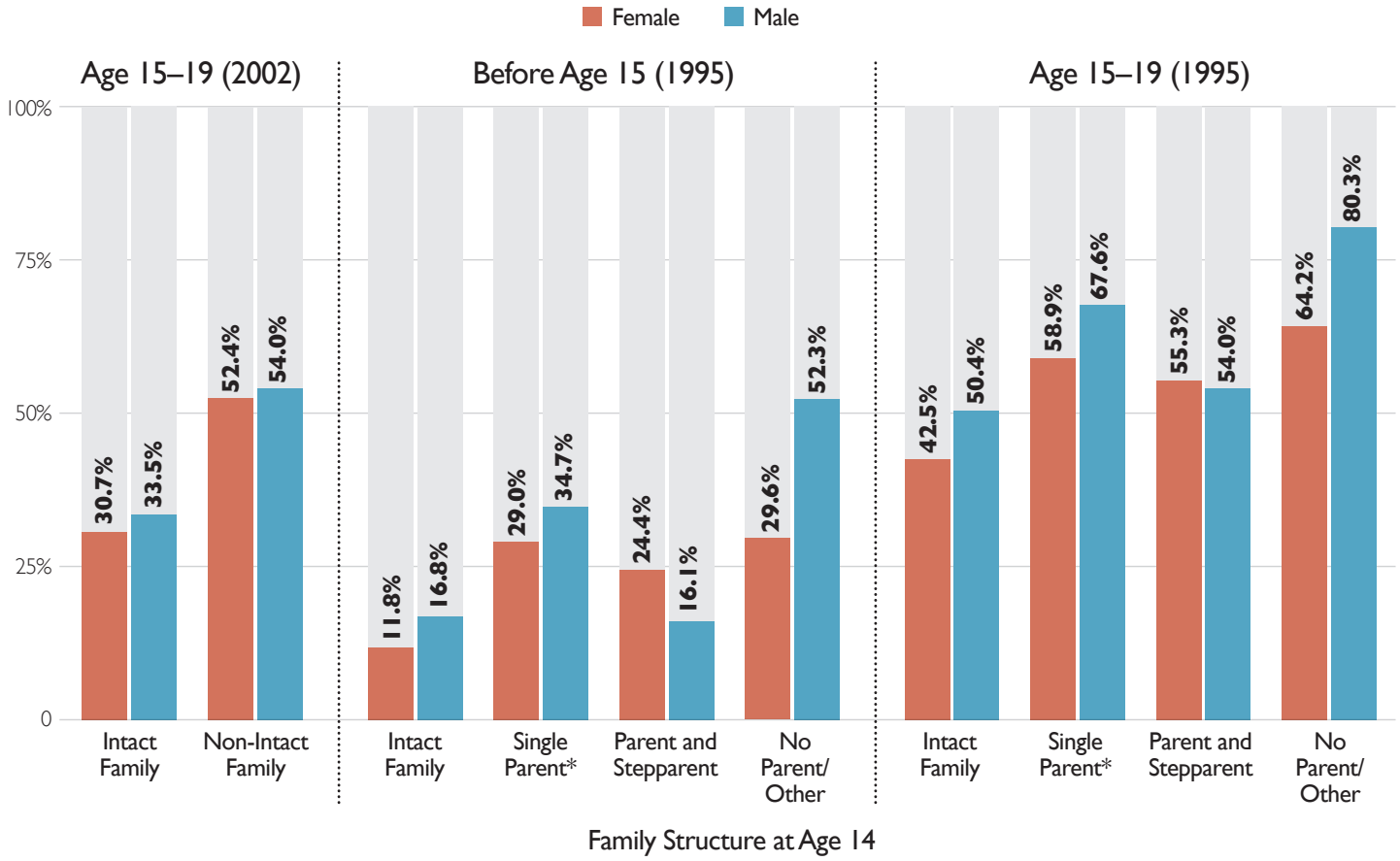
The National Survey of Family Growth (NSFG) is a cross-sectional survey collected periodically by the National Center for Health Statistics (NCHS, 2006). The 1982, 1988, and 1995 waves of the NSFG constitute nationally representative samples of women ages 15–44 for the respective survey years. The National Survey of Adolescent Males (NSAM) was conducted in 1988 and 1995 by the Urban Institute and represents a parallel sample of males ages 15–44 in 1988 and 1995. The NSFG was expanded in 2002 to include both men and women and therefore is a nationally representative sample of the non-institutionalized United States population ages 15–44 in 2002 (Abma *et al.*, 2004). When assessing studies of teen sexual behavior that utilize the NSFG or NSAM, it is important to remember that the analytical sample is often not limited to adolescents and that older respondents are often asked to recall their experiences as teenagers.

The NSFG and the NSAM have been used to calculate population estimates of the sexual behaviors of adolescents in the U.S. Findings from two recent reports published by the National Center for Health Statistics (Abma *et al.*, 2004; Abma and Sonenstein, 2001) are displayed in Figure 1. The NSFG and the NSAM asked respondents to identify the parental figures with whom they resided at age 14. The left panel of Figure 1 shows that in the year 2002, adolescents from intact families were less likely to have ever had sexual intercourse when compared to adolescents from non-intact families. The middle and right panels from 1995 further divide adolescents into four categories of family configuration at age 14:

- Two-biological-parent or two-adoptive-parent families;
- Single-parent families (including cohabiters if another unrelated adult is present);
- Stepparent families; and
- No-parent or other families.

These two panels suggest that in 1995, adolescents from intact families were less likely to be sexually active than teens from other family structures; however, the differences were not uniform across family structures. For example, adolescents from no-parent/other households were the most likely to be sexually active, followed by adolescents living with a single parent. The likelihood of sexual activity among those living with stepparents, however, differed by gender. Girls living in a stepfamily were considerably more likely than girls living with their biological parents to have ever had sex, whereas boys from intact and stepparent families were equally likely to have ever had sexual relations. The right two panels of Figure 1 also suggest that family structure had a stronger effect on the sexual behaviors of young teens

Percent of Adolescents that Have Ever Had Sexual Intercourse



Note: Data are for never-married adolescents. * Including a cohabiting parent if other adult is not related.

Sources: J. C. Abma, G. M. Martinez, W. D. Mosher, and B. S. Dawson, *Teenagers in the United States: Sexual Activity, Contraceptive Use, and Childbearing*, 2002 (Washington, D.C.: National Center for Health Statistics, 2004), and J. C. Abma and F. L. Sonenstein, *Sexual Activity and Contraceptive Practices Among Teenagers in the United States, 1988 and 1995* (Washington, D.C.: National Center for Health Statistics, 2001).

Figure 1 heritage.org

(less than age 15) than it had on the sexual behaviors of older teens (ages 15–19).

The results presented in Figure 1 are based on simple cross tabulations of weighted data. However, multivariate analyses that allow the authors to control for the effects of other factors have produced similar results. Table 1 contains a list of studies linking family structure and adolescent sexual debut using data from the NSFG and NSAM. After controlling for neighborhood characteristics (Brewster, 1994; Brewster, Billy, and Grady, 1993; Billy, Brewster, and Grady, 1994), religious affiliation and attendance (Brewster, Cooksey, Guilkey, and Rindfuss, 1998; Forste and Heaton, 1988), and other family background factors (Forste and Haas, 2002), adolescents residing with two biological parents at age 14 were less likely to have ever had sexual intercourse when compared to adolescents residing in other family structures.

- **Data from the NSFG and NSAM suggest that adolescents from intact families are less likely to have ever had sexual intercourse when compared to adolescents from non-intact families.**

In the 1995 wave of the NSFG, greater detail was provided about respondents' living arrangements

from birth, and researchers as a result were able to examine the effects of family structure on adolescents' sexual debut beyond a simple examination of respondents' family structure at age 14. Using the full 1995 sample, Hogan, Sun, and Cornwell (2000) were able to construct the living arrangement history from birth and the sexual activity history between ages 15 and 19 for over 4,600 women. The authors found that adolescent females' current family structure matters. When compared to those living with both biological parents, those living in all other family structure types were at least 30 percent more likely to be sexually active.

In addition, parents' marital status at birth was a strong predictor of adolescents' later sexual activity. Females whose parents were married at birth were significantly less likely to be sexually active when compared to females whose parents were cohabiting or not living together at the time of their birth. (See also Albrecht and Teachman, 2003.) Hogan, Sun, and Cornwell also found that the effects of each change in a woman's family structure during childhood (parental divorce, remarriage, etc.) were associated with an increase in the risk of sexual debut. (See also Albrecht and Teachman, 2003; Quinlan, 2003.) Quinlan (2003) further examined the effects of parental separation among daughters in the 1995 NSFG and found that the earlier in the life course that daughters experienced the separation or divorce of their parents, the earlier, on average, they reported engaging in sexual intercourse for the first time.

- **Data from the NSFG suggest that female adolescents born to married parents and those currently living with both biological parents face a lower risk of early sexual debut.**

- **Data from the NSFG suggest that for female adolescents, experiencing parental separation at an early age and experiencing multiple transitions in family structure increase the risk of early sexual debut.**

Important age and gender differences also emerge from multivariate studies involving the NSFG and NSAM data. Similar to the cross tabulations in Figure 1, Forste and Heaton (1988) found that the protective effects of living in an intact family appear to dissipate as teens age. Living with two biological parents at age 14 greatly reduced the risk of sexual debut before age 16, but the effects were small and non-significant for adolescent women ages 16 and over. Using the 1982 NSFG, Brewster and colleagues (Brewster, 1994; Brewster, Billy, and Grady, 1993; Billy, Brewster, and Grady, 1994) consistently found that after controlling for neighborhood characteristics, daughters from intact families were significantly less likely to have ever engaged in sexual activity. In a similar study involving males from the 1988 NSAM, Ku, Sonenstein, and Pleck (1993b) found that adolescent males not living with both biological parents at age 14 tended to have sex for the first time at an earlier age than those living in intact families; however, the results were not statistically significant.

Though it is difficult to compare coefficients across samples and years, the results suggest that the independent effects of family structure on teen sexual debut, after controlling for neighborhood context, may be stronger for girls than for boys.

In one of the few studies examining racial differences in the relationship between family structure and adolescent sexual debut, Albrecht and Teachman (2003) found that the negative effects of being born out of wedlock and experiencing multiple family transitions were much stronger for White females than for Black females. However, the protective effects of living in an intact family still exist for Black adolescents.

In order to isolate the effects of family structure among Black females, Murry (1994) restricted the 1988 NSFG sample to Black females who had sex either before age 16 or at age 18–19 and who lived with two biological parents or a single mother at age 14. When comparing the background characteristics of African-American adolescents who first had sex at an early age to those who waited to their late teens, Murry found that those who waited were more likely to come from two-parent families than were those who initiated sexual activity at an early age.

In order to control for the effects of differences in family income, Murry (1996) further restricted her sample to middle-class African-American adolescent females. The results were the same: Those who waited until their late teens to engage in sexual activity were significantly more likely to come from two-parent families when compared to those with early sexual experience.

- **Data from the NSFG and NSAM suggest that the effects of family structure on adolescent sexual debut are stronger for females, younger adolescents, and Whites than for males, older adolescents, and Blacks.**

NLSY79, NLSY79 Children, NLSY97

Additional datasets often used to examine the relationship between family structure and teen sexual debut are the National Longitudinal Surveys maintained by the Bureau of Labor Statistics (BLS). The National Longitudinal Survey of Youth 1979 cohort (NLSY79) is a nationally representative sample of youth who were aged 14–22 when first interviewed in 1979 (Center for Human Resource Research, 2005). The sample has been followed every year or every other year since the original interview. In 1986, the children born to women of the original 1979 cohort were added to the study to create a new dataset: the NLSY79 Children. In 1997, the BLS recruited a new cohort of youth ages 12–16 who have been interviewed yearly since 1997 (National Longitudinal Survey of Youth 1997 cohort, NLSY97).

Table 2 summarizes the results of studies examining the relationship between family structure and adolescent sexual debut using the NLSY datasets. Living with two biological parents at age 14 was consistently related to a lower risk of sexual initiation among NLSY79 respondents, even after controlling for multiple background characteristics and early childhood experiences (Afxentiou and Hawley, 1997; Rosenbaum and Kandel, 1990; Haurin and Mott, 1990; Day, 1992; Wu and Thompson, 2001; Rich and Kim, 2002; Oettinger, 1999).

Results among the other NLS datasets were similar. Using the NLSY97, Moore (2001) found that adolescent females living with two biological parents were less likely than their peers in other family structures to have ever had intercourse. Moreover, among females from the NLSY97 who had ever had sexual intercourse, those living with two biological parents tended to delay sexual debut for a longer time than their peers from other family structures (Arcidiacono, Khwaja, and Ouyang, 2005). In addition, Cooksey, Mott, and Neubauer (2002) found that among the children of the original NLSY79 cohort, 13–14-year-olds living with their natural fathers were less likely to be sexually active at ages 15–16.

- **Data from the National Longitudinal Surveys suggest that adolescents living with two biological parents are less likely to have ever had sex or tend to delay sexual intercourse when compared to their counterparts in other family structures.**

In most studies using NLS data, adolescents living in intact family settings were less likely to have engaged in sexual activity; however, several key age, race, and gender differences appeared. For example, the effects of family structure tended to be weaker and at times non-significant for Blacks and males (Rosenbaum and Kandel, 1990; Haurin and Mott, 1990; Cooksey, Mott, and Neubauer, 2002). Moreover, among Black and White females, Wu and Thomson (2001) reported that for Blacks, current family structure was important to sexual debut, while for Whites, the number of family changes experienced during youth was the most important family structure predictor of sexual debut.

Day (1992) separated the NLSY79 sample by age, gender, and race and estimated separate coefficients for the effects of natural father and stepfather presence for each group. Though he found that the presence of a natural father tended to reduce the likelihood of adolescent sexual debut relative to living with a single mother, the presence of a stepfather was problematic for some groups yet beneficial for other groups. He concluded that the overall trends suggest a protective effect for intact family structures but that large differences exist between the coefficients of older and younger

adolescents, males and females, and the four racial classifications involved in his analysis.

Though most studies suggest that intact family structures were protective against sexual debut, not all studies produced significant results. For example, Rich and Kim (2002) used the 1979–1984 waves of the NLSY79 to examine the effects of current employment and occupational goals on the sexual behaviors of females aged 14–16 in 1979. After controlling for employment, the authors found that daughters living with a stepparent were significantly more likely to report ever having had sex before age 20 but that daughters living with both biological parents, with a single mother, or in another family structure were indistinguishable from one another.

Moreover, Mott *et al.* (1996) found that the more time since birth that the children of the NLSY79 cohort lived with a father figure, the more their likelihood of sexual debut was reduced; however, the results were not statistically significant.

Add Health

The National Longitudinal Study of Adolescent Health (Add Health) is a nationally representative, longitudinal survey of junior high and high school students from grades 7–12 during the 1994–1995 academic year (Chantala, 2006). The study consists of a school-based survey completed in 1994 and three additional in-home surveys completed in 1995, 1996, and 2001. Though the Add Health data are representative of adolescents within the United States who are enrolled in school, they do not include adolescents who had dropped out of school before the first interview. The Add Health data contain a rich collection of school characteristics, family background variables, and measures of adolescent behaviors and attitudes, as well as an array of adolescent health outcomes and behaviors.

The Add Health data have been used extensively to examine the relationship between family structure and adolescent sexual debut. (See Table 3.) Utilizing only the first wave of data, several authors found that adolescents living with two biological parents were less likely to have ever had consensual sexual intercourse (Cubbin, Santelli, Brindis, and Braveman, 2005; Wilder and Watt, 2002; Davis and Friel, 2001; Blum *et al.*, 2000; Cheng and Udry, 2002; Adamczyk and Felson, 2006) or forced sexual intercourse (Cheng and Udry, 2002).

In order to examine a priori predictors of adolescent sexual debut, several authors limited their sample to adolescents who had reported being virgins during the first in-home interview. Adolescents who were excluded from these analyses due to sexual activity reported during the first interview were typically more likely to come from non-intact families than from intact families, suggesting that living with two biological parents is a protective factor against early sexual debut (Roche *et al.*, 2005). Among adolescents who were virgins at wave one, those living with two biological parents were significantly less likely to become sexually active before the second in-home interview approximately a year later when compared to adolescents from other family structures (Pearson, Muller, and Frisco, 2006; Sieving, Eisenberg, Pettingell, and Skay, 2006; South, Haynie, and Bose, 2005; Longmore, Manning, Giordano, and Rudolph, 2004; Roche *et al.*, 2005; Adamczyk and Felson, 2006)[1].

The Add Health data also allowed researchers to look at the effects of family structure on the sexual behaviors of teens who are currently involved in romantic relationships. Kaestle, Moriskey, and Wiley (2002) report that for adolescent females involved in romantic relationships, those not living with a mother figure in the home were more likely to have had sex with their romantic partner when compared to similar females who did have a mother figure in the home. In addition, Kaestle and Halpern (2005) report that for males and females currently involved in a romantic relationship, those living with both biological parents were less likely to have had sex with their romantic partner when compared to adolescents from other family structures. However, Cleveland (2003) limited the sample to the 724 teen couples where both romantic partners were interviewed and found that family structure was not a significant predictor of the likelihood of sexual activity once covariates were added to the model.

1 Similar though non-significant results were reported by McNeely *et al.* (2002) and Meier (2003).

- **Data from the Add Health Survey suggest that adolescents living with both biological parents are less likely to engage in sexual intercourse and tend to delay sexual debut when compared to their counterparts in other family structures.**

Studies using the Add Health data also suggest that several family structure, gender, age, and race differences exist in the relationship between family structure and adolescent sexual debut. For example, though adolescents living with two biological parents were generally less likely to be sexually active than adolescents from stepfamilies or single-parent families (Bearman and Bruckner, 2001; Longmore *et al.*, 2004), in some studies, adolescents with two biological parents fared the same as adolescents from stepfamilies (Davis and Friel, 2001; Roche *et al.*, 2005), while in other studies, those living with two biological parents fared the same as those from single-parent families (Wilder and Watt, 2002; Upchurch *et al.*, 2004). Moreover, the negative effects of living in a stepfamily or a single-parent family were at times significant for one gender but not for the other (Pearson, Muller, and Frisco, 2006; Longmore *et al.*, 2004; Wilder and Watt, 2002; Davis and Friel, 2001).

These apparently contradictory findings based on the same data are likely to be a result of the different covariates that have been included within each model. Age and race also appear to interact with family structure, as the negative effects of living in a step or foster family appeared to wane with age, while among Black adolescents, the protective effects of living with two biological parents disappeared after age 15 (Bearman and Bruckner, 2001; Pearson, Muller, and Frisco, 2006).

- **Data from the Add Health Survey suggest that the effects of family structure on adolescent sexual debut are stronger for females, younger adolescents, and Whites than for males, older adolescents, and Blacks.**

NSC

The National Survey of Children (NSC) is a nationally representative survey of children ages 7–11 in 1976 who were interviewed again in 1981 and 1987 (Moore, Morrison, and Glei, 1995). Table 4 contains a list of studies examining the relationship between family structure and adolescent sexual debut using data from the NSC. In most studies, adolescents' reports of their caretaking arrangements during the second interview were used to predict their age at sexual debut reported during the final interview[2]. Consistent with previous research, adolescents living with both biological parents tended to delay sexual debut when compared to adolescents from other family structures (Baumer and South, 2001; Dorious, Heaton, and Steffen, 1993).

- **Data from the NSC suggest that adolescents living with both biological parents tend to delay sexual debut when compared to their counterparts in other family structures.**

The NSC also asked multiple questions about family structure, allowing researchers to move beyond merely examining family structure at a specific age. For example, several researchers examined the impact of changes in family structure on sexual debut. Children who experienced their parents' divorce were more likely to be sexually involved before age 17 (Furstenberg and Teitler, 1994; Moore, Morrison, and Glei, 1995).3 Moreover, the effects of divorce persisted even when the sample was limited to children whose parents were married at the first interview (ages 7–11) and either remained together or subsequently divorced (Furstenberg and Teitler, 1994). In addition, the effects of having lived in a single-parent household before age 11 persisted

2 In one study, researchers used only the first two waves of data and found that the presence of the father was not a significant predictor of the sexual behaviors of adolescents ages 14–16 during the second wave of data (Furstenberg, *et al.*, 1987). However, due to the coding scheme, no true test of father presence was offered; instead, the authors performed a three-category contrast among absent fathers, employed fathers, and unemployed fathers.

regardless of parents' current marital status (Moore, Morrison, and Glei, 1995).[3]

Several researchers who also posited that family change was a crisis event that placed youth at a greater risk shortly before and after the event were able to examine this hypothesis. In general, the transition of parents out of marriage tended to have more negative effects than the transition into marriage had; however, none of the coefficients were statistically significant once other family structure variables were included in the model (Moore, Morrison, and Glei, 1995; Dorius, Heaton, and Steffen, 1993; Miller *et al.*, 1997). Miller *et al.* (1997) examined the independent effects of multiple family variables and found that the number of changes in family structure from ages 6–11 was the strongest family structure predictor of sexual debut for adolescent males, while the proportion of childhood spent living with a single mother was the most important predictor of sexual debut for adolescent females.

- **Data from the NSC suggest that experiencing parental divorce or multiple changes in family structure and living in a single-parent household during childhood are all associated with an increased risk of adolescent sexual debut.**

The NSC is one of the few national datasets that asked adolescents whether they had ever had a forced sexual experience. So far, researchers have examined the risk factors for forced sexual experience only among subsamples of White females in the NSC, and having ever lived apart from both parents appears to increase the likelihood of having a forced sexual experience significantly (Moore, Nord, and Peterson, 1989; Miller, Monson, and Norton, 1995). After controlling for living apart from both parents, no other family structure effects were significant.

- **Data from the NSC suggest that for White female adolescents, living apart from both parents is associated with an increased risk of forced sexual experience.**

Other National Surveys

Researchers have also used several other national datasets to examine the link between family structure and teen sexuality. (See Table 5.) Using the 1979 National Survey of Young Women (NSYW), Miller and Bingham (1989) found that among females ages 15–19, those who had been raised by both parents to age 15 were less likely to have ever had sexual intercourse when compared to females from all other family structures. However, when Miller and colleagues limited their analysis to sexually active females within the NSYW, family structure did not significantly predict age at first intercourse once family SES was included in the model, though the coding of family structure may have played a role (Bingham, Miller, and Adams, 1990)[4]. Young *et al.* (1991) examined females ages 17–19 from the 1979 NSYW and males ages 17–19 from the 1979 National Survey of Young Men (NSYM) and found that adolescents living with two parents were less likely to have ever had sex when compared to similar adolescent from single-parent families.

Researchers have also pooled data from the 1979 NSYW with data from the 1983 wave of the NLSY and Cycle 3 of the NSFG in order to examine the sexual behaviors of adolescent women (Kahn, Kalsbeek, and Hofferth, 1988). The results of this analysis were mixed. Among White women ages 14–17, living with two biological parents at age 14 significantly reduced the risk of ever having had sexual intercourse. However, among Black women and women ages 18 and 19, living with two biological parents at age 14 did not significantly protect against the likelihood of sexual debut.

In addition to the 1979 NSYW, the results from other national datasets suggest that adolescents from intact family structures are less likely to have ever had sexual intercourse when compared to

3 In a related study involving a subsample of only White adolescent females (Miller, Monson, and Norton, 1995), ever having experienced parental divorce was significantly related to sexual debut in univariate models but was no longer significant in multivariate models.

4 It appears that the authors coded family structure as follows: 1 = two biological parent family; 2 = single biological parent family; and 3 = reconstituted or stepfamily. It appears that this measure was then treated as an ordinal measure, making it difficult to interpret the coefficient.

adolescents from other family backgrounds. (See Table 5.) These include the 1990–1991 British National Survey of Sexual Attitudes and Lifestyles (NSSAL) (Kiernan and Hobcraft, 1997); the 1976–1983 National Youth Survey (NYS) (Lauritsen and Swicegood, 1997); the National Survey of Families and Households (NSFH) (Longmore, Manning, and Giordano, 2001); the 1992 Youth Risk Behavior Survey (YRBS) (Santelli and Lowry *et al.*, 2000); the 1991 National Survey of Men (Bakken, 2002); and a nationally representative phone survey of youth ages 12–17 conducted by Collins and colleagues in 2001 (Collins *et al.*, 2004).

- **Results from other national surveys suggest that adolescents from intact family backgrounds are less likely to have ever had sexual intercourse and more likely to delay the onset of sexual activity when compared to adolescents from non-intact family backgrounds.**

Regional Samples and Smaller Studies

The relationship between adolescent sexual activity and family structure has also been examined using regional samples from smaller research studies. Though these studies may not be nationally representative, thereby making it difficult to generalize the results beyond the populations under study, smaller-scale studies often allow for more in-depth interviewing of respondents about their family backgrounds and sexual behaviors. Moreover, smaller-scale studies are often able to target specific populations, such as high-risk, inner-city youth or certain minority groups, that are difficult to study in nationally representative samples due to their relatively small numbers in the overall population.

Table 6 contains a list of smaller studies based on regional or convenience samples that have examined the relationship between family structure and adolescent sexual experience. In general, adolescents living with two biological parents were less likely to have ever had sexual intercourse or to transition into sexual activity at an early age when compared to their peers from non-intact families.

- **The results of studies involving regional samples consistently suggest that adolescents from intact family backgrounds are less likely to have ever had sexual intercourse and more likely to delay the onset of sexual activity when compared to adolescents from non-intact family backgrounds.**

Several studies have found family structure to be a non-significant predictor of adolescent sexual debut. In eight studies, coming from an intact family background was associated with a lower likelihood of sexual debut; however, the results did not reach the conventional level of statistical significance.[5] See Table 7.) For an additional five studies, the direction of the effect is unknown or difficult to interpret due to either the coding of family structure (French and Dishion, 2003; Miller, Forehand, and Kotchick, 1999; Miller, Forehand, and Kotchick, 2000; Metzler *et al.*, 1994; Udry, 1988) or the coding of the outcome variable (Hovell *et al.*, 1994; Metzler *et al.*, 1994).

What is noteworthy in all of this is that a multitude of studies find a significant link between family structure and adolescent sexual debut, a relatively small number report a non-significant relationship, and an even smaller number report an unknown relationship; however, not a single study reports that intact family structure poses a significant risk factor for the sexual debut of adolescents.

Conclusions

More than 100 studies have examined the relationship between family structure and adolescent sexual debut, or the age at which adolescents first engage in sexual intercourse. This has created an intricate accumulation of complicated and at times conflicting research findings. However, a few general conclusions can be drawn.

First, adolescents living with two biological parents tend to delay sexual activity longer than adolescents living in other family structures.

5 The relationship between family structure was significant in a crosstab or in a univariate analysis, but the relationships were not significant in multivariate analysis once controls and other predictors were added.

Adolescents in stepfamilies tend to delay sexual intercourse longer than adolescents living with a single or cohabiting parent, and children living with neither of their biological parents are at the greatest risk of sexual debut at a young age. Transitions in family structure arrangements also appear to place children at risk for early sexual debut. Children who have experienced multiple parental marriages and divorces or multiple changes in parental figures are more likely to engage in sexual intercourse at an early age. The presence of the biological father also appears to play an important role in adolescent sexual activity; the greater the proportion of time during childhood that a biological father resides with his children, the less likely those children are to engage in early sexual activity.

The research literature on family structure and adolescent sexual activity also suggests that the effects of family structure differ for males and females. In general, the protective effects of living in an intact household or residing with the biological father and the negative effects of living in a non-intact family are stronger for females than for males. The one exception is the effects of living in a stepfamily. Relative to adolescents living with two biological parents, having an unrelated adult male in the home appears to increase the risk of early sexual debut for females while having little effect on the risk of sexual debut for males.

The effects of family structure on adolescent sexual debut also appear to differ by the age and race of the adolescent. Living in a non-intact family is strongly associated with the likelihood of sexual debut before age 15. However, the effects appear to wane over time, and by age 19, though still present, the protective effects of an intact family structure appear to be quite small. In addition, though present among all racial groups, the protective effects of intact family structures and the negative effects of non-intact family structures are stronger for White and Hispanic adolescents than for Black adolescents.

It is important to remember that the main impact of intact family structures is a delay in the onset of sexual activity. Many adolescents from intact families still engage in sexual activity; however, on average they tend to do so at an older age than their peers from non-intact families.

To illustrate this point, suppose that adolescents from intact and non-intact families transitioned into sexual activity at exactly the same rate but that those from non-intact families did so on average one year earlier than their peers from intact families. The top panel in Figure 2 portrays this phenomenon for a hypothetical population of adolescents. The percent of adolescents from intact families who have ever had sexual intercourse by a given age lags the percent from non-intact families by exactly one year. The far-right column represents the percent of adolescents from non-intact families who have had sexual intercourse relative to the percent from intact families for a given age. At the younger ages, adolescents from non-intact families are significantly more likely to have ever had sexual intercourse than their peers in intact families. However, as both groups get older, the protective effects of living in an intact family decline.

Said another way, among a sample of 13-year-old virgins, those from non-intact families are significantly more likely than their peers in intact families to engage in sexual activity during the following year. However, among a sample of 18-year-old virgins, those from non-intact families are only slightly more likely than their peers from intact families to engage in sexual activity during the next 12 months.

This “lagging” phenomenon also explains why studies examining whether or not adolescents have had sex before age 15 tend to report stronger family structure effects than studies examining whether or not adolescents have ever had sex before age 18. Moreover, among older adolescents, studies using methodologies such as event history analysis that examine the exact age at which adolescents transition into sexual activity (and that therefore compare the mean age at first intercourse among adolescents from various family structure groups) tend to find stronger family structure effects than are found in studies that examine whether or not adolescents have had sex by a specific age cutoff (and therefore compare proportions who have had sex at a particular age).

The Effects of Family Structure on Adolescent Sexual Activity

In this hypothetical population, adolescents in intact families have sexual intercourse for the first time at the same rate as those in non-intact families, only they start a year later, a phenomenon referred to as "lagging."

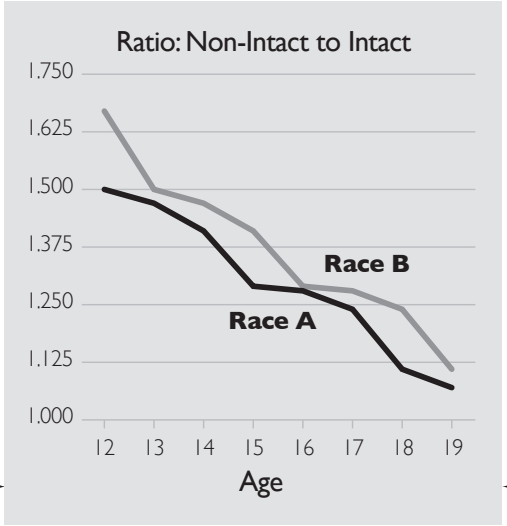
Age	% Adolescents Who Had Ever Had Sexual Intercourse: Non-Intact Families	Intact Families	Ratio: Non-Intact to Intact
12	10%	6%	1.67
13	15%	10%	1.50
14	22%	15%	1.47
15	31%	22%	1.41
16	40%	31%	1.29
17	51%	40%	1.28
18	63%	51%	1.24
19	70%	63%	1.11

As a result, the relative proportion of adolescents from non-intact families to intact families who have ever had sexual intercourse is high for younger children but decreases as they get older.

This phenomenon appears as well when comparing two races. When adolescents from one race engage in sexual activity for the first time at an earlier age (Race A in this hypothetical population), their relative proportions of adolescents from non-intact families to intact families who have ever had sexual intercourse are lower than a different race (Race B).

Race A

Age	Non-Intact Families	Intact Families	Ratio: Non-Intact to Intact
12	15%	10%	1.50
13	22%	15%	1.47
14	31%	22%	1.41
15	40%	31%	1.29
16	51%	40%	1.28
17	63%	51%	1.24
18	70%	63%	1.11
19	75%	70%	1.07



Race B

Age	Non-Intact Families	Intact Families	Ratio: Non-Intact to Intact
12	10%	6%	1.67
13	15%	10%	1.50
14	22%	15%	1.47
15	31%	22%	1.41
16	40%	31%	1.29
17	51%	40%	1.28
18	63%	51%	1.24
19	70%	63%	1.11

Figure 2 heritage.org

The lagging phenomenon may also explain racial differences in the effects of family structure on adolescent sexual debut. Suppose that, for a hypothetical population of adolescents, all adolescents engage in sexual activity for the first time at the same rate. As in the previous example, those who are from intact families delay sexual activity on average one year longer than their peers from non-intact families. However, as a group, adolescents from Race B tend to delay sexual activity an average of one year longer than those from Race A.

The lower panel in Figure 2 portrays this phenomenon. All adolescents engage in sexual activity at a similar rate. However, for any given age, the relative proportion of adolescents from non-intact families to intact families who have ever had sexual intercourse (i.e., the protective effect of residing in an intact family) is lower for Race A than

for Race B. Given that, as a group, African-American adolescents from both intact and non-intact families tend to engage in sexual activity for the first time at an earlier age than their White counterparts, this lagging effect may explain why, among adolescents of the same age, observed family structure effects are typically stronger for Whites than they are for Blacks.

Section II

Number of Sexual Partners and Frequency of Sexual Activity

Another measure of adolescent sexual activity is the frequency with which adolescents engage in sexual intercourse. This is typically measured by asking adolescents how many different sexual partners they have had or the number of times they have engaged in sexual intercourse over a set time period.

In the previous section, it was noted that adolescents living with two biological parents are less likely to have ever had sex when compared to adolescents from other family structures. Therefore, adolescents from intact families would also be expected to have had fewer sexual partners and to have engaged in fewer acts of sexual intercourse when compared to adolescents from other family structures simply because of the larger proportion of adolescents from intact families who would report a zero for both outcomes.

When examining the impact of family structure on adolescents' frequency of sexual activity or number of sexual partners, it is therefore important to distinguish between studies that are based on the entire population of adolescents and studies that are limited to sexually active adolescents. Table 8 contains a list of studies showing a significant relationship between family structure and adolescents' coital frequency and number of sexual partners.

National studies involving both virgin and non-virgin adolescents typically find that family structure or changes in family structure are associated with frequency of sexual activity and number of sexual partners. For example, using a sample of females from the 1995 wave of the NSFG, Quinlan (2003) found that among those who had experienced parental divorce or separation, the timing of parental separation was related to the number of lifetime sexual partners. In addition, Ku and colleagues (Ku *et al.*, 1998; Ku, Sonenstein, and Pleck, 1993b) found that among males in the NSYM79, NSAM88, and NSAM95, those living with two biological parents were less likely to have had sex in the previous four weeks, had sex less often in the previous year, and reported fewer sexual partners in the previous year when compared to adolescents from other family structures.

However, the effects of family structure are not necessarily the same for all racial groups. For example, utilizing the first two waves of the NYS, Lauritsen (1994) found that among White adolescents ages 12-18, those living with two married parents reported significantly fewer sexual experiences during the previous year, yet the results were non-significant for Black adolescents. Moreover, Averett, Rees, Duncan, and Argys (2004) found that Hispanic youth living in two-parent families were less likely to have had sex in the past month or past year, but the results were not significant for White or Black adolescents.

Studies involving virgin and non-virgin adolescents from regional samples and smaller studies also tend to find that family structure is related to the frequency of sexual activity[6].Among a sample of adolescents from a stable middle-class suburb, the presence of a father in the home reduced

6 One exception is Jemmott and Jemmott (1992). Using a sample of 200 inner-city Black males ages 11-19, they find that living with both parents was not related to coital frequency or the number of reported sexual partners.

the likelihood that adolescents reported having had more than one sexual partner. Moreover, among a sample of White adolescents from Detroit (Thornton and Camburn, 1987), those whose mother had a premarital pregnancy or divorced and remarried reported more sex in the previous four weeks and more lifetime sexual partners.

- **Adolescents from intact family backgrounds tend to report having had fewer sexual experiences and fewer sexual partners than adolescents from non-intact family structures, primarily because a larger proportion of those who are from intact families have never had sexual intercourse.**

When the effects of family structure on coital frequency and number of sexual partners are examined among samples limited to sexually active teens, the effects of family structure are not nearly as strong. Among sexually active teens in the Add Health study, Davis and Friel (2001) found no relationship between family structure and adolescents' number of sexual partners, whereas Cleveland and Gilson (2004) found that females from intact families had slightly fewer sexual partners than their peers in non-intact families, but that no such relationship existed for males. Using the NSC, Baumer and South (2001) found that compared to adolescents not living with both biological parents, those residing with both biological parents had fewer sexual partners during the previous year but the same number of sexual partners during the previous four weeks.

Bakken (2002) found that among Black respondents in the 1991 National Survey of Men, those who lived with both biological parents at age 12 reported fewer lifetime sexual partners. Results from females in Cycle Three of the NSFG suggest that Non-Black daughters living with both biological parents at age 14 were less likely to be having sex once a week or more and tended to have sex for fewer months in the previous year than their counterparts from non-intact families; however, the results were non-significant for Black respondents.

Among a sample of men ages 17–19 from the 1979 NSYM, those who were living with two parents were less likely to have had sex in the previous month; however, no such relationship was observed among a similar sample of women from the 1979 NSYW (Young, Jensen, Olsen, and Cundick, 1991). Moreover, among respondents in the 1992 YRBS, Santelli, Lowry, Brener, and Robin (2000) failed to find a significant relationship between family structure and sexual activity or number of sexual partners within the previous three months.[7]

Studies involving virgin and non-virgin adolescents tend to find that adolescents from intact family structures tend to have sex less often and to have fewer sexual partners than their counterparts from non-intact families. On the other hand, when the samples are limited to sexually active teens, the results are mixed, and family structure is not a robust predictor of coital frequency or number of sexual partners. Moreover, when sexually active teens are asked about sexual experiences in the recent past, those from intact families tend to differ little from those from non-intact families. However, when asked about sexual experiences over a year or more, the effects sizes for family structure tend to be larger.

Taken together, this suggests that an intact family structure influences coital frequency and number of sexual partners primarily by delaying the onset of sexual debut. However, once teens have begun having sex, the sexual behaviors of adolescents from intact families are similar to those from non-intact families.

- **Once adolescents become sexually active, family structure is not a strong or consistent predictor of coital frequency or number of sexual partners.**

7 Using a sample of 69 sexually active 10th-grade males from the San Francisco Bay Area, Feldman and Brown (1993) did find that those in intact families had fewer sexual partners than those from non-intact families, but due to the small sample size, this study was omitted from the current discussion.

Section III

Contraceptive Use

A third measure of adolescent sexual activity involves the adoption of reliable methods of contraception. Contraceptive use among sexually active adolescents has been measured in several ways, including whether or not they used contraception during their first sexual experience, whether or not they used contraception during their most recent sexual experience, and their consistency of contraception use over a period of time. In general, the relationship between family structure and adolescent contraceptive use is either mixed or nonexistent.

With regard to contraceptive use at first intercourse, Kahn, Rinfuss, and Guilkey (1990) and Forste and Heaton (1988) reported that among females in the 1982 NSFG, adolescents who lived with both natural parents at age 14 were slightly more likely to use some form of contraception at first intercourse when compared to teens who had experienced family instability. In addition, Manning, Longmore, and Giordano (2000) reported that among females in the 1995 NSFG who had had sex for the first time before age 18, those in stepfamilies were slightly less likely to use contraception during their first sexual experience relative to those living with two biological parents.

However, these results were not replicated in three additional studies examining females from the 1982, 1988, and 1995 NSFG (Brewster, Billy, and Grady, 1993; Brewster *et al.*, 1998; Hogan, Sun, and Cornwell, 2000). Moreover, family structure measures were not related to contraceptive use at first intercourse among males in the NSAM88 (Ku, Sonenstein, and Pleck, 1993a; Ku, Sonenstein, and Pleck, 1993b), adolescents from the Add Health Survey (Wilder and Watt, 2002; Cubbin *et al.*, 2005), males and females in the National Survey of Children (Moore, Morrison, and Glei, 1995), or a sample of females recruited from publicly supported family planning clinics (Felton, 1996).

Though the results are mixed for contraceptive use during adolescents' first sexual experience, family structure does not appear to be related to contraceptive use during adolescents' most recent sexual experience. In six studies that asked adolescents about contraceptive use during their most recent sexual experience, adolescents from two-parent families were no more likely than adolescents from other family structures to report using some form of contraception (Santelli and Lowry *et al.*, 2000; Baumer and South, 2001; Longmore *et al.*, 2003; Brewster *et al.*, 1998; Felton, 1996; Ku, Sonenstein, and Pleck, 1993b; Pleck, Sonenstein, and Ku, 1991; Cubbin *et al.*, 2005).

In several surveys, sexually active adolescents were asked to rate their consistency of contraceptive use on a scale ranging from never to always. The effects of family structure on contraceptive consistency are also mixed. For example, in the Add Health Survey, among sexually active females from the first two waves of the survey (Bruckner, Martin, and Bearman, 2004), males and females from the second wave who reported having a romantic partner (Kaestle and Halpern, 2005), and females from wave two who have had at least two sexual partners (Manlove, Ryan, and Franzetta, 2003), family structure was not related to contraceptive consistency. However, among males and females who reported having sex between the first two waves of the Add Health Survey and among males from wave two who reported having had at least two sexual partners, those from two-parent families were more likely than adolescents from other family structures to report always having used contraception (Manlove, Ryan, and Franzetta, 2003).

On the other hand, results from the NSAM suggest that family structure is not related to the consistency of contraceptive use (Murphy and Bogess, 1998; Pleck, Sonenstein, and Ku, 1991), and results from smaller studies are also mixed. For example, among a sample of inner-city Black males, those living with both parents were more likely than other adolescents to use condoms consistently (Jemmott and Jemmott, 1992); and among a sample of adolescents from the Rocky Mountain area, females living with both biological parents were more likely than females from other family structures to report regular contraceptive use during the previous year, though a similar result was not found among males (Costa *et al.*, 1996). However, for females from an inner-city sample (White, 1987), Black females from Dallas (Keith *et al.*, 1991), and 9th and 11th graders from Wisconsin (Chewning and Van Koningsveld, 1998), the presence of the father in the home appeared to reduce the likelihood that sexually active females were consistently using some form of contraception.[8]

Taken together, these results suggest that family structure is only a modest predictor of whether or not sexually active adolescents are using contraception. At the same time, similar to the results for coital frequency, the observed effects of family structure on adolescent contraceptive use appear to operate by delaying adolescents' sexual initiation.

Older adolescents are more likely than younger adolescents to use a form of contraception when engaging in sexual intercourse (Abma *et al.*, 2004). Therefore, given that adolescents from intact families tend to be older than adolescents from non-intact families during their first sexual experience, it is not surprising that a few studies have found that adolescents from intact families are more likely than adolescents from non-intact families to report having used a contraceptive method during their first sexual experience. However, when comparing rates of contraceptive use for the most recent sexual act among adolescents of the same age, adolescents from intact and non-intact families are equally likely to be using some form of contraception. With regard to the consistency of contraceptive use, given that the sexual histories of adolescents from intact families are likely to have occurred primarily at older ages than those from non-intact families, it is not surprising that adolescents from intact families are more likely to report having always used contraception.

- **In general, family structure is not a strong or reliable predictor of contraceptive use among sexually active adolescents.**

8 These results may be explained by the possibility that fathers are less accepting of contraceptive use by their teenage daughters, believing that their teenage daughters should not be sexually active.

Section IV

Sexually Transmitted Diseases

A small body of research has examined whether family structure is related to the likelihood of sexually transmitted diseases (STDs) among adolescents. Most of these studies have limited the analysis to sexually active adolescents, and for the most part, the effects of family structure on adolescent STD infection are either small or nonexistent.

Among sexually active adolescents in the Add Health Survey, Newbern *et al.* (2004) found that adolescents from father-only, non-parental, or foster homes were more likely to report having had a sexually transmitted disease when compared to adolescents living with two parents or with a single mother. However, in three other studies utilizing the

Add Health Data, family structure was not associated with a history of STD infection (Upchurch *et al.*, 2004; Upchurch and Kusunoki, 2004; Crosby, Leichter and Brackbill, 2000). Sionean *et al.* (2001) examined a sample of 522 sexually active, low-income, urban, Black female adolescents who had participated in a community HIV preventive intervention and found that those living with both of their parents were less likely to report a history of gonorrhea when compared to those living in a single-parent household; however, these results have not been replicated with larger, more representative samples.

The effects of intact family structure on rates of STD infection are likely to be similar to the effects of intact family structure on coital frequency and contraceptive use. When both virgin and non-virgin adolescents are included in the analysis, adolescents from intact families are less likely to report a history of STD infection. However, this relationship occurs primarily by delaying the onset of sexual debut, and once teens have begun having sex, an intact family structure does not appear to protect against STD infection.

- **Adolescents from intact family structures are less likely to report having had a sexually transmitted disease primarily because a smaller proportion have ever had sexual intercourse.**

- **Among sexually active teens, family structure is not a strong or reliable predictor of the risk of STD infection.**

Section V

Pregnancy and Childbearing

Adolescent pregnancy and childbearing are clearly the adolescent sexual outcomes that have garnered the most interest from politicians, policymakers, social workers, religious groups, and other community stakeholders. One prominent politician even labeled adolescent pregnancy and childbearing our "most serious social problem" (Executive Office of the President, 1995).

This section summarizes research on the relationship between family structure and these outcomes. Adolescent pregnancy and childbearing are often related events that have similar explanatory risk factors. Nevertheless, in the scientific literature, a sharp distinction is usually drawn between pregnancy and childbearing. In fact, there is a small body of research that examines pregnancy resolution decisions, or the factors that are related to the choices of a young girl after conception, whether she chooses abortion, adoption, or parenthood (e.g., Zavodny, 2001; Plotnick, 1992; South and Baumer, 2001). However, pregnancy resolution is beyond the scope of this paper, and given that the effects of family structure on adolescent pregnancy and childbearing are nearly identical, these two sexual outcomes will be treated simultaneously.

Studies using nationally representative data present a fairly consistent set of results regarding the relationship between family structure and adolescent pregnancy and childbearing. (See Table 9 and Table 10.) Among females from the Panel Study of Income Dynamics (PSID) (Crowder and Teachman, 2004; Haveman and Wolfe, 1994; McLanahan and Sandefur, 1994), the 1988 National Education Longitudinal Study (NELS) (Manlove, 1998; Moore *et al.*, 1998; Painter and Levine, 2004), the NSC (Fursteberg and Teitler, 1994), the NSFG (Zavodny, 2001; Quinlan, 2003; McLanahan and Bumpass, 1988; Kahn and Anderson, 1992), the NSFH (Wu and Martinson, 1993; McLanahan and Sandefur,

1994), the High School and Beyond (HSB) study (McLanahan and Sandefur, 1994), or the NLSY79[9] (Oettinger, 1999; Lundberg and Plotnick, 1995; McLanahan and Sandefur, 1994; Powers, 1993; Trent and Crowder, 1997; Michael and Tuma, 1985; Afxentiou and Hawley, 1997; Wu, 1996), those who lived continuously with two biological parents until adolescence were less likely to report ever having been pregnant or giving birth to a child before age 20 when compared to similar females from non-intact family structures. Similar results were found among females in the 1958 National Child Development Survey (Manlove, 1997) and the National Survey of Sexual Attitudes and Lifestyles (Kiernan and Hobcraft, 1997), two nationally representative surveys from Great Britain.

Studies involving females from smaller, regional studies have produced analogous findings. (See Table 11.) Among a grade cohort from Houston (Robbins, Kaplan, and Martin, 1985), a convenience sample from an Arkansas health clinic (Barnett, Papini, and Gbur, 1991), an age cohort from New Zealand (Fergusson and Woodward, 2000; Ellis *et al.*, 2003), a large sample of Black women from Chicago (Hogan and Kitigawa, 1985), and a group of women from the inner city born to adolescent mothers (Hardy *et al.*, 1998), adolescent females from intact family backgrounds were less likely than their peers from non-intact family structures to have ever been pregnant or given birth.

Moreover, the presence of a father—either biological or step—reduced the likelihood of pregnancy among high-risk adolescent females from Minnesota (Chandy *et al.*, 1994) and Black females from Chicago (Moore and Chase-Lansdale, 2001), relative to those living with a single mother. In addition, co-residing with one's grandparent was found to protect against the possibility of adolescent pregnancy or childbirth for adolescents from all family structures except single-parent households, where grandparent co-residence did not reduce the likelihood of pregnancy or childbirth (Astone and Washington, 1994).

- **Data from nationally representative surveys and smaller, regional studies suggest that females from intact families are less likely to get pregnant or give birth when compared to adolescents from non-intact families.**

- **For adolescent females, the presence of a biological father or stepfather appears to reduce the likelihood of pregnancy or childbirth compared to similar females living with a single mother.**

Researchers have also looked at the role of family structure over the life course. For example, several authors have reported that being born to a mother who first gave birth as a teen increases one's odds of having a teen birth (Abma *et al.*, 2004; Kahn and Anderson, 1992; Manlove, 1997; Manlove *et al.*, 2000; Hardy *et al.*, 1998).

Using the 1995 NSFG, Quinlan (2003) created detailed family structure histories for each of the women in his sample and found that the earlier daughters experienced their parents' separation and the more family structure transitions they experienced, the more likely they were to get pregnant (see also Wu and Martinson, 1993). In addition, among those who had experienced parental separation, those who had lived with a non-biologically related adult male after their parents' separation were more likely to report having been pregnant when compared to those who had not lived with an unrelated adult male. In a similar analysis using the NLSY79, Wu (1996) reported that the amount of their childhood that adolescent females had lived in a single-mother household was related to their likelihood of having a non-marital teen birth (see also Haveman and Wolfe, 1994).

- **For adolescent females, being born to a teen mother, experiencing early parental separation, and living with a single mother increased the likelihood of adolescent pregnancy and childbirth.**

9 Similar results (same direction though non-significant) were reported by Stewart (2003), using a sample of females ages 14–19 in 1979 from the 1979–1998 waves of the NLSY79, and Rindfuss and St. John (1983), using a sample of females ages 35–44 from the 1970 National Fertility Study.

Though most of this literature focuses on females, Ku, Sonenstein, and Pleck (1993b) examined the sexual histories of males in the 1988 NSAM and found that those who had lived with both biological parents at age 14 were less likely than similar males who had not lived with both parents to ever get a girl pregnant or father a live birth. Similar results were found among males in the PSID, NLSY79, and NSFH (McLanahan and Sandefur, 1994) and a sample of inner-city Black males (Jemmott and Jemmott, 1992) and inner-city males from Pittsburgh (Stouthamer-Loeber and Wei, 1998).[10]

- **For adolescent males, those living with two biological parents at age 14 are less likely to get a girl pregnant or father a live birth when compared to males from other family structures.**

Taken together, these results suggest that residing in an intact family protects against the likelihood of an adolescent pregnancy and parenthood. However, with the exception of the study by Zavodny (2001), all of the results outlined above included both virgin and non-virgin adolescents. It is not surprising that adolescents from intact families are less likely than other adolescents to experience a pregnancy or birth: A greater proportion of adolescents from intact families have never had sexual intercourse, and a greater proportion from intact families therefore face zero risk of pregnancy.

When the samples are restricted to sexually active adolescents, the effects of family structure are not nearly as strong. For example, among sexually active females in the NLSY79 (Rich and Kim, 2002; Afxentiou and Hawley, 1997), the NSFG (Manlove *et al.*, 2000), and the Add Health Survey (Bruckner, Martin, and Bearman, 2004), the likelihood of pregnancy or childbirth did not differ by current family structure.[11] Moreover, Hogan and Kitigawa (1985) found that adolescent females with unmarried parents faced a greater risk of pregnancy; however, when they restricted the sample to sexually active women, the results of family structure were no longer significant.

In a later study, Hogan, Sun, and Cornwell (2000) created detailed family structure histories for each of the women in the 1995 NSFG, similar to those of Quinlan (2003). However, they restricted their sample to sexually active women and found that parents' marital status at birth, current family structure, and time spent living with a single mother were no longer related to the likelihood of pregnancy. In addition, the number of family structure transitions a young girl had experienced was related to pregnancy risk, though the effect sizes were much smaller than those of other studies.

- **Among sexually active adolescents, family structure is not a strong or consistent predictor of the likelihood of pregnancy or childbirth.**

When examining the relationship between family structure and adolescent pregnancy and childbearing, two sets of results emerge. Studies that include both virgin and non-virgin adolescents tend to find stronger effects than studies restricted to sexually active adolescents. Similar to other adolescent sexual outcomes, the discrepancy between the two types of samples can be explained by the delay effect associated with intact family structures. On average, adolescents from intact families are less likely to report having ever been pregnant or having ever become a parent; however, this is primarily because, on average, they are less

10 Similar though non-significant results were reported among males in the HSB Survey (Hanson, Morrison, and Glei, 1989; McLanahan and Sandefur, 1994); in the NSSAL (Kiernan and Hobcraft, 1997); from high-crime areas in Rochester (Thornberry, Smith, and Howard, 1997); and from high-risk areas in Oregon (Pears *et al.*, 2005). In most cases, the relationship between family structure and adolescent pregnancy or fatherhood was significant in bivariate models but no longer significant in multivariate models.

11 Bruckner, Martin, and Bearman (2004) found that, when compared to females living with two biological parents, those living with a single mother were more likely to get pregnant, and Rich and Kim (2002) found that those living without their parents were more likely to get pregnant. However, the effect sizes were much smaller compared to the studies that used both virgin and non-virgin teens, and no other family structure types were significantly different from the two biological parent family.

likely to have ever had sex or have been having sex for a shorter amount of time than their counterparts from non-intact families.

Among adolescents who began having sex at the same age, it appears that family structure does not strongly protect against pregnancy or childbearing. Evidence of this phenomenon is provided by the fact that in many of the studies outlined above, once the authors controlled for the adolescents' age at first intercourse, the effects of family structure on pregnancy and childbearing were significantly smaller and at times insignificant. In addition, among a large sample of African-American women from Tennessee, though the entire sample was pregnant, those whose parents remained together from birth to age 13 were slightly older when they first got pregnant when compared to adolescents who had experienced a parental separation (Fiscella *et al.*, 1998), thus providing further evidence of the delaying effect of intact family structure on adolescent sexual outcomes.

Age, race, and gender differences in the effects of family structure on adolescent pregnancy and childbirth are similar to those of age at first intercourse. The protective effects of living in an intact family tend to be stronger for younger adolescents than for older adolescents (Robbins, Kaplan, and Martin, 1985; Manlove, 1997). Moreover, the effects of family structure appear to have a greater impact on the pregnancy and birth outcomes of Whites and Hispanics than for Blacks (Manlove, 1998; McLanahan and Bumpass, 1988).

Though most of the research has focused on females, the few studies that have examined both males and females suggest that family structure has a greater impact on the pregnancy and childbearing outcomes of females than of males (McLanahan and Sandefur, 1994; Robbins, Kaplan, and Martin, 1985; Kiernan and Hobcraft, 1997; Hardy *et al.*, 1998). In addition, the presence of a stepfather appears to increase the likelihood that female adolescents will get pregnant (Plotnick, 1992) but does not appear to increase the odds that a male adolescent will impregnate a woman.

Section VI

Methodological Issues

Measuring Adolescent Sexual Behavior

Though there is a large body of research assessing the effects of family structure on adolescent sexual activity, measuring the true relationship between these variables can be difficult. Variations in sampling techniques, question wording, and data collection strategies are all likely to affect estimates of adolescent sexual activity (Santelli and Lindberg *et al.*, 2000).

Research on the risk factors of adolescent sexual behavior can also be hampered by the response behaviors of adolescents themselves. Given the sensitive nature of the information, adolescents have been known to provide inaccurate reports of their sexual behaviors—especially pregnancies and abortions, which are often underreported (Hoffman, 1998).

Though some of the sensitivity issues have been addressed by allowing adolescents to complete surveys on a computer in a private setting, adolescents' recall of information about their sexual behaviors is not always consistent. For example, Upchurch *et al.* (2002) compared the sexual histories provided by sexually active adolescents during the first two waves of the Add Health Survey and found that 11.1 percent of adolescents who reported being sexually active at wave one reported never having had sex at wave two. In addition, only 22.2 percent

of those reporting sexual activity at both waves reported the same date of first sexual experience at both time points.

Measuring Family Structure

Problems also arise with the measurement of family structure. Throughout this review, family structure has been measured in a myriad of ways, and how it is defined is likely to affect the relationship between family structure and adolescent sexuality. The most common method of measurement has been adolescents' self-report of their living arrangements at a specific age. However, this method fails to capture their living arrangements throughout the rest of childhood and adolescence. Moreover, family structure is commonly collapsed into dichotomous categories in order to compare adolescents living with both biological parents to those from all other family structures (e.g., Abma *et al.*, 2004), often masking the effects of variations in family structure.

Family structure has also been defined as the presence of a biological father (e.g., Keith *et al.*, 1991), having experienced parental divorce or separation (e.g., Furstenberg and Teitler, 1994), mother's marital status at birth (e.g., Hardy *et al.*, 1998), the percentage of childhood from birth to age 12 that an adolescent spent living with a single mother (e.g., Miller *et al.*, 1997), the number of family structure transitions an adolescent has experienced (e.g., Quinlan, 2003), or several other possible family structure coding schemes. Each of these family structure and living arrangement phenomena is likely to have a unique and/or interactive effect on adolescent sexual outcomes that is not captured by simply comparing adolescents from intact homes and adolescents from non-intact homes.

This is not to say, however, that our conclusions about the effects of family structure are invalid. Instead, it suggests that as our comprehension of family processes improves, we are likely to better understand and differentiate the effects of living in a stepfamily from those of living with cohabiting parents or a single mother, or to better tease out the effects of experiencing a divorce from those of living with a single mother.

Considering the Direct and Indirect Effects of Family Structure

Another challenge to studying the effects of family structure on adolescent sexual activity involves accounting for the full effects of family structure.Family structure can have both direct and indirect effects on adolescent sexuality. However, most of the significant and non-significant studies reviewed in this paper examined only the direct effects of family structure and ignored its possible indirect effects.

For several reasons, researchers rarely examine the indirect effects of family structure. Family structure, for example, is often not the focus of the research question, but rather is simply included in the analysis as a control so that authors can test the independent effect of their variables of interest. Moreover, the data demands for testing indirect effects are rather extensive. For this reason, some authors have presented theoretical models that discuss the indirect effects of family structure on adolescent sexual outcomes but then have utilized direct effects models in their statistical analyses (Hovell *et al.*, 1994; Day, 1992).

Though rare, researchers testing the indirect effects of family structure on adolescent sexuality consistently found strong family structure effects (Jaccard, Dodge, and Dittus, 2003; Thornton and Camburn, 1987; Ramirez-Valles, Zimmerman, and Newcomb, 1998; Whitbeck, Simons, and Goldberg, 1996). For an expanded discussion of this issue, see Appendix, "Considering the Direct and Indirect Effects of Family Structure."

Conclusion

This paper has reviewed over 180 articles examining the link between family structure and adolescent sexual outcomes. Significant variations in research design, variable measurement, population sampling, and analytical and statistical techniques have generated a vast and varied collection of research findings. From this mountain of literature, a few general findings emerge.

Adolescents from intact family structures are less likely than their peers from non-intact family backgrounds to engage in sexual activity. Moreover, when adolescents from intact families do become sexually active, they tend to do so at an older age than their counterparts from non-intact families.

The effects of family structure on adolescent sexual debut also differ by age, race, and gender. Family structure seems to matter more for the sexual behavior of young teens than for the sexual behavior of older teens. In addition, at any given age, the effects of family structure are stronger for White and Hispanic adolescents than for their Black counterparts. Many of these observed age and racial differences can be accounted for by modeling the lags in the average age of sexual debut.

The delay in sexual debut by adolescents from intact families also appears to account for discrepancies in the effects of family structure on adolescents' frequency of intercourse, number of sexual partners, contraceptive use, STD infection, and pregnancy and childbirth outcomes. In fact, the strong relationship between family structure and adolescent sexual debut explains most of the relationship between family structure and other sexual outcomes.

A good example of this phenomenon is found in the Add Health Survey. Manning, Longmore, and Giordano (2003) found that among teens who were sexually active in the previous year, family structure was a strong predictor of whether or not the teens engaged in casual sex or sex within a romantic relationship. However, when the authors included previous sexual experience in the model, the effects of family structure were no longer significant. Moreover, when the Add Health sample was limited to adolescents currently in a romantic relationship, family structure was a strong predictor of whether or not the adolescent couples had engaged in sexual activity. However, once the authors accounted for previous sexual experience, family structure was no longer a significant predictor of sexual activity (Cleveland, 2003).

Taken together, these results suggest that among sexually active and non-sexually active teens, the main effect of family structure is a reduction in previous sexual experience or, in other words, a delay in the age of sexual debut.

It is important to remember that not all adolescents from intact families avoid sexual activity during their teen years and that not all children from non-intact homes become sexually active at a young age. However, on average, adolescents from intact families begin having sex at an older age than their counterparts from non-intact families. Among adolescents who begin having sexual relations at the same age, those from intact families tend to have sex equally as often and with equally as many partners as their peers from non-intact homes. Moreover, among adolescents who transition to sexual activity at the same time, family structure does not appear to affect the likelihood of contraceptive use, STD infection, or conception and childbirth.

However, this does not mean that the effects of family structure completely disappear once adolescents begin having sex. Variation in family structure is likely to affect other life course decisions. For example, pregnant daughters from intact homes are more likely than their counterparts from single-parent families to marry before giving birth (Plotnick, 1992; Lundberg and Plotnick, 1995).

The literature reviewed here suggests that family structure has a fairly robust effect on adolescent sexual outcomes. Moreover, recent research has highlighted many of the family characteristics and processes that explain the observed differences in sexual activity between adolescents from various family structures.

Though measuring the relationship between family structure and adolescent sexuality can be methodologically challenging, when one considers both the direct and indirect effects of family structure on adolescent sexuality, this paper provides further evidence that children who grow up with two biological parents are more likely to avoid the negative outcomes associated with teen sexual activity (Sneider, Atenberry, and Owens, 2005; McLanahan and Sandefur, 1994).

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Table 1

Studies Linking Family Structure and Sexual Debut/Age at First Intercourse from the NSFG/NSAM

Citation	Sample	Finding
Abma, *et al.* (2004)	2002 NSFG: Males & Females ages 15–19	Adolescents from intact homes were less likely to have ever had sexual intercourse
Abma & Sonenstein (2001)	1995 NSFG & 1995 NSAM: Males & Females ages 15–19	Adolescents from intact homes were less likely to have ever had intercourse and less likely to have been sexually active before age 15
Albrecht & Teachman (2003)	1995 NSFG: Black & White women ages 25–45	Each transition in family structure increased daughters' risk of sexual intercourse Daughters born out of wedlock were more likely to engage in sexual intercourse
Billy, Brewster & Grady, (1994)	1982 NSFG: Females ages 16–19	Daughters living with two biological parents at age 14 faced a lower risk of sexual debut
Brewster (1994)	1982 NSFG: Females ages 15–19	Daughters living with two biological parents at age 14 faced a lower risk of sexual debut
Brewster, Billy & Grady (1993)	1982 NSFG: Females ages 16–19	Daughters living with two biological parents at age 14 faced a lower risk of sexual debut
Brewster, *et al.* (1998)	1982 and 1988 NSFG: Females	Daughters living with two biological parents at age 14 faced a lower risk of sexual debut
Forste & Heaton (1988)	1982 NSFG : Females	Daughters living with two biological parents at age 14 faced a lower risk of sexual debut before age 16
Hogan, Sun & Cornwell (2000)	1995 NSFG: Females ages 15–44	Daughters born out of wedlock were more likely to engage in sexual intercourse Each transition in family structure increased daughters' risk of sexual intercourse Daughters currently living with both biological parents were less likely to be sexually active
Murry (1994)	1988 NSFG : Black Females, age at first sex < 16 or = 18,19	Those who waited until age 18–19 to initiate sexual intercourse were more likely to live with two biological parents at age 14
Murry (1996)	1988 NSFG : Middle-class Black Females age at first sex < 16 or = 18,19	Those who waited until age 18–19 to initiate sexual intercourse were more likely to live with two biological parents at age 14
Quinlan (2003)	1995 NSFG: Females ages 15–44	Each transition in family structure increased daughters' risk of sexual intercourse Daughters who experienced early parental separation were at a greater risk of sexual debut
Forste & Haas (2002)	1988 and 1990–91 NSAM, males ages 15–19 who were virgins in 1988	Sons who lived with both parents at age 14 were less likely to transition into sexual activity within a year of the first interview

Table 2

Studies Linking Family Structure and Sexual Debut/Age at First Intercourse from the NLSY79, NLSY79 Children, and NLSY97

Citation	Sample	Finding
Afxentiou & Hawley (1997)	NLSY79 1982 wave, females ages 16–19	Daughters residing with both biological parents at age 14 were less likely to be sexually active
Cooksey, *et al.* (2002)	NLSY79 1979–98 waves, male and female children of women in 1979 cohort	Odds 13–14-year-old virgins will transition to sexually active at age 15–16 was lower for those living with their biological fathers
Day (1992)	NLSY79 1979–83 waves, males and females	Relative to those living with a single mother, adolescents living with a biological father in the home were less likely to sexually debut
Haurin & Mott (1990)	NLSY79 1979–83 waves, Black & White sibling pairs	Adolescents living with both parents at age 14 were less likely to be sexually active
Moore (2001)	NLSY97 1997 wave, White & Black females ages 14–16	Daughters living with two biological parents were the least likely to have ever had intercourse
Rich & Kim (2002)	NLSY79 1979–84 waves, females ages 14–16 in 1979	Daughters living in a stepfamily at age 14 were more likely to have sex before age 20 than daughters from intact homes
Rosenbaum & Kandel (1990)	NLSY79 1979–84 waves, females & males ages 14–15 in 1979	Adolescents residing with two biological parents at age 14 were less likely to engage in sexual activity before age 16
Wu & Thompson (2001)	NLSY79 1979–87 waves, White & Black females ages 14–21 in 1979	For Black daughters, those in intact homes at age 14 were less likely to engage in sexual activity For White daughters, the more changes in family structure they experienced, the more likely they were to have ever had sex
Oettinger (1999)	NLSY79 1983–85 waves, males and females ages 14–21 in 1979	Adolescents living with both parents at age 14 were less likely to transition to sexual activity
Arcidiacono, Khwaja & Ouyang (2005)	NLSY97 waves 1–6, sexually active females ages 14–22	For daughters, living with both biological parents significantly reduced the likelihood of engaging in sexual activity

Table 3

Studies Linking Family Structure and Sexual Debut/Age at First Intercourse from the Add Health

Citation	Sample	Finding
Longmore *et al.* (2004)	Males and females grades 7–12 from waves 1 and 2 who were virgins at wave 1	Adolescents living in an intact two-parent family were less likely than adolescents from single-parent or stepparent families to transition to sexual activity
South, Haynie & Bose (2005)	Males and females grades 7–11 from waves 1 and 2 who were virgins at wave 1	Living with two married parents was a protective factor for transition to sex between waves
Upchurch *et al.* (2004)	Males and females from waves 1 and 2	Adolescent females in stepfamilies were likely to transition into sexual activity than adolescents from intact two-parent families
Davis & Friel (2001)	Males and females from waves 1 and 2	Females from intact two-parent families were less likely than females from single-parent families to have ever had sex
Kaestle, Moriskey & Wiley (2002)	Females with a current romantic partner	Females not living with a mother figure were more likely to have had sex with their romantic partner
Bearman & Bruckner (2001)	Males and females from waves 1 and 2	Adolescents living with two biological parents were less likely to engage in sexual intercourse than adolescents from stepparent or single-parent families
Cheng & Udry (2002)	Males and females in grades 7–12 from wave 1	Adolescents living with two biological parents were less likely to have ever had consensual sexual intercourse Adolescents females living with two biological parents were less likely to have ever had forced sexual intercourse
Roche *et al.* (2005)	Adolescents in grades 7–8 who lived with at least 1 parent and were virgins at wave 1	Adolescents in two parent households were less likely to have ever had sexual intercourse
Blum *et al.* (2000)	Males and females in grades 7–12 from wave 1	Adolescents living with two biological parents were less likely than adolescents from single-parent families to have ever had sexual intercourse
Wilder & Watt (2002)	Males and females in grades 7–12 from wave 1	Adolescents living with two biological parents were less likely than adolescents from stepparent families to have ever had sex Male adolescents living with two biological parents were less likely than adolescents from stepparent families to have ever had sex before age 15
Sieving *et al.* (2006)	Males and females in grades 9–11 at wave 1 who were virgins at wave 1	Adolescents living with both biological parents were less likely to transition to sexual intercourse
Pearson, Muller & Frisco (2006)	Adolescents in grades 7–12 who were virgins at wave 1	Adolescents living with both biological parents were less likely to transition to sexual intercourse
Kaestle & Halpern (2005)	Adolescents who reported having an opposite-sex romantic partner at wave 2	Adolescents living with two biological parents were less likely to have had sex with their romantic partner
Cubbin *et al.* (2005)	Males and females in grades 7–12 from wave 1	Adolescents living with both biological parents were less likely to transition to sexual intercourse
Adamczyk & Felson (in press)	Males and females in grades 7–12 from wave 1 Males and females in grades 7–12 who were virgins at wave 1	Adolescents living at home with two parents were less likely to have ever had sexual intercourse Among a sample of adolescent virgins, those living at home with two parents were less likely to engage in sexual activity for the first time during the following year

Table 4

Studies Linking Family Structure and Sexual Debut/Age at First Intercourse from the National Survey of Children (NSC)

Citation	Finding
Baumer & South (2001)	Adolescents living with both biological parents tended to have sex for the first time at a later age
Dorius, Heaton, & Steffen (1993)	Adolescents' likelihood of engaging in sexual intercourse, ranked from high to low by family structure at age 12: widowed parent, never married parent, remarried parent, currently separated or divorced parent, two married biological parents
Furstenberg & Teitler (1994)	Children whose parents experienced a divorce or separation were more likely to be sexually active then children whose parents remained married
Miller, Monson & Norton (1995)	White females who had lived apart from both parents before age 16 were more likely to have experienced consensual sexual intercourse White females who had lived apart from both parents before age 16 or who had experienced their parents' marital disruption were more likely to have experienced forced sexual intercourse
Miller *et al.* (1997)	For male adolescents, each change in parental marital status between ages 6–11 increased the males' odds of engaging in sexual intercourse For female adolescents, the more time from birth to age 11 spent in a single-parent home was related to earlier age at first sexual intercourse
Moore, Morison & Glei (1995)	Adolescents who have experienced their parents' divorce were more likely to engage in sexual relations between age 11 to 17 Adolescents who lived in a single-parent household by age 11 were more likely to have sex before age 18
Moore, Nord & Peterson (1989)	White females who had lived apart from both parents before age 16 were more likely to have experienced forced sexual intercourse

Table 5

Studies Linking Family Structure and Sexual Debut/Age at First Intercourse from Other National Datasets

Citation	Data and Sample	Finding
Miller & Bingham (1989)	Females ages 15–19 from the 1979 NSYW	Females raised to age 15 by both parents were less likely to have ever had sex
Young *et al.* (1991)	Never married males and females ages 17–19 from the 1979 NSYW & the 1979 NSYM	Adolescents from two parent families were less likely to have ever had sex compared to adolescents from single parent families
Kahn, Kalsbeek & Hofferth (1988)	Pooled data on females from the 1983wave of the NLSY, Cycle 3 of the NSFG, the 1979 NSYW	White adolescents who lived with both biological parents at age 14 were less likely to have ever had sexual intercourse
Kiernan & Hobcraft (1997)	Females ages 16–59 from the British NSSAL	Adolescents who lived with both biological parents to age 16 were less likely to have ever had sex before age 17 Average age at first intercourse was higher for those from intact families compared those from divorced families
Lauritsen & Swicegood (1997)	Males and females ages 18–24 in 1983 from the 1976–1983 NYS	Adolescents living with two married parents were less likely to have had sexual intercourse before age 14, 16, or 18
Longmore, Manning & Giordano (2001)	Teens age 13 and over during wave 2 of the NSFH	Adolescents living with two married parents were less likely to have ever had sex compared to adolescents from single-parent families
Santelli & Lowry *et al.* (2000)	Teens ages 14–17 from the 1992 YRBS	Adolescents living with two parents were less likely to have ever had intercourse
Collins *et al.* (2004)	National phone survey of teens ages 12–17	Adolescents living with both parents were less likely to have ever had intercourse
Bakken (2002)	Sexually active Black men ages 19–41 from the 1991 National Survey of Men	Black males who had lived with two biological or adoptive parents at age 12 tended to delay the onset of sexual intercourse

Table 6

Studies Linking Family Structure and Sexual Debut/Age at First Intercourse from Regional Samples and Smaller Studies

Citation	Data and Sample	Finding
Upchurch *et al.* (1999)	838 males and females age 12–17 from Los Angeles, followed for ~18 months	Adolescents living with two biological parents were less likely to transition to sexual activity than adolescents from other family groups. Adolescents from stepparent families were more likely to have sex than adolescents from single parent families
Upchurch *et al.* (2001)	497 Hispanic males and females age 12–17 from Los Angeles, followed for ~18 months	Adolescents living with two biological parents were less likely to transition to sexual activity than adolescents from other family groups
Upchurch *et al.* (1998)	838 males and females age 12–17 from Los Angeles, followed for ~18 months	Adolescents living with two biological parents were less likely to transition to sexual activity than adolescents from other family groups. Adolescents from stepparent families were more likely to have sex than adolescents from single parent families
Miller & Sneesby (1988)	810 males and females ages 14–19 from Utah and New Mexico	Adolescents living with both biological parent were less likely to have ever had sexual relations
Miller & Olson (1988)	2,243 males and females ages 14–19 from Utah, California, and New Mexico	Adolescents living with both biological parents were less likely to have ever had sexual relations
Miller *et al.* (1987)	836 High School students from two western states	Adolescents living with both biological parents more likely to report being virgins
Whitbeck *et al.* (1999)	457 White 8–10 graders from Iowa	Adolescents living with two parents were less likely to transition to sexual activity than adolescents in single-mother households
Whitbeck, Simmons & Goldberg (1996)	499 White adolescents from Iowa, all virgins at time 1	Adolescents from divorced households were more likely to transition into sexual activity
Velez-Pastrana *et al.* (2005)	425 Puerto Ricans ages 12–16 from public schools in San Juan	Adolescents living with currently married parents were less likely to have ever had sex
Browning, Levanthal & Brooks-Gunn (2004)	Adolescents ages 11–16 from Chicago	Adolescents living both biological parents were less likely to engage in sexual intercourse
Ellis *et al.* (2003)	242 U.S. and 520 New Zealand adolescents	Adolescents with their father in the home from birth to age 13 were the least likely to have sex before age 16, while adolescents whose father was absent before age 5 were the most likely to have sex before age 16
Langille & Curtis (2002)	1,132 females ages 15–20 from northern Nova Scotia	Females living with both biological parents were less likely to have sex before age 15
Moore & Chase-Lansdale (2001)	289 Black females age 15–18 from Chicago	Females living with 2 married parents (biological or step) were less likely to have ever had sex compared to females in single-parent or cohabiting households
Paul *et al.* (2000)	A birth cohort 926 males and females from New Zealand followed 21 years	Adolescents not living with 2 biological parents at age 13 were more likely to have sex by age 16 Each change in family structure before age 9 was associated with a increase in the likelihood of having sex before age 16

Table 6 *(continued)*

Studies Linking Family Structure and Sexual Debut/Age at First Intercourse from Regional Samples and Smaller Studies

Citation	Data and Sample	Finding
Lammers *et al.* (2000)	Statewide survey of 26,023 adolescents in grades 7–12 from Minnesota	Adolescents living with married parents were less likely to have ever had sex
Raine *et al.* (1999)	523 7th graders from D.C., mainly Black & Hispanic	Males living with both biological parents were the most likely to report being virgins
Fiscella *et al.* (1998)	1,026 young, pregnant Black women enrolled in a nurse home visitation program in Memphis	Those whose parents remained together from birth to age 13 tended to initiate sexual intercourse at a later age than those who experienced parental separation
Stoiber & Good (1998)	326 high adolescents ages 12–16 from the Midwest	Adolescents from intact family backgrounds were less likely to have had sexual intercourse in the past year
Thomas, DiCenso & Griffith (1998)	2,061 adolescents ages 11–16 from Ontario, Canada	Adolescents living with both biological parents were less likely to have never had sexual intercourse before age 14
Smith (1997)	723 Black and Hispanic adolescents from an Eastern city	Adolescents living with both biological parents were less likely to have never had sexual intercourse before age 16
Taris & Semin (1997)	225 mother-child pairs, adolescents age 14–18 from Sussex, England	Adolescents living with a mother who is married to their father were less likely to have ever had sexual intercourse
Capaldi, Crosby & Stoolmiller (1996)	201 12th grade males from Oregon	The number of family structure transitions was related to an earlier age at first intercourse, the more transitions, the earlier the age at first intercourse
Crockett *et al.* (1996)	289 White adolescents in grades 10–12 from a rural school district	Adolescents not living with both biological parents or adolescents whose mothers first bore children as a teenager were more likely to engage in sexual intercourse before age 15
Feldman & Brown (1993)	69 10th grade males form the San Francisco Bay area	Males living with two biological parents were less likely to be sexually than males from other family types
Keith *et al.* (1991)	142 Black females ages 13–18 from a youth Health clinic in Dallas	Adolescents with a father in the home were less likely to be sexually active
Flewelling & Bauman (1990)	2,062 youth ages 14–16 from the Southeastern U.S.	Adolescents in intact families were less likely to have ever had sexual intercourse than adolescents from step- or single-parent families
Newcomer & Udry (1987)	501 White adolescents from the South, ages 12–15 and virgins at wave 1	Adolescents whose transitioned from a two-parent family to a single parent family were more likely to engage in sexual activity than adolescents who remained in a two-parent family Females residing in single-mother households were more likely to engage in sexual intercourse than females in married households
Thornton & Camburn (1987)	916 White mother-child pairs followed from birth to 18 years in Detroit	Adolescents whose mothers had a premarital pregnancy, or whose mothers divorced and remarried were more likely to have ever had sex

Table 6 *(continued)*

Studies Linking Family Structure and Sexual Debut/Age at First Intercourse from Regional Samples and Smaller Studies

Citation	Data and Sample	Finding
Kinnaird & Gerrard (1986)	90 females from an introductory psychology class in the Midwest	Females from intact families were less likely to have ever had sex or to have had sex before age 17 when compared to females from divorced or reconstituted families
Hogan & Kitigawa (1985)	1,071 unmarried Black females ages 13–19	Females with unmarried parents had the highest rates of sexual debut
Hogan & Kitigawa (1985)	1,071 unmarried Black females ages 13–19	Females with unmarried parents had the highest rates of sexual debut
Stern, Northman & Van Slyck (1984)	813 adolescents ages 12–18 from a stable middles class suburb	Father presence in the home was associated with a reduced likelihood that adolescents had ever had sex
Rodgers (1983)	504 adolescents ages 11–16 from North Carolina	Adolescents living with two biological parents were less likely to report having had one or more sexual experiences
Inazu & Fox (1980)	449 mother–daughter pairs ages 14–16 from Detroit	Adolescents residing in females headed households were more likely to have ever had sexual intercourse Adolescents whose mothers had first given birth as a teen or whose mother had ever cohabited were more likely to have ever had sexual intercourse
Browning, Leventhal, & Brooks-Gunn (2005)	431 male and 376 female virgins ages 11–16 from Chicago	Adolescents residing with both biological parents were less likely to transition into sexual activity
Lock & Vincent (1995)	564 high risk females ages 12–19 from South Carolina	Adolescent females living with two parents were less likely to have ever had premarital sexual intercourse

Table 7

Studies Linking Family Structure and Sexual Debut/Age at First Intercourse from Non-National Samples with Non-significant yet Consistent Results

Citation	Sample	Finding
Benson & Tropy (1995)	976 junior high students from Chicago, most ages 11–14	Young adolescents with two married parents were less likely to have engaged in sexual intercourse
Chewning & Van Koningsveld (1998)	499 9th and 11th graders from Wisconsin	The number of parents an adolescent lives with was negatively related to the grade teen first has sex
Dittus, Jaccard & Gordon (1997)	751 Black adolescents ages 14–17 from Philadelphia	Presence of a father in the home did not protect against age at first sex once father disapproval of adolescent sex was added to the model
Handler (1990)	53 Black female 7th graders from Chicago	Daughters living in a female headed household were more likely to be sexually active than those with a father figure in the home
Little & Rankin (2001)	953 8th graders from Upper State New York	Among four cohorts of adolescents, living with two biological parents significantly reduced the likelihood of first sexual intercourse for only 1 in 4 cohorts
Meschke & Silbereisen (1997)	702 adolescents ages 15–18 from East & West Germany	Daughters who experienced their parents' divorce were more likely to be sexually active, for sons the results were close to zero
Rucibwa *et al.* (2003)	178 low-income Black & Hispanic adolescents ages 13–19 from California	Adolescents from two-parent households were less likely to ever have had sexual intercourse
Udry & Billy (1987)	630 adolescent virgins from the South	Those who lived with both biological parents were less likely to transition into sexual activity

Table 8

Studies Linking Family Structure and Coital Frequency or Number of Sexual Partners

Citation	Data and Sample	Finding
Cleveland & Gilson (2004)	Add Health: Wave 1, full sample	Adolescents from intact families tended to report fewer lifetime sexual partners
Baumer & South (2001)	NSC: sexually active males and females ages 18–22	Adolescents not living with both biological parents tended to report having had more sexual partners in the past year
Quinlan (2003)	1995 NSFG: females ages 15–44	Females who experienced their parents' marital separation were more likely to report having an above average number of lifetime sexual partners.
Ku *et al.* (1998)	NSYM79, NSAM88, and NSAM95: males ages 17–19	Adolescents living with two biological parents were less likely to report having sex in the previous 4 weeks when compared to adolescents from single parent or stepparent families Adolescents living with two biological parents reported fewer sexual partners in the past year than adolescents from all other family types
Ku, Sonenstein & Pleck (1993b)	NSAM88: males ages 15–19	Adolescents living with two biological parents at age 14 reported having fewer sexual partners in the previous year than adolescents living with a single mother at age 14 Adolescents living with two biological parents at age 14 reported having sex less often in the past year than adolescents from all other family types
Billy, Brewster & Grady (1994)	Cycle 3 of the NSFG: sexually active females ages 16–19	Non-Black Daughters not living with both biological parents at age 14 more likely to be having sex once a week or more Non-Black Daughters not living with both biological parents at age 14 report being sexually active in a greater proportion of months during past three years
Lauritsen (1994)	Waves 1 & 2 of the NYS: adolescents ages 12–18	White adolescents living with two married parents reported having sex less often in the past year then adolescents in other family types
Young *et al.* (1991)	NSYM79 and NSYW79: sexually active adolescents ages 17–19	Males from single parent households were more likely to report having had sex in the past six months compared to males from two parent families
Feldman & Brown (1993)	69 sexually active 10th grade males form the San Francisco Bay area	Males living with two biological parents tended to have fewer lifetime sexual partners than males from other family types
Thornton & Camburn (1987)	916 White mother–child pairs followed from birth to 18 years in Detroit	Adolescents whose mothers had a premarital pregnancy, or whose mothers divorced and remarried were more likely to report having had sex in the past 4 weeks Adolescents whose mothers had a premarital pregnancy, or whose mothers divorced and remarried reported more lifetime sexual partners
Stern, Northman & Van Slyck (1984)	813 adolescents ages 12–18 from a stable middles class suburb	Father presence in the home was associated with reduced likelihood that adolescents had had more than one or more than 7 lifetime sexual partners
Bakken (2002)	Sexually active Black men ages 19–41 from the 1991 National Survey of Men	Among a sample of Black males, those who had lived with two biological or adoptive parents at age 12 reported significantly fewer lifetime sexual partners

Table 9

Studies Linking Family Structure and Adolescent Pregnancy from Nationally Representative Datasets

Citation	Data and Sample	Finding
Furstenberg & Teitler (1994)	Females from the National Survey of Children	Girls whose parents divorced or separated early in the girl's childhood were more likely to get pregnant before age 19 than girls whose parents remained together
Crowder & Teachman (2004)	Females ages 13–19 from the PSID	Daughters who had ever lived with a single, solo parent were more likely to have a premarital teen pregnancy
Lundberg & Plotnick (1995)	Females ages 14–16 in 1979 from the 1979–86 NLSY	For White daughters, those living with two biological parents at age 14 were less likely to conceive premaritally
Manlove (1998)	Females from the NELS:88	Daughters from intact families were less likely to have a school age pregnancy
Plotnick (1992)	White females ages 14–16 in 1979 from the NLSY79	For White daughters, those living with two biological parents at age 14 were less likely to conceive as teens
Zavodny (2001)	Females ages 20–28 from the 1995 NSFG who had sex before age 20	Those living with two biological parents at age 15 were less likely to get pregnant by their first romantic sex partner
Quinlan (2003)	Females ages 15–44 from 1995 NSFG	Among those who experienced parental separation, the earlier the separation occurred, the more likely the adolescent was to get pregnant Each change in family structure increased daughter's odds of getting pregnant Among those who had experienced parental separation, those who had lived with a non-biological adult male were more likely to get pregnant than those who had not lived with a non-biological adult male
Rich & Kim (2002)	Sexually experienced females ages14–16 from the NLSY1979	Daughters living with both biological parents were less likely to report a premarital pregnancy before age 20
Ku, Sonenstein & Pleck (1993b)	Males ages 15–19 from the 1988 NSAM	Males who lived with two biological parents at age 14 were less likely to ever get a girl pregnant
Hogan, Sun & Cornwell (2000)	Sexually active females ages 15–44 form the 1995 NSFG	After accounting for current family structure and family structure at birth, each additional family structure transition increased the risk of pregnancy
Oettinger (1999)	Females ages 14–21 in 1979 from the 1983–85 NLSY79	Adolescent females who lived in intact families at age 14 were significantly less likely to report having been pregnant before age 19

Table 10

Studies Linking Family Structure and Adolescent Childbirth from Nationally Representative Datasets

Citation	Data and Sample	Finding
Powers (1993)	Females ages 14–17 in 1979 from the 1979 and 1985 NLSY79	Daughters living with two biological parents at age 14 were less likely to give birth before age 20
Trent & Crowder (1997)	Females ages 14–19 in 1979 from the 1979–84 NLSY79	Daughters living with two biological parents at age 14 were less likely to have a non-marital teen birth
Michael & Tuma (1985)	Adolescents ages 14–22 from the 1979 NLSY79	Adolescents living with two biological parents at age 14 were less likely to become parents before age 20
Afxentiou & Hawley (1997)	Never married females ages 16–19 from the 1982 NLSY79	Daughters living with both parents at age 14 were less likely to give birth before age 20
Wu (1996)	White & Black females ages 14–21 in 1979 from the 1979–89 NLSY79	The more family structure transitions daughters experienced, the more likely they were to have a non-marital birth For Black daughters, those who spent more than 75% of their childhood from age 0–5 in a single-mother household were more likely to have a teen birth, and for White daughter, those who spent more than 75% of their entire childhood in a single-mother household were more likely to have a teen birth
McLanahan & Bumpass (1988)	Females ages 15–44 from the 1982 NSFG	Daughters living in a single-parent household at age 14 were more likely to have a teen birth
Kahn & Anderson (1992)	White and Black females ages 20–44 from the 1988 NSFG	Daughters living with both parents at age 14 were less likely to have a teen birth Daughters who were born to a mother who first gave birth as a teen were more likely to have a teen birth themselves
Abma *et al.* (2004)	Adolescents from the 2002 NSFG	Adolescents who were born to a mother who first gave birth as a teen were more likely to have a teen birth themselves
Manlove *et al.* (2000)	Females ages 12–19 from the 1995 NSFG	Adolescents who were born to a mother who first gave birth as a teen were more likely to have a teen birth themselves
Wu & Martinson (1993)	Females ages 19+ from the NSFH	Females living with two biological parents at age 14 were less likely to have a non-marital birth in adolescence or young adulthood The more family structure transitions daughters experienced, the more likely they were to have a non-marital birth in adolescence or young adulthood
Ku, Sonenstein & Pleck (1993b)	Males ages 15–19 from the 1988 NSAM	Males who lived with two biological parents at age 14 were less likely to father a live birth
Haveman & Wolfe (1994)	Females ages 0–6 in the first wave of the PSID	The larger proportion of time daughters lived with a single parent between age 6–15, the more likely they were to have a teen birth Daughters who experienced their parents' separation were more likely to have a teen birth
Moore *et al.* (1998)	Females from the NELS:88	Daughters living with two biological parents were less likely to have a school age non-marital birth
Painter & Levine (2004)	Females from the NELS:88	Daughters living with two biological parents at age 14 were less likely to have a non-marital teen birth

Table 10 *(continued)*

Studies Linking Family Structure and Adolescent Childbirth from Nationally Representative Datasets

Citation	Data and Sample	Finding
McLanahan & Sandefur (1994)	Females from the PSID, NLSY79, HSB & NSFH	In all four datasets, daughters living with two married biological parents were significantly less likely to have a nonmarital teen birth
	Males from the PSID, NLSY79, HSB & NSFH	In three of four datasets, sons living with two married biological parents were significantly less likely to father a child out of wedlock before age 20
Kiernan & Hobcraft (1997)	Females ages 16–59 from the NSSAL	Daughters whose parents divorced were more likely to have a teen birth
Manlove (1997)	Females from the National Child Development Survey	Daughters living with two biological parents were less likely to give birth at a young age
		Daughters who were born to a mother who first gave birth as a teen were more likely to have a teen birth themselves

Table 11

Studies Linking Family Structure and Adolescent Pregnancy and Childbirth from Regional Samples and Smaller Studies

Citation	Data and Sample	Finding
Robbins, Kaplan & Martin (1985)	2,158 7th graders in Houston	For females, those not living with their father in 7th grade were more likely to get pregnant
Jemmott & Jemmott (1992)	200 inner city Black males ages 11–19	Daughters living with both parents were less likely to have impregnated a girl
Moore & Chase-Lansdale (2001)	289 Black females from Chicago, ages 15–18	Daughters living with a married mother were less likely to have ever been pregnant
Ellis *et al.* (2003)	242 US and 520 New Zealand adolescent females	Father absence was associated with the likelihood of pregnancy; the earlier a father was absent, the more likely the girl was to have been pregnant
Ferguson & Woodward (2000)	520 females ages 21 from New Zealand	Daughters born into a single-parent family or those who experienced a parental change were to conceive before age 18
Hogan & Kitigawa (1985)	1,071 unmarried Black females ages 13–19	Daughters with unmarried parents had higher rates of teen pregnancy
Fiscella *et al.* (1998)	1,026 pregnant Black females enrolled in a Home visitation program in Memphis	Daughters whose parents remained together from the daughter's birth to age 13 tended to get pregnant at an older age than those who experienced parental separation
Chandy *et al.* (1994)	1,134 females from Minnesota with a parent who used hard liquor daily	The risk of pregnancy was greater for those living with only one parent
Stouthamer-Loeber & Wei (1998)	506 inner city males from Pittsburgh public schools	Males living with two biological parents were less likely to become fathers before age 19
Hardy *et al.* (1998)	1,758 inner city adolescents	Adolescents born to mothers who first gave birth as teens were more likely to have children themselves before age 20
	570 inner city females born to adolescent mothers	Daughters born to a married adolescent mother, or daughters whose parents remained together until age 17 were less likely to give birth before age 20

Table 12

Studies Linking Family Structure and Other Related Adolescent Outcomes

Citation	Data and Sample	Finding
Thornton & Camburn (1987)	916 White mother-child pairs from Detroit	Mothers with a premarital pregnancy or who had ever divorced were more likely to report more permissive attitudes about teen sex
Astone & Mclanahan (1991)	All sophomores from the HSB with complete data	Children from two-parent families reported higher levels of parental involvement in school work than children from single-parent or stepparent families Children from two-parent and stepparent families reported higher levels of general parental supervision than children from single parent families
Miller *et al.* (1987)	836 adolescents from 2 western states	Adolescents living with both biological parents were more likely to disapprove of premarital sexual relations
Miller & Olson (1988)	Adolescents ages 14–19 from Utah, California, and New Mexico	Adolescents not living with both parents were more likely to report favorable attitudes about teen sexual activity
Miller & Sneesby (1988)	Adolescents ages 14–19 from Utah and New Mexico	Adolescents not living with both parents were more likely to report favorable attitudes about teen sexual activity
Lundberg & Plotnick (1995)	Pregnant Females ages 14–16 in 1979 from the 1979–86 NLSY79	Among those who were pregnant, those living with two biological parents were more likely to marry before giving birth
Plotnick (1992)	Pregnant White females ages 14–16 in 1979 from the NLSY79	For pregnant daughters, those living with two biological parents at age 14 were more likely to marry before giving birth than those living with a single mother
Kurdek & Fine (1993)	5th–7th graders from two Midwestern towns	Adolescents living with two biological parents reported more parental warmth than adolescents living with a stepfather Adolescents living with two biological parents reported lower levels of familial conflict than adolescents living with a stepfather

Appendix

Considering the Direct and Indirect Effects of Family Structure

Several authors have attempted to tease out whether differences in sexual activity rates between adolescents from intact families and adolescents from non-intact families are a result of family structure or some other variable, mechanism, or family process (Powers, 1993; Davis and Friel, 2001; Pearson, Muller, and Frisco, 2001). In order to assess the impact of family structure on adolescent sexual outcomes appropriately, it is important to consider both the *direct* and *indirect* effects of family structure on adolescent sexual outcomes (Glenn and Sylvester, 2005).

In a typical multivariate regression model, each of the predictor variables is competing with the others, and the direct effects of family structure represent only the independent effects, net of all other variables. Due to the effects of control variables, depending on what measures are used in the model, a significant direct effect of family structure observed in a simple bivariate analysis may be non-significant or zero in a multivariate model based on the same data. (This is the case in the majority of the non-significant results reviewed in the body of this paper.) When this happens, the other variables are said to "mediate" or "explain" the observed relationship between family structure and adolescent sexual outcomes. For example, changes in residential mobility (Crowder and Teachman, 2004; South, Haynie, and Bose, 2005) and differences in family income and resources (Stewart, 2003; Painter and Levine, 2004) explain some of the difference in rates of conception between adolescents from single-parent households and adolescents from married-parent households (Crowder and Teachman, 2004).

Moreover, parental monitoring and parent–adolescent relationship quality (Davis and Friel, 2001; Pearson, Muller, and Frisco, 2001; Whitbeck, Simons, and Goldberg, 1996), adolescents' attitudes about sex and the sexual behaviors of their friends (Hanson, Morrison, and Ginsburg, 1989; Udry and Billy, 1987), and mothers' attitudes about adolescent sexuality (Thornton and Camburn, 1987) appear to explain some of the relationship between family structure and adolescent sexual behaviors.

Though some have found the direct effects of family structure to be non-significant or zero once other explanatory variables are included in the model (Udry and Billy, 1987; Trent, 1994a; see also Table 7), in general, the direct effects of family structure are robust, and over 100 studies have demonstrated a direct effect of family structure on adolescent sexuality. Moreover, in several studies aimed at explaining away the observed effects of family structure, even after controlling for the hypothesized mediating variables and processes, the direct effects of family structure remained significant (Crowder and Teachman, 2004; Pearson, Muller, and Frisco, 2006; Davis and Friel, 2001; Powers, 1993).

In most cases, this is because the hypothesized causal mechanisms only partially explain the observed relationships between family structure and adolescent sexual activity. For example, disparities in income and resources may explain the differences in adolescent sexuality between single-parent and two-parent families but not explain the differences in sexual activity between biological-parent and stepparent families (Stewart, 2003; Painter and Levine, 2004).

Though the direct effects of family structure are fairly common within the research literature, the identification of mediating variables such as income and parental monitoring has led some researchers to argue that family structure by itself appears to be fairly neutral, and it is the effects of differences in these other variables and not differences in family structure that lead to the observed differences in sexual activity among adolescents from various family structures (Davis and Friel, 2001; Glenn and Sylvester, 2005). In fact, Glenn and Sylvester argue that as measurement instruments and research methodologies become more sophisticated and

precise, and as our understanding of family processes improves, the direct effects of family structure within a multivariate direct effects model will probably always be small or zero.

This does not mean, however, that family structure in unimportant; it simply means that we have a better understanding of the characteristics and behaviors of intact families that protect against early sexual debut and can measure these processes. Moreover, a non-significant or trivial direct effect does not necessarily mean that family structure is inconsequential; instead, these findings suggest that family structure fails to provide any unique information once researchers have already taken into account the effects of differences in income, residential mobility, parental monitoring, and other variables that are known to contribute to adolescent sexual activity.

Though researchers may be able to eliminate the direct effects of family structure, this does not mean that family structure is an insignificant predictor of adolescent sexuality. This is because many of the variables that are thought to explain or eliminate the direct effects of family structure on adolescent sexual activity are themselves predicted by family structure. For example, adolescents' attitudes about sexual behavior and pregnancy are strong predictors of their likelihood of engaging in sexual activity (Jaccard, Dodge, and Dittus, 2003; Thornton and Camburn, 1987; Udry and Billy, 1987). At the same time, adolescents from more intact family structures tend to hold less permissive views about adolescent sexual activity and childbearing (Jaccard, Dodge, and Dittus, 2003; Bruckner, Martin, and Bearman, 2004; Miller and Olsen, 1988; Miller and Sneesby, 1988; Miller *et al.*, 1987; Thornton and Camburn, 1987; Trent, 1994b).[1]

A similar phenomenon occurs with parental monitoring and parent–adolescent relationship quality. Both variables are strong predictors of adolescent sexual outcomes (Davis and Friel, 2001; Pearson, Muller, and Frisco, 2001; Whitbeck, Simons, and Goldberg, 1996); yet in other research studies, parental monitoring and parent–adolescent relationship quality are highly dependent on family structure (Astone and McLanahan, 1991; Whitbeck, Simons, and Goldberg, 1996; Kurdek and Fine, 1993).

Because family structure often predicts both adolescent sexual outcomes *and* key predictors of adolescent sexual outcomes, it has both a direct *and* an indirect effect on adolescent sexual outcomes. Though rare, researchers testing the indirect effects of family structure on adolescent sexuality consistently found strong family structure effects. For example, Jaccard, Dodge, and Dittus (2003) found that family structure was a strong predictor of adolescents' attitudes about teen pregnancy, and these attitudes were in turn highly related to the likelihood that adolescents would conceive. Moreover, Thornton and Camburn (1987) reported that mothers' marital histories were related to mothers' attitudes about adolescent sexual activity, which in turn predicted both adolescents' attitudes about teen sex and adolescents' sexual behaviors. Family structure was also indirectly related to sexual risk-taking behaviors through its effects on parental monitoring (Ramirez-Valles, Zimmerman, and Newcomb, 1998; Whitbeck, Simons, and Goldberg, 1996).

Most of the significant and non-significant studies reviewed in this paper examined only the direct effects of family structure and ignored the possible indirect effects. For several reasons, researchers rarely examine the indirect effects of family structure. For one, family structure is often not the focus of the research question but is simply included in the analysis as a control so that authors can test the independent effect of their variables of interest. Moreover, the data demands for testing indirect effects are rather extensive.

All four of the studies examining the indirect effects of family structure reviewed above relied on structural equation modeling or similar models. These models typically demand multiple waves of data collection and complex coding schemes. For this reason, some authors have presented theoretical models that discuss the indirect effects of family structure on adolescent sexual outcomes but then have utilized direct effects models in their statistical analyses (Hovell *et al.*, 1994; Day, 1992).

1 Similar though non-significant results were reported by Trent (1994a) and Werner-Wilson (1998).