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ABSTRACT

Using data from the National Survey of Family Growth (NSFG), we assess if and how parental cohabitation influences outcomes for adolescent girls. We move beyond prior studies that focus on snapshots of family living arrangements. We examine children's experiences with parental cohabitation during the course of their childhood, and specifically consider the effects of the timing and age at which children lived in cohabiting parent families. The results indicate living in cohabiting parent families is consequential for earlier sexual initiation, likelihood of having a teen birth, and high school graduation; yet, instability does not appear to be the active mechanism in these associations. We also find that experience in cohabiting two biological parent families does not provide the same protection as married two biological parent families. Our work supports the inclusion of cohabitation as a family structure, as well as accounts of the biological relationship of the cohabiting partner.

Parental Cohabitation Experience and Adolescent Behavioral Outcomes

Cohabitation is one of the fastest growing family forms in the United States (U.S. Bureau of the Census 2001). Often policymakers, researchers and the public ignore the fact that cohabiting unions are increasingly including children (Smock 2000). Yet, two-fifths of children are expected to spend some time in a cohabiting parent family (Bumpass and Lu 2000). Despite these trends, research on the implications of cohabitation for children's lives is quite limited (Manning 2002). Most of the research relies on snapshot or single point in time measures of family living arrangements rather than childhood experiences.

We move beyond prior work by examining how childhood experiences in cohabiting parent families influences adolescent timing of first sexual experience, teenage birth, and high school graduation. We recognize the fluid nature of families, in particular cohabiting parent families. We address two basic questions. First, we determine whether being born to cohabiting parent families negatively influences adolescent well-being. Given the relative instability of cohabiting unions, we examine whether family instability explains the effect of parental cohabitation at birth. Second, we address whether childhood experience in cohabiting families influences adolescent well-being. We employ measures of cumulative family experience to detect whether and how cohabitation influences adolescent lives as well as focus on the time spent and age at which cohabiting parent families are experienced. Unlike prior work we distinguish between family experience in cohabiting two biological parent families and cohabiting stepparent families. We use one of the few national data sources that includes such detailed family history data, the National Survey of Family Growth.

BACKGROUND

Cohabitation and Family Trajectories

Researchers have begun to include cohabitation as a family type in analyses of the effects of family structure on the cognitive, social, behavioral and psychological well-being of children (e.g., Acs and Nelson 2002; Brown 2002; Clark and Nelson 2000; DeLiere and Kalil 2002; Dunifon and Kowalski-Jones 2002; Hanson et al. 1997; Hao and Xie 2001; Manning and Lamb 2001; Thomson et al. 1992). Yet many of these analyses rely on *current* family structure and do not account for *prior* family experiences. Relying on current union status to understand the influence of cohabitation on children's lives may be problematic because from a child's perspective cohabiting unions are typically quite short in duration (Manning, Smock and Majumdar 2002). One way to illustrate this point is that 6% of children were living in cohabiting parent families in 1999 (Acs and Nelson 2001), but two-fifths of children are expected to spend some time in a cohabiting parent family (Bumpass and Lu 2000). The consequence of relying on current union status is that analyses are largely based on children in stable cohabiting unions.

Mounting evidence suggests we need to examine trajectories of family structure to best understand the effects of family experiences on child and adolescent well-being (e.g., Bumpass and Lu 2000; Carlson and Corcoran 2001; Cooksey 1997; Graefe and Licther 1999; Hill, Yeung and Duncan 2001; Wu and Martinson 1993; Wu and Thomson 2001). Strategies to account for children's family experiences often are based on relatively complex measures of the proportion of life and duration of time spent in specific family types, as well as number and timing of family transitions.

Research indicates that family stability is positively related to child and young adult behavior (e.g., Hao & Xie, 2001; Hill et al., 2001; Wu & Martinson, 1993). In some cases it

appears that family stability (measured by time spent in a family) rather than type of family has a stronger influence on child outcomes. These authors argue that the stress of family change hinders child development (Hao & Xie, 2001; Hill et al., 2001; Wu & Martinson, 1993). Family stability may be particularly important in assessments of the effect of cohabitation because children born to cohabiting parents experience higher levels of instability than children born to married parents (Manning et al., 2002). We measure instability in terms number of family transitions, any experience in different family types, and duration of time spent in cohabiting parent families.

To date, cohabitation has not been adequately incorporated into accounts of family experience trajectories. Experiences in cohabiting parent families are commonly masked by placing cohabiting parent experience as single mother or stepparent family experience. Researchers examining the effects of family structure on child well-being have not been explicit about how cohabitation family experience is treated in these types of analyses (e.g., Hill et al. 2001; Sandefur, McLanahan and Wojtkiewicz 1992; Wu and Thomson 2001). Until recently, data limitations have prevented researchers from including cohabiting parent families in analysis of family trajectories.

Other research has focused on the important task of describing childhood experiences in cohabiting parent families (Bumpass and Lu 2000; Graefe and Licther 1999). These papers have demonstrated that cohabitation has become an important part of the childhood of Americans. However, they have not examined the implications of these trajectories for child well-being.

Only a few researchers have applied *cumulative* measures of experience in cohabiting parent families to examine child well-being (DeLiere and Kalil 2002; Dunifon and Kowalski-Jones 2002; Hao and Xie 2001; Morrison 1998, 2000; Morrison and Ritualo 2000). DeLiere and

Kalil's (2002) work uses the National Longitudinal Education Survey to examine late adolescent well-being and focus on family experiences in early adolescence. These data permit the inclusion of a rich set of predictor variables. Unfortunately, data limitations prevent them from accounting for experience in parental cohabitation prior to 8th grade resulting in an abbreviated family history (DeLiere and Kalil 2002). They find that parental cohabitation in the 8th grade has a negative influence on educational outcomes and the effects on sexual initiation depend on the biological status of the cohabiting partner (discussed further below).

Use of either longitudinal data or complete retrospective reports has enabled some analyses of parental cohabitation family experience from birth through adolescence (Dunifon and Kowalski-Jones 2002; Hao and Xie 2001; Morrison 1998, 2000). Hao and Xie (2001) find that time spent in cohabiting parent families is positively associated with misbehavior. However, the authors express caution about these findings because of the limited number of cohabiting parent families in both waves of the National Survey of Families and Households. Other studies (Dunifon and Kowalski-Jones 2002; Morrison 1998, 2000) rely on the National Longitudinal Survey of Youth (NLSY) but these data provide less than optimum measures of parental cohabitation. Cohabitation is measured at yearly intervals so it does not capture cohabiting unions of short duration. Dunifon and Kowalski-Jones (2002) use NLSY to study early adolescents (ages 10-14) and find that the effect of time spent in cohabiting parent families (versus married parent families) depends upon the outcome considered and race of the child. Their results indicate that time spent in cohabiting parent families has a positive effect on math scores for African American children and a negative effect for White children. They also report that duration of time spent in cohabiting parent families rather than married parent families has a negative effect on delinquency among African Americans and no effect among Whites. Finally,

work by Morrison (1998; 2000) using the NLSY focuses on post-marital dissolution family changes, including cohabitation, on child well-being. This sample is somewhat select because she limits her analysis to children who have experienced their parent's marital disruption. Morrison generally finds that stability rather than legal status of the union determines child well-being. Yet, she does report negative effects of cohabitation for girls (and not boys), girls with longer experiences in cohabiting unions experience higher behavior problem index scores. Also cohabitation prior to remarriage appears to be tied to greater behavior problems. Morrison's findings support the argument that dynamic measures of family life are necessary to capture the full range of children's experiences.

Cohabitation and Biological Ties to Children

Research on family structure recognizes the importance of biological ties of adults to children and argues that children in two biological parent families fare better than children living with a stepparent (see Coleman et al. 2000). Following this logic, the biological relationship of cohabiting partners should be considered in the analysis of child well-being. Some children in cohabiting parent families are living with two biological parents while others reside with one biological parent and his/her cohabiting partner. Based on the 1996 Survey of Income and Program Participation, nearly half (46%) of children in cohabiting parent families lived with two biological parents while 54 percent were living with one biological parent (Fields 2001).

Virtually all prior work that includes full cohabitation family trajectories has not made this distinction (Hao and Xie 2001; Dunifon and Kowalski-Jones 2002) or rely only on stepparent families (Morrison 1998). DeLiere and Kalil (2001) include adolescent family changes since 8th grade and find different direction of effects based on the biological relationship to cohabiting parents for sexual initiation but not high school graduation, college enrollment or

smoking and drinking. We do not know whether the effects of living in cohabiting stepparent and cohabiting two biological parent families are statistically different from one another.

Nonetheless, we argue it may be important to distinguish between children in cohabiting couple families living with two biological parents and those living in cohabiting stepparent families.

Race/Ethnicity and Cohabitation

The literature on family structure emphasizes how the effects of family experiences differ according to race and ethnicity (Wu and Thomson 2001) but little attention has been paid to racial and ethnic differences in the effect of parental cohabitation on social developmental (exceptions include Nelson, Clark and Acs 2001; Dunifon and Kowalski-Jones 2002).

McLanahan and Casper (1995) report that children are more likely to be present in minority cohabiting couple households (67% of Blacks and 70% of Hispanics) than in White cohabiting couple households (35%). In addition, minority children are more likely to spend some of their lives in cohabiting parent families than white children. About half (55%) of African American children, two-fifths (40%) of Hispanic children, and three-tenths (30%) of White children are expected to experience a cohabiting-parent family (estimates computed from Bumpass and Lu 2000). Given minority children's greater chances of experiencing cohabiting parent families, we may find fewer negative implications of cohabitation for minority children.

Limited research does support the notion that the implications of cohabitation varies by race. The role of cohabitation appears to differ for black and white young adolescents (10-14) in terms of academic scores and delinquency (discussed above) (Dunifon and Kowalski-Jones 2002). Furthermore, Nelson et al. (2001) report that the negative influence of cohabiting parent families is greater for white and Hispanic teens than black teens. Black teens living in cohabiting parent families share similar levels of school engagement as black teens in married

parent families. Yet, White and Hispanic teens living with cohabiting parents fare worse in terms of school engagement than counterparts living with married biological parents.

We expect that Latino children may experience fewer negative repercussions of cohabitation and may in fact experience some benefits because of the prominent role of cohabitation in the family formation process (Manning and Landale 1996). Furthermore, based on the attenuation hypothesis we expect that family structure will have a greater impact on white adolescents than their Black or Latino counterparts. According to this perspective minority children face more negative life experiences and stress, due in part to diminished socioeconomic circumstances, and broader social networks of support resulting in fewer negative implications of family change (Amato and Keith 1991; McLoyd et al. 2000).

Why Cohabitation Matters?

Even though cohabitation appears to be structurally similar to marriage, two coresident adults, children who spend time in cohabiting parent families may experience more negative outcomes than children who have been raised in married parent families. Potential explanations for why parental cohabitation may negatively influence child well-being include: instability, family background, and lack of institutionalization. First, family instability is associated with poor developmental child outcomes due in part to greater emotional stress, inconsistent and poor socialization, and weaker parental control (see Rodgers and Rose, 2002). Cohabiting parent families often have higher levels of instability than married parent families. Children born into two biological parent cohabiting unions experience parental dissolutions sooner than children born into marriage (Manning, Smock and Majumdar 2000). Yet among children in stepfamilies, those who live with their mother's cohabiting partner share similar levels of instability as their

counterparts who reside in a traditional stepparent family (mother and her spouse) (Bumpass, Raley and Sweet 1995).

Second, on average, children raised in cohabiting parent families have parents with lower education levels and lower family earnings than children in married couple families (Manning & Lichter, 1996). Similarly, Acs and Nelson (2002) report significantly higher levels of financial hardship in terms of poverty and food insecurity among children in cohabiting parent families than children in married couple families. These differences in parental education and family income may be associated with lower well-being of children in cohabiting parent families.

Third, cohabiting couple families do not benefit from the social and legal support provided to married couple families (e.g., Durst, 1997; Mahoney, 2002; Nock, 1995; Seff, 1995; Smock & Gupta, 2002; Wiesensale & Heckert, 1993). Thus, the responsibilities of cohabiting partners (particularly those not biologically related to the child) to children are not specified which may result in poor parenting and negatively influence children's behavior.

CURRENT INVESTIGATION

In this project we evaluate how prior and current experience in a cohabiting parent family influences adolescent behavioral outcomes, such as timing of first sexual intercourse, teenage fertility, and high school graduation. Each of these consequential events has significant implications for adolescent well-being and transitions into adulthood. Prior research indicates that family experiences influence each of the outcomes considered (Davis and Friel, 2001; Garasky, 1995; Moore and Chase-Landale, 2001; Sandefur et al., 1992; Wojtkiewicz 1993; Wu and Martinson 1993; Wu and Thomson 2001).

In this paper we address two fundamental questions. First, we determine whether being born to cohabiting parent families negatively influences adolescent well-being. We anticipate

that children born to cohabiting parents will fare worse than those born to married parents. Given the higher instability of cohabitation than marriage for children (Manning, Smock and Majumdar 2002), we assess whether the effect of the hypothesized negative effect of parental cohabitation at birth on adolescent outcomes is explained by family instability and change. We account for number of family changes as well as transitions from family of origin. We expect that children who experience more family changes to have more negative outcomes. We specifically examine whether stable cohabiting parent families have similar effects on child outcomes as unstable cohabiting parent families. We also include potentially important other factors, socioeconomic status and family background.

Second, we examine whether childhood experience in cohabiting families influences adolescent well-being. We employ measures of cumulative family experience to detect whether and how cohabitation influences adolescent lives. We expect that children with experience in cohabiting parent families will have lower odds of high school graduation and higher odds of early first intercourse and teenage birth. Yet, the experiences of children in cohabiting parent families may depend upon whether they live with both biological parents or with one biological parent and his/her cohabiting partner. We expect that children in cohabiting parent families will experience more disadvantage when they live with only biological parent.

In addition, we focus on the age and time spent in cohabiting couple families. The effects of family structure on child outcomes may be strongest when children are young because young children may not be as equipped to deal with family change and possess fewer external resources to support them through family transitions (Chase-Lansdale and Hetherington 1990; Krein and Beller 1988). Also socialization of young children may have a strong influence on later outcomes, particularly sexual behaviors. For instance, children who are exposed to their parents'

nonmarital relationships may be socialized about acceptability of sexual behavior outside of marriage (McLanahan and Booth 1989).

However, family change at older ages may have more consequential effects on teenage behaviors. Family change among adolescents occurs closer to the timing of events (sexual initiation and high school graduation) and may interfere with parental supervision and control. Family change during the teenage years has a greater influence than family change during early childhood on high school graduation (Hill et al. 2001; Wojtkiewicz 1993). Also, Wu and Thomson (2001) report that family structure during adolescence had a significant effect on early sexual initiation for black women but not white women.

The amount of time spent in specific family types may be related to adolescent well-being. From a child socialization perspective, a greater amount of time spent in single mother families is expected to be related to more negative adolescent outcomes. However, this perspective is not supported in prior work that suggests that time spent in single mother families was not related to early sexual initiation (Wu and Thomson 2001) and teenage birth (Wu and Martinson 1993). Another view offered by a family stability perspective, is that it may be more important for a child to experience relatively few family changes rather than the specific family structure. A stable single mother family may provide consistent home environment and parenting that may be beneficial to children. The empirical literature supports the notion that family change leads to more negative outcomes regardless of the family structure (Hao and Xie 2001; Wojtkiewicz 1993; Wu and Martinson 1993).

Our work contributes to prior studies of family structure on adolescent well-being in the following ways. First, cohabiting parent families are included as a family type. Many studies have not included cohabiting parent families as a family structure (e.g., McLanahan and

Sandefur 1994; Wojtkiewicz 1993; Wu and Thomson 2001). Second, we distinguish between cohabiting parent families that include two biological parents and those that include only one biological parent and the parent's cohabiting partner. New research has focused on this distinction (Brown 2002; DeLiere and Kalil 2001), but most prior research is limited to cohabiting stepparent families or does not separate two biological from one biological cohabiting parent families. Third, we include dynamic measures of children's experiences. Previous research has relied on snapshot measures of family type (Acs and Nelson 2001; Brown 2001; Manning and Lamb 2002; Thomson et al. 1994). Fourth, we evaluate whether cohabitation has similar effects for Black, White, and Hispanic children. Minority children more often experience cohabiting parent families (Bumpass and Lu 2000), suggesting that parental cohabitation have unique effects according to race and ethnic groups (Manning 2002; Smock 2000).

DATA AND METHODS

We draw on the 1995 National Survey of Family Growth. This survey asks women 15-44 primarily about issues related to sexual behavior, fertility, and family formation. For our purpose, these data are ideal because they incorporate complete family histories that include cohabitation as a family type. In addition, these data permit us to distinguish between cohabiting two biological parent families and cohabiting stepparent families. No other national data permit these refined categories of family structure. These data allow us to move beyond current family structure measures and the relatively crude measure of family structure at age 14. In terms of teenage behavioral outcomes, these data include questions about school problems and sexual behavior.

We limit our analyses to respondents who were between ages 18 and 30 in 1995, limiting the analytic sample to women who were adolescents (13-17 years old) between 1978 and 1994.

This sample represents women from the 1965 and 1977 birth cohorts. This sample restriction is necessary because we are interested in avoiding recall error and want to limit family experiences to recent periods. As a result, our analytic sample consists of 4,190 women.

Our key three dependent variables are fundamental factors that relate to young women's adolescent and adult well-being: timing of first sexual experience, birth prior to age 18, and graduation from high school. The distributions of these variables are presented in Table 1. Respondents reply to questions about the age at first voluntary sexual activity. We divide the sample into those who had sex prior to age 15, between ages 15-17, or no voluntary sexual experience by age 18. Only 12% of the sample has had sexual intercourse before age 15. Nearly half (45%) of the sample has had sexual intercourse between ages 15 and 17, the mean age is 16. Two-fifths (41%) of the respondents had not had sex prior to age 18.

Our analysis of the second outcome, teen birth, is based on respondents who reported having had sexual experience prior to age 18 (N=2,527). We limit our analysis to women who have had sexual intercourse because virgins are not at risk of a teenage birth. The NSFG includes excellent pregnancy and birth histories so we are able to establish whether a respondent had a birth prior to age 18. Among the sexually active teenage women, 13.8% gave birth to a child prior to age 18. This estimate matches national levels.

The third dependent variable is whether the respondent graduated from high school. We code this variable as a dichotomous indicator with a value of 1 indicating graduation and a value of 0 indicating the respondent did not graduate from high school. The vast majority of respondents, 85%, graduated from high school, but 15% did not graduate.

Our core independent variable is family structure. We use the detailed NSFG family history data to create variables indicating family experiences. Our measurement of family

experience is divided into two parts. First, we will include static measures used in prior literature, family structure at birth. We include the following family types at birth: single mother, married two biological parents, cohabiting two biological parents, and other. At birth we code women born to married or cohabiting stepfamilies as 'other' because those family types are relatively rare at birth. We also include number of family transitions as a key variable in analysis of family structure at birth. The number of transitions provides an indicator of family instability and represents changes in family structure. When cohabiting two biological parent families marry one another or cohabiting stepparents marry one another we do not count these marriages as a transition. In this case, children remain living with the same parents and the event is simply a change in their legal status.

Second, we use more complex family trajectory coding schemes that capture childhood family living experiences. We measure these family types at several time points. Our analysis of sexual activity and teen birth relies on measures of family structure that exist until the time of first sexual intercourse, and we use the family experiences through age 17 for those respondents who never had sexual intercourse. Our analysis of high school graduation relies on measures of family experiences through age 17. We have replicated all the analyses with family structure experiences through age 14. The following family structures are included in analyses: married two biological parent, cohabiting two biological parent, married stepparent, cohabiting stepparent, single mother and other. This variable is coded so the contrast group is stable two biological parent family and the covariates indicate whether the respondent has ever lived in each of the family types (Wojkiewicz 1993). We also include variables that account for timing of family structure experiences (ages 0-5 or 6-17) and time spent in family types.

We include other variables that are available in our data and have been found to influence timing of first intercourse, teen birth and high school graduation (e.g., Cooksey, Mott and Neubauer 2002; Davis and Friel 2002; McLanahan and Sandefur 1994; Sandefur, McLanahan and Wojtkiewicz 1992). Using measures of mother's socioeconomic status and characteristics of the child, we include the following control variables in our models: race and ethnicity, birth cohort, religiosity while growing up, mother's education, mother's employment, number of siblings, and whether mother had a teen birth. The distribution of these variables is presented in Appendix Table 1.

Race and ethnicity is self-reported and coded as White (68.8%), Black (14.2%), Hispanic (12.5%), and other (4.5%). Birth cohort is a categorical variable representing the year of birth of the respondent. A similar percentage of respondents were born in the cohorts of 1965-69 and 1970-74, with 22.1% born between 1975-77. The respondents were teenagers during the late 1970's and early 1990's. The measurement of religiosity is based on reports of how often the respondent attends religious services. The average score was 3.3, indicating moderate attendance at such services. The measure of mother's education is continuous, with an average of 12.3 years. Mother's employment is a three category variable, coded as: none (32.8%), part-time (15.6%), and full-time (51.6%). Number of siblings refers to the number of siblings of all types residing with the respondent (mean = 2.5). We use a dichotomous indicator of whether the mother had a teen birth, with those who had coded as '1' and those who had not coded as '0.' Approximately 15% of the mothers reported having had a teen birth.

Our analyses are based on a series of models for each dependent variable. We apply appropriate analytic techniques (multinomial logistic regression for analyses of first sexual intercourse timing or binomial logistic regression for analyses of teen birth and graduation)

depending on the nature of the dependent variable. Our first set of analyses assesses the effects of family structure at birth. We initially test bivariate models to determine how family structure at birth influences the outcomes. We then add the measure of family instability in the model to evaluate whether the effect of family structure at birth can be explained by family instability. We present the next model that includes the control variables. We also assess how change in family structure at birth influences adolescent outcomes. We evaluate whether these measures of family transitions contribute to the fit of the model using both chi-square and BIC statistics.

Our second set of analyses focuses on the dynamic measures of family structure. Our initial model is a bivariate model that includes only the family structure variables. We present a model that adds the remaining covariates to the model to assess whether the family structure effects persist net of the other covariates. We determine whether the effects of family structure are similar or different according to race and ethnicity. We test whether age at family experience or duration in cohabiting parent families fits the data better than models that just account for whether a child ever experienced a particular family form. We assess model fit using chi-square and BIC statistics.

RESULTS

Table 2 presents the distribution of our key family structure variables. The first column shows that the majority of women were born to married two biological parents (85%). These levels match national estimates for the same birth cohorts. Substantially fewer respondents, 3%, were born into cohabiting two biological parent families and 6% were born to single mothers. Thus, over one third of respondents born to unmarried mothers were born to women who were cohabiting.

The next column reflects children's family experiences prior to first intercourse, prior to age 18 for those who did not have intercourse by age 18. Three-fifths of the respondents lived in intact married two biological parent families. Only 3% spent time living with cohabiting two biological parent families, and one-quarter of these families were stable (results not shown). The next row shows that 15% of respondents lived in married stepparent families and 4% lived in cohabiting stepparent families. Over one-quarter (27%) spent some time living with unmarried single mothers. The next column does not censor observations at the time of sexual intercourse so all respondents are observed through age 17. The results are similar to those reported in the previous column.

Nearly two-thirds (65%) of respondents experienced no family transitions. Approximately 15% of respondents experience one transition, while similar proportions experience two and three transitions (10.4% and 9.6% respectively). Thus, among respondents who experienced some transition, over one-quarter (28%) experienced three or more transitions.

Family Structure at Birth

Table 3 presents the effects of family structure at birth on timing of sexual intercourse, odds of teenage birth, and high school graduation. We present multivariate models but have estimated models that include only the family structure and family transition variables. The first model shows that children born into cohabiting couple families have significantly higher odds of having early sex than children born into married couple families. We obtain similar results when we exclude the number of family transitions from the model (results not shown). Children who experience more transitions have higher odds of experiencing early sexual intercourse. Children born to cohabiting couples have similar odds of early sexual activity as children born to single mothers (results not shown).

In terms of race, Blacks are most likely and Hispanics are least likely to experience early sex. Being born within the 1970-74 cohort is associated with increased likelihood of early sex. The level of religiosity was not associated with early sexual experience. The characteristics of the mother were generally significant. Higher levels of maternal education decreased the likelihood of early sex, while having a teenage birth had the opposite effect. Girls with mothers who were not employed or employed part-time were less likely than girls with mothers employed full-time to have early sex. The number of siblings did not influence the timing of first sex. Finally, girls who were raised by women who were teenage mothers have higher odds of early initiation of sexual intercourse.

The second column presents the estimates of the effects of family structure at birth on the odds of having a teen birth. Children born to cohabiting parents have significantly higher odds of having a teen birth than children born to married parents. The number of transitions does not have a statistically significant effect on the odds of a teen birth. Children born to single mothers share similar odds of having a teen birth as children born to cohabiting parents (results not shown).

In addition, Blacks and Hispanics are more likely than Whites to experience a teen birth. The greater odds for Hispanics to have a teen birth are interesting in light of their low odds of having early sex. Neither the birth cohort nor religiosity significantly affects the likelihood of a teen birth. Higher levels of maternal education reduces the odds of a teen birth. In terms of mother's employment, mothers working part-time were less likely than mothers working full-time to have daughters with a teen birth. However, there is no difference between mothers who work full time and mothers who are not employed. More siblings are associated with the greater

likelihood of a teen birth. A mother who had a teen birth also had a significant positive impact, reflecting a potential intergenerational effect.

The last column of Table 3 shows the effects of family structure at birth on the odds of graduating from high school. The coefficients in the first column indicate that children born to cohabiting parents experienced lower odds of high school graduation than their counterparts born to married parents. Children who experienced more family transitions had significantly lower odds of high school graduation. Children who were born to cohabiting and single mothers shared statistically similar odds of graduating from high school (results not shown).

In terms of the remaining variables we find that Blacks and Hispanics both exhibit lower odds of graduating high school, compared to Whites. Respondents from more recent cohorts are less likely to complete high school. Higher levels of religiosity and mother's education are associated with greater odds of graduation. However, mother's employment does not significantly impact these odds. More siblings decreases the likelihood of completing high school, as does having a mother who gave birth to a child when she was a teenager.

We test for race and ethnic differences in the effect of parental cohabitation status at birth on the odds of early sexual debut, teenage birth, and graduation from high school. We include an interaction term of race/ethnicity and family status at birth. For each outcome, we find that the effect of being born to cohabiting, two biological parents is statistically similar for Whites, Blacks, and Latinos (results not shown).

Transitions from Family Structure at Birth

We further examine the impact of family instability on adolescent outcomes by examining how family transitions out of family type at birth influence timing of first intercourse, having a teen birth, and graduating high school. About half of women born to cohabiting two

biological parent and single mother families (54% and 58% respectively) remained in this family throughout their childhood and two-thirds (68%) of women born to married two biological parent families were raised in this family during their childhood (results not shown). Table 4 shows the model fit statistics and coefficients for a model that includes a series of dummy variables that measure movement out of family structure at birth. The reference category is a stable married two biological parent family. The baseline models for each outcome include the same coefficients as presented in the multivariate models in Table 3 except they exclude the number of transitions coefficient. The comparison models are nested in their respective baseline and the fit is assessed using chi-square and BIC statistics.

The first set of results indicates that the inclusion of the transition variables add to the fit of the model. The coefficients show that women who remained in stable single mother and cohabiting two biological parent families had higher odds of early sexual onset than women who remained in stable married two biological parent families. Women who experienced any type of change from their family structure at birth had higher odds of early sexual onset. Women born to stable single mother families and those who moved into other family types shared similar odds of early sexual debut (results not shown). The results for women born to cohabiting biological parents mirror those for single mothers, movement out of a married two biological parent family does not reduce or increase the odds of early sexual debut (results not shown).

The second set of results in Table 4 shows that accounting for transitions out of family structure at birth does not improve the fit of the model predicting a teen birth. Thus, a model that includes family transitions starting at time of birth does not fit the data model than a simpler model with just family structure at birth.

The last set of results in Table 4 shows that the model that includes the family transitions following birth improves the fit of the model predicting high school graduation. Both the chi-square statistic and BIC statistic show the improved model fit. Women who were born to cohabiting two biological parent families and single mother families that remained stable experienced lower odds of high school graduation than women born and raised in married two biological parent families. Movement out of married two biological parent families is associated with lower odds of high school graduation.

Cumulative Family Experience

Table 5 presents models predicting timing of first sexual intercourse, odds of teenage birth, and odds of high school graduation. The first column shows that experience in cohabiting two biological parent families is associated with early onset of sexual intercourse. Growing up in a married stepparent family does not significantly influence the odds of early intercourse. In an initial bivariate model we find that growing up in a cohabiting stepparent family is associated with greater odds of early sexual debut than growing in a married two biological parent family. However, this effect is no longer significantly associated with early sexual onset when we include the other covariates in the model. The coefficient is not explained by one single factor, but instead it appears to be explained by mother's characteristics (education, employment, teen birth, number of siblings) and birth cohort (results not shown). Children who ever lived in a single mother family have greater odds of early intercourse than children who spent their childhood in married two biological parent families. We also evaluate whether children who lived in a cohabiting two biological parent family and cohabiting stepparent family share similar odds of early sexual debut. We do not find statistically significant differences, suggesting that children raised in cohabiting two biological and cohabiting are similarly likely to have an early

age of first sexual intercourse (results not shown). Finally, we find that the effects of the individual covariates in this model mirror those shown in Table 3. Accounting for cumulative family experience does not influence the effects of the sociodemographic variables on the timing of first sexual intercourse.

The effects of cumulative family experience on the odds of a teen birth are shown in the next model in Table 5. Spending time in a cohabiting two biological parent or single mother family is associated with higher odds of a teen birth. Children who ever lived in stepfamilies (cohabiting or married) had similar odds of having a teen birth as children who lived in married, intact, two biological parent families. We find that the children who lived in cohabiting two biological parent families have higher odds of a teenage birth than children who lived in cohabiting stepparent families (results not shown). Lastly, the effects of the individual covariates in this model mirror those shown in Table 3. Accounting for cumulative family experience does not alter the effects of the sociodemographic control variables on the odds of having a teenage birth.

The logistic regression coefficients predicting the likelihood of graduating from high school are presented in the final model of Table 5. In initial bivariate models, spending time in cohabiting parent families (two biological or stepparent) is associated with lower odds of high school graduation and children raised in cohabiting two biological and cohabiting stepparent families share similar odds of high school graduation (results not shown). The multivariate model in Table 5 shows that children who lived with cohabiting two biological parents had significantly lower odds of graduating from high school than children who lived in intact, married, two biological parent families. However, the multivariate model results indicate that children's experience in cohabiting stepparent families is no longer significantly associated with

high school graduation. It appears that the effect of living in cohabiting stepparent families is explained by characteristics of the child (race, birth cohort, and religious attitudes). Children who live with single mothers had lower odds of high school graduation, but experience in a stepparent family is not significantly associated with graduating from high school. Finally, with the exception of mother's employment, the effects of the covariates on high school graduation do not significantly change from those shown in Table 5. When accounting for cumulative family experience, the negative impact of having a mother that is not employed (relative to a mother employed full-time) decreases slightly, but is no longer statistically significant.

We also estimate a series of models that determine whether the effects of cohabitation (two biological and stepparent) differed according to race and ethnicity. We included separate interaction terms for family type and each race and ethnic group for every outcome. Our results indicate that the effects of cohabiting two biological parent families are similar for White, Black and Hispanic children (results not shown). Similarly, the influence of cohabiting stepparent families is statistically similar for White, Black and Hispanic children (results not shown). These results should be interpreted with some caution because of small cell sizes.

Duration and Age Experienced Cohabitation

The effects of family living arrangements may depend on the time spent in each type of family. In Table 6 we evaluate how time spent in cohabiting two biological and cohabiting stepparent families influences each of the outcomes. Our strategy is to replace the family structure coefficient with indicators of time spent in each family type (Wojtkiewicz 1993). The baseline $-2 \log$ likelihoods presented in Table 6 are reported in Table 5. We present the p-values for the chi-square tests indicating whether the additional variables improve the fit of the model.

BIC statistics with negative values indicate that the model with the additional variables do not contribute to the fit of the model.

The results in the top panel of Table 6 indicate that accounting for time spent in two biological parent families does not improve the fit of the models predicting early sexual onset or teen birth. We find that time spent in cohabiting two biological parent families is significantly related to high school graduation. Time spent in cohabiting two biological parent families is divided into three categories: less than 54 months (4.5 years), 54-161 months (4.5-13.5 years), and more than 161 months (13.5-18 years). The coefficients presented in the last three columns show that children who have spent more time in cohabiting two biological parent families experience lower odds of high school graduation. These findings do not support the traditional family stability argument that greater time in any family structure is associated with improved child outcomes.

The bottom panel of Table 6 presents the effects of time spent in cohabiting stepparent families. We include two dummy variables indicating duration (less than 54 months and more than 54 months). The data will not support more refined distinctions. Based on both the chi-square and BIC statistics time spent in cohabiting stepparent families is associated with timing of sexual intercourse and high school graduation. The coefficients predicting early onset are not statistically significant (last two columns). Duration appears to influence on-time sexual activity (ages 15-17) (results not shown). The coefficients predicting high school graduation indicate that children who spend less time in cohabiting stepparent families are less likely to graduate than children who spend more time in cohabiting stepparent families. Thus, instability in a cohabiting stepfamilies (measured by time spent in a family type) is tied to lower odds of high school graduation.

Similar models were estimated that account for the age at which the child experienced each family type (results not shown). Both the chi-square and BIC statistics indicate that the age that a child experiences parental cohabitation (two biological or stepparent) is not significantly related to the outcomes we consider here.

DISCUSSION

The prevalence of children in cohabiting family structures has been the impetus for research assessing how this particular family type influences the children. However, we argue that there are several aspects of cohabiting families that must be taken into account. For example, in an effort to capture the transient nature of the cohabitation experience, our paper is one of the few to examine how cumulative experiences living with cohabiting parents influences adolescent well-being. In addition, in some cases we find it is important to distinguish between children born to cohabiting parents and those living with one biological parent and his/her partner. By taking these additional factors into consideration, this work offers a more complete understanding of how cohabitation influences the well-being of adolescents.

We find that children born to cohabiting parents initiate sex at an earlier age and are more likely to have a teenage birth than children born to married parents. These effects persist despite controlling for the number of transitions, indicating the unstable nature of the union is not the primary mechanism at work. The similar effects for single mother and “other” families suggests there may be a common mechanism at play resulting in greater likelihood for earlier sexual debut, relative to married two biological parent families. Parental monitoring has been shown to delay the onset of sexual activity among adolescents (Longmore, Manning and Giordano 2001). Perhaps cohabiting parents invest less in parenting relationships as well as intimate relationships, resulting in monitoring levels similar to those found in single parents and “other” families.

The likelihood of graduating from high school is lower for adolescents born outside of married, two biological parent families. There is no differential effect between being born to cohabiting parents or a single parent. This effect reflects that of previous research, which suggests living outside of a two married parent family is more important than the specific family type at the time of birth (Wojtkiewicz 1993). Furthermore, the decreased likelihood of high school graduation associated with family structure at birth extends beyond family instability. Previous work assessing the influence of parental marital status on high school graduation affirms the importance of assessing parental attitudes toward educational attainment (Sandefur et al. 1992). Thus, future research may be needed to address how parenting attitudes may differ by family structure.

We specifically test whether accounting for the biological status of the cohabiting partner is an important step in assessing the influence of cohabitation. We find spending time living with two biological cohabiting parents is more consequential than living with a cohabiting stepparent family for the odds of becoming a teenage mother. Children who have ever lived with two biological cohabiting parents were more likely to have a teenage birth than children who lived with cohabiting stepparents. In terms of sexual and education outcomes, we find that children who lived in cohabiting two biological and cohabiting stepparent families share similar odds of early sexual debut and high school graduation.

The different impact of the cohabiting experience as a function of the biological status of the partner may be due to a selection effect. The experience of living with two biological cohabiting parents is more likely to occur at birth, compared to cohabiting stepparents. Parents normally enter the latter union after the birth of the child. Hence, it is possible that parents with children who seem to be at greater risk of non-normative teenage behavior are less likely to enter

into a cohabiting relationship with a stepparent. This could also explain the lack of significant effects for children ever having experienced a married stepparent family. Future research is needed to provide more or less support for this notion of a selection effect.

We assess how the timing and duration of parental cohabitation influences adolescent well-being. In terms of early sexual initiation and teenage birth, the timing and duration of parental cohabitation experience does not matter. These results are consistent for both cohabiting two-biological and cohabiting step-parent families. However, our findings for the influence of duration in cohabiting unions on high school graduation depend on the biological relationship of the cohabiting partner. Greater time spent with two biological cohabiting parents *reduced* the likelihood of high school graduation. This may be associated with selection, those parents with the lowest education levels more often have children while cohabiting (Manning 2001). On the other hand, *less* time spent in cohabiting stepparent unions is associated with reduced likelihood of high school graduation, suggesting the instability of this union type is consequential for this aspect of adolescent well-being. These later findings support those of Morrison (1998; 2000), who suggests that among children of divorced parents stability is more influential than the legal status of the union on child well-being.

This paper contains several limitations. First, we consider a narrow array of outcome variables to represent adolescent well-being. Future research may supplement our findings by expanding the scope of outcomes to include factors related to delinquency and psychological well-being. Indeed, family structure does not necessarily have the same influence across all dimensions of well-being. An additional limitation is that our analyses are based on older cohorts, so that it does not necessarily reflect the nature and prevalence of children born into cohabiting families today. This problem affects all research in this area and is not within the

capacity of researchers to change it (Hoffman 1998). However, we must be mindful that the rate of change in the demographic characteristics of families is not always reflected in the available data. Third, these analyses are limited to the effects of family change on girls. Some evidence suggests that family stability is greater for boys than girls (Katzew et al. 1994; Morgan et al. 1988). Prior work suggests changes in family structure influence boys and girls differently (e.g., Buchanan et al. 1996; Morrison and Cherlin 1995; Powell and Parcel 1997). Further work should pay attention to the differential effects for boys and girls. Finally, this study does not include measures of family income. The inherent complexity in accounting for family change across many years is that it is difficult to account for changes in income. We hoped to alleviate this limitation by accounting for mother's education and employment, but acknowledge it is not a substitute for income.

Taken together, these results suggest that cohabitation should be included in analyses of the effects of family structure on child well-being. Our findings indicate that cohabitation has a unique effect on the timing of initiation of teenage sexual intercourse, teen births, and high school graduation. Our work also supports distinguishing cohabiting two biological parents from cohabiting stepparent families. In addition, these results point to the importance of considering time spent in cohabiting couple families. Future work should focus on the mechanisms that may explain some of the effects of cohabitation on child well-being. An important contribution of our work is that our results suggest that the effects of cohabitation are not explained by the instability of cohabiting unions. Finally, these findings provide insights into current debates about the importance of parental marriage. Cohabiting two biological parent families do not seem to offer the same benefits as married two biological parent families.

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TABLE 1. Distribution of Dependent Variables

	%	% (Sexually Active)
Age at First Intercourse		
<15	12.3	
15-17	45.9	
18+ or none	41.9	
Teen Birth (<18)		
None	91.9	86.1
Yes	8.1	13.8
High School Graduate		
No	14.8	
Yes	85.2	
N	4190	2527

Note: Weighted percentages and unweighted N.

APPENDIX TABLE 1. Distribution of Control Variables

	%	% (Sexually Active)
Race/Ethnicity		
White	68.8	
Black	14.2	17.3
Hispanic	12.5	9.9
Other	4.5	2.5
Birth Cohort		
1965-69	40.8	36.5
1970-74	37.1	40.5
1975-77	22.1	23.0
Religiosity	3.3	3.1
Mother's Education	12.3	12.2
Mother's Employment		
None	32.8	27.7
Part-time	15.6	15.2
Full-time	51.6	57.1
Number of Siblings	2.5	2.4
Mother Teenage Birth		
No	85.4	82.1
Yes	14.6	17.9
N	4190	2527

Note: Weighted percentages and unweighted N.

TABLE 2. Distribution of Family Structure Variables

	Birth	First Sex ^a	Age 18
Family Structure at Birth			
Married Two Biological	85.0		
Cohabiting Two Biological	2.9		
Single Mother	5.7		
Other	6.4		
Cumulative Family Experience			
Intact Married Two Biological		58.3	56.8
Ever Cohabiting Two Biological		2.9	2.9
Ever Married Stepparent		15.3	16.2
Ever Cohabiting Stepparent		3.6	4.1
Ever Single Mother		27.3	28.7
Other		15.3	16.7
Number of Family Transitions			
0		65.9	64.2
1		14.2	15.2
2		10.4	10.5
3+		9.6	10.1
N	4190	4190	4190

^a We code respondents who have not had sex as their experiences through age 17.

Note: Weighted % and unweighted N

Table 3: Family Structure at Birth and Timing of First Sexual Intercourse, Odds of Teenage Birth, and Odds of High School Graduation

	First Sex		Teen Birth	Graduation
	<15/none	15-17/none		
Family Structure at Birth				
(Married Two Biological)				
Cohabiting Two Biological	0.87*	0.32	0.71*	-0.73*
Single Mother	0.83*	0.30	0.62*	-0.82*
Other	0.89*	0.42*	0.45*	-0.59*
Number of Transitions	0.12*	0.10*	0.05	-0.13*
Race/Ethnicity				
(White)				
Black	0.75*	0.25*	1.04*	-0.43*
Hispanic	-0.56*	-0.56*	1.14*	-0.75*
Other	-0.98	-1.18*	0.36	0.89*
Birth Cohort				
1965-69	-0.65*	-0.48*	-0.16	0.32*
(1970-74)				
1975-77	0.01	-0.20*	-0.04	-1.21*
Religiosity	-0.44*	-0.17*	-0.08	0.19*
Mother's Education	-0.07*	-0.03*	-0.06*	0.12*
Mother's Employment				
None	-0.53*	-0.37*	0.10	-0.14
Part-time	-0.37*	-0.17	-0.47*	0.003
(Full-time)				
Number of Siblings	-0.02	-0.03	0.10*	-0.14*
Mother Teenage Birth	0.63*	0.57*	0.44*	-0.44*
-2 Log Likelihood	7765.12		2075.64	3164.84
N	4190		2527	4190

Note: Reference category in parentheses

Source: NSFG 1995

* $p < .05$

TABLE 4. Family Structure at Birth Transitions

	-2 Log Likelihood	Diff.	p value	BIC	Family Transtion				
					Bio Cohab Stable	Single Mom Stable	Bio Married Change	Bio Cohab Change	Single Mom Change
Early Sexual Onset									
Baseline	7779.3								
Transition from Birth	7555.3	224.0	0.000	2.28	0.90*	0.78*	0.37*	0.61*	0.51*
Teen Birth									
Baseline	2077.2								
Transition from Birth	2071.7	5.5	0.14	-4.7	--	--	--	--	--
High School Graduate									
Baseline	3180.6								
Transition from Birth	3130.3	50.3	0.000	39.4	-0.93*	-1.42*	-0.75*	-1.24*	-0.75*

These baseline models do not include the number of transition variable.

BIC=(difference -2 log-likelihood)-(DF difference)(log N)

* p < .05

Source: NSFG 1995

Table 5: Cumulative Family Experience and Timing of First Sexual Intercourse, Odds of Teenage Birth, and Odds of High School Graduation

	First Sex		Teen Birth	Graduation
	<15/none	15-17/none		
Cumulative Family Experience ^a (Intact Married Two Biological)				
Ever Cohabiting Two Biological	0.64*	0.22	0.56*	-0.56*
Ever Married Stepparent	0.09	0.20	0.06	-0.09
Ever Cohabiting Stepparent	0.40	0.49*	0.09	-0.34
Ever Single Mother	0.32*	0.33*	0.26*	-0.54*
Ever Other	0.41*	0.16	0.26*	-0.44*
Race/Ethnicity (White)				
Black	0.86*	0.27*	1.16*	-0.54*
Hispanic	-0.52*	-0.54*	1.19*	-0.80*
Other	-0.91*	-1.13*	0.41	0.81*
Birth Cohort				
1965-69 (1970-74)	-0.66*	-0.47*	-0.16	0.32*
1975-77	0.01	-0.22*	-0.05	-1.18*
Religiosity	-0.44*	-0.16*	-0.08	0.18*
Mother's Education	-0.07*	-0.03*	-0.06*	0.13*
Mother's Employment				
None	-0.49*	-0.32*	0.14	-0.21*
Part-time (Full-time)	-0.35*	-0.14	-0.44*	-0.03
Number of Siblings	-0.03	-0.03	0.09*	-0.14*
Mother Teenage Birth	0.67*	0.57*	0.47*	-0.46*
-2 Log Likelihood	7763.72		2084.31	3158.62
N	4190		2527	4190

Note: Reference category in parentheses

Source: NSFG 1995

* $p < .05$

a: For timing of first sex and odds of teen birth, prior family structure is measured before age of first sex. For odds of high school graduation, prior family structure is measured before age 18.

TABLE 6. Time Spent in Cohabiting Parent Families

Time Spent in Cohabiting Two Biological Parent Families							
	-2 Log Likelihood	Diff.	p value	BIC	Time Spent		
					<54 months	54-161 months	161+ months
Early Sexual Onset							
Baseline	7763.72						
Time Spent Cohabiting Two Biological	7755.00	8.72	0.07	-5.62	--	--	--
Teen Birth							
Baseline	2084.31						
Time Spent Cohabiting Two Biological	2081.91	2.40	0.30	-4.42	--	--	--
High School Graduate							
Baseline	3158.62						
Time Spent Cohabiting Two Biological	3185.22	26.6	0.00	9.19	-0.27	-0.69*	-0.63*

Time Spent in Cohabiting Stepparent Families

	-2 Log Likelihood	Diff.	p value	BIC	Time Spent	
					<54 months	54+ months
Early Sexual Onset						
Baseline	7763.72					
Time Spent Cohabiting Stepparent	7754.68	9.04	0.01	1.47	0.40	0.40
Teen Birth						
Baseline	2084.31					
Time Spent Cohabiting Stepparent	2083.88	0.43	0.51	-2.98	--	--
High School Graduate						
Baseline	3158.62					
Time Spent Cohabiting Stepparent	3185.62	17.1	0.00	13.44	-0.51*	-0.50

Source: NSFG 1995