DOCUMENT RESUME

ED 458 320 UD 034 530

AUTHOR DeLeire, Thomas; Kalil, Ariel
TITLE Good Things Come in Threes: Single-Parent Multigenerational Family Structure and Adolescent Adjustment. JCPR Working Paper 238.
INSTITUTION Joint Center for Poverty Research, IL.
SPONS AGENCY McCormick Tribune Foundation, Chicago, IL.
PUB DATE 2001-10-07
NOTE 38p.
AVAILABLE FROM For full text: http://www.jcpr.org/wp/wpdownload.cfm?pdflink=wpfiles/deleire_kalil.pdf.
PUB TYPE Reports - Research (143)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adolescents; College Attendance; Family Environment; *Family Structure; Graduation; Grandparents; Mothers; *One Parent Family; Secondary Education; Sexuality; Substance Abuse

ABSTRACT

This research used data from the 1998 National Educational Longitudinal Study to investigate the development of outcomes for adolescents living with single mothers in multigenerational families compared with adolescents living in married families (as well as a disaggregated set of other family structures). The study measured family structure when students were in 8th grade and examined their developmental outcomes either in 12th grade or 2 years thereafter. Outcomes included self-reported substance use and sexual debut, high school graduation, and college attendance. The disaggregated family structures investigated included never married or divorced single mothers in multigenerational households, two biological cohabiting parents, step families, never married single mothers, divorced single mothers, single mothers with male cohabitors, single father families, grandparent-headed households with no parent present, and married-parent families. Teenagers living in non-married families were less likely to graduate from high school or attend college, more likely to drink or smoke, and more likely to initiate sexual activity. However, teenagers living with their single mother and at least one grandparent in a multigenerational household had developmental outcomes that were at least as good as and often better than outcomes for teenagers in married families. (Contains 37 references.) (SM)

Good Things Come in Threes: Single-parent Multigenerational Family Structure and Adolescent Adjustment

Thomas DeLeire Ariel Kalil

Harris Graduate School of Public Policy Studies
University of Chicago
1155 East 60th Street
Chicago, IL 60637

October 2001

We would like to thank Linda Waite, Susan Mayer, and two anonymous referees for helpful comments. Support for this work was provided in part by funds from the McCormick-Tribune Foundation.

Good Things Come in Threes: Single-parent Multigenerational Family Structure and Adolescent Adjustment

Abstract

Using data from the National Educational Longitudinal Study (NELS), we find that teenagers living in non-married families are less likely to graduate from high school or attend college, more likely to smoke or drink, and more likely to initiate sexual activity. However, not all non-married families are alike. In particular, teenagers living with their single mother and with at least one grandparent in a multigenerational household have developmental outcomes that are at least as good and often better than outcomes of teenagers in married families. These findings obtain controlling for a wide array of economic resources, parenting behavior, and home and school characteristics.

Good things come in 3's: Single-parent multigenerational family structure and adolescent adjustment

Introduction

Growing up with a single mother is associated with adverse developmental outcomes for children and teenagers. Although most studies compare children in married (i.e., two married, biological parents) to children in non-married families, many single mothers live in a diverse set of arrangements including coresidence with their families of origin (henceforth "multigenerational families"). While researchers have distinguished children living with divorced mothers from children living with never-married mothers and those in step-family arrangements, little is known about the number and characteristics of children living in multigenerational families and whether these children exhibit different developmental outcomes relative to children in other types of non-married families.

This paper uses longitudinal data on 11,213 adolescents from the National Educational Longitudinal Survey (NELS) to investigate the developmental outcomes of adolescents living with single mothers in multigenerational families compared with adolescents in married families and in a disaggregated set of other family structures. We measure family structure when the students were in the eighth grade and measure their developmental outcomes either in the youth's senior year of high school or two years thereafter. The outcomes we consider are youth self-reports of substance use and sexual debut as well as high school graduation and college attendance. The nine disaggregated family structures we investigate include two types of single mother, multigenerational households—(a) never-married single mothers in multigenerational households; and (b) divorced single mothers in multigenerational households—seven other non-married family structures—(c) two biological cohabiting parents; (d) step-families; (e) never-

married single mothers; (f) divorced single mothers; (g) single mothers with male cohabitors; (h) single father families; and (i) grandparent-headed households with no parent present—and (j) married-parent families.

Background

Single parents account for 28 percent of all households with children according to the 2000 Census (Simmons and O'Neil 2001) and 50 to 60 percent of children born during the 1990s will spend some time living with a single parent, usually their mother (Bumpass and Sweet 1989; Cherlin and Furstenberg 1991). Research has consistently shown that growing up in a single-parent family is associated with negative consequences for children (McLanahan and Sandefur 1994). For example, adolescents from disrupted and single-parent homes are more likely to experience lower school achievement and aspirations (McLanahan and Sandefur 1994), increased psychological distress (Aseltine 1996; Hetherington and Clingempeel 1992; Zill and Peterson 1986), earlier initiation of substance use and sexual activity (Flewelling and Bauman 1990), increased vulnerability to health problems (Dawson 1991), and greater likelihood of engaging in problem behaviors or deviant activities (Dornbusch, Carlsmith, Bushwall, Ritter, Leiderman, Hastorf, and Gross 1985). Much of these differences have been attributed to single mothers' high rates of poverty (McLanahan and Sandefur 1994).

Unfortunately, most studies of the effect of single parent family structure on adolescent development use either a dichotomous variable to indicate simply whether a child lives with his or her unmarried (i.e., never married or divorced) mother. Single mothers, however, live in a diverse set of living arrangements. For example, 43 percent of never-married mothers live with their parents at the time of their child's birth (Jayakody and Snyder 1998) and 29 percent of

white and 23 percent of black previously married single mothers have lived with their parents at some point within ten years of their marital disruption (Aquilino 1996; Jayakody 1999). In 1997, 5.5 percent of all children under 18 were living in a home maintained by their grandparents, up from 3.2 percent in 1970; about half of these families are single mothers in multigenerational households (Bryson and Casper 1999). Data from the 2000 Census show that 3.7 percent of all households are multigenerational ones (Simmons and O'Neil 2001).

Relatively few studies have examined child outcomes in multigenerational families. Children in parent-headed families with coresident grandparents fare about the same in economic terms as other children (Bryson and Casper 1999). Entwisle and Alexander (1996) find that black children in multigenerational families with no father present had better school conduct and higher grades in reading relative to black children who lived with their single mother only. In addition, black children in multigenerational families had similar one-year gains in a measure of school conduct as did black children in non-married families (Thompson, Entwisle, Alexander, and Sundius 1992). Another study showed that teenagers who ever lived in a single parent multigenerational family exhibit higher educational attainment than do teenagers living in single mother families with no grandparent present (Aquilino 1996). However, using the same data, McLanahan and Sandefur (1994) linked point-in-time multigenerational residence with an increased risk of teenagers' dropping out of high school.

Results from research on multigenerational coresidence among very young mothers is equivocal. An intriguing theory discussed by Geronimus (1997) characterizes teenage mothers (specifically black mothers) as "emerging adults" in active multigenerational households. Among these families, a strong network of relatives energetically contributes to the support of the young mother's children. Geronimus suggests that this shared pattern of childrearing

minimizes the risks to child development associated with poverty, parental unemployment, poor parental physical health, and poor parental mental health. Indeed, early childbearing is seen as adaptive for some young, low-income girls to the extent that access to multigenerational support peaks during this time and may minimize tradeoffs between childcare, school, and work for the young mother (see also Burton 1996; Geronimus, Korenman, and Hillemeir 1994; Mott 1990; and Stack and Burton 1993 for discussions of "non-traditional" family structures in some black populations). In the developmental psychology literature, a few studies have found positive effects of multigenerational coresidence on the cognitive and emotional development of preschool-age children of teenage mothers (Leadbeater and Bishop 1994; Pope et al. 1993) while others have found negative effects on these same outcomes (East and Felice 1996; Unger and Cooley 1992). Under certain circumstances, young mothers' coresidence with their mothers is associated with poorer parenting behaviors in the home (Chase-Lansdale et al. 1994). Many of these findings come from small-scale, cross-sectional studies or from qualitative observations; the effects of multigenerational coresidence in national longitudinal samples have not been adequately investigated. In addition, because most of this work has focused on developmental outcomes among young children, we know little about developmental outcomes among teenagers in such living arrangements.

Theory and Method

Researchers have not reached a consensus as to why and how family structure matters. Four theories prevail: economic deprivation, socialization, stress, and community resources (Haurin 1992; McLanahan and Sandefur 1994). The economic deprivation perspective argues that much of the differences in child outcomes between single-parent and two-parent families is a result of poverty. McLanahan and Sandefur (1994) find that family economic resources account

for one-half of the differences in child developmental outcomes between single-mother families and their two-parent counterparts. The socialization perspective argues that two parents are crucial for providing an optimal childrearing environment; it also argues that children benefit from the presence of a male role model in a two-parent home. For example, children in two-parent families have a theoretically greater opportunity to be taken on cultural outings, to have their television and after-school activities monitored, and to have an adult become involved in school activities. The stress theory emphasizes the effects of changes in family structure, which are hypothesized to increase disequilibrium in family relations and disrupt relationships outside the family as well. The accumulation of these changes is posited to produce poor developmental outcomes among children (Aquilino 1996; Wu 1996; Wu et al. 1997). Finally, community resources, such as the characteristics of the family's neighborhood and the child's school, may vary across family structures and have an impact on children's development (Furstenberg et al. 1999; McLanahan and Teitler 1999).

Our empirical specifications will be estimated by a probit model for in the case of the three binary outcomes (high school graduation, college attendance, and substance use), and by a discrete-time (probit) hazard model for the in the initiation of sexual activity. We control for as many observable characteristics as possible; namely, economic resources, parenting characteristics and behavior, stability, and home and school characteristics, along with a set of student demographic controls.

Data

The data come from the National Education Longitudinal Study of 1988 (NELS). The baseline survey was conducted in 1988 and collected educational, behavioral, demographic, and

cognitive data from students as well as data from the students' parents and school. Three follow-up surveys were conducted at two-year intervals following the initial baseline survey. Thus, the third follow-up survey occurred in 1994–roughly two years after most students would have graduated from high school.

The NELS data were taken from a nationally representative sample of 1,000 schools and 25,000 eighth graders who were randomly selected from these schools. Roughly 14,000 of these students were sampled in the third follow-up survey. For the purposes of this study, we use only the 11,213 students for whom complete information was available on all study variables.

Measures

Family structure. Using information collected both from the youth and from the primary caregiver in the base-year survey, when the youth were in the eighth grade, we assigned students to one of ten mutually-exclusive family structure types: (a) never-married single mothers in multigenerational household; (b) divorced single mothers in multigenerational household; (c) two biological cohabiting parents; (d) step-families; (e) never-married single mothers; (f) divorced single mothers; (g) single mothers with male cohabitors; (h) single fathers; (i) grandparent-headed households with no parent present; and (j) married-parent families. We do not include youth who lived with non-relative guardians or other non-relatives.

We construct family structure information from two sets of questions. The first set queried eighth graders about who lived with them in the home including biological parents, non-biological male or female guardians, siblings, grandparents, other relatives, and non-relatives. The second question asked parents to report their marital status at that time.

Youth Outcomes. The third follow-up survey collected information on the high school graduation and college attendance status of the student. Recall that the third follow-up survey was given two years after most respondents would have graduated from high school. Students who did not graduate but received a General Equivalency Diploma (GED) are included with the high school dropouts.[1]

We measure college attendance as attendance at any post-secondary institution (2-year or 4-year college). Most youth are too young at the time of the third follow-up survey to have received a college degree.

We construct our measure of substance use from 12th grade student reports of use of alcohol and tobacco. Smoking and drinking are both highly correlated and prevalent (44 percent of the sample either smokes or drinks). In contrast, the prevalence of marijuana use is only approximately 6 percent while the use of other illicit drugs is virtually non-existent (as reported by the students). Therefore, we create a dummy variable for smoking or drinking—the omitted group neither smokes nor drinks. A comparable classification for adolescents in the NLSY was used by Rosenbaum and Kandel (1990).

Age of sexual debut is measured from student reports in the third follow-up survey. 24.5 percent of youth reported being virgins as of the third follow-up survey and thus were right censored for the purposes of the discrete-time hazard model.

Control variables. All of the control variables we consider were asked in the base-year survey. A complete list of the questions and scale properties is in the Appendix.

[1]Cameron and Heckman (1993) suggest that GED recipients look more like high school dropouts than high school graduates. In any case, our results do not change when we include GED recipients with high school graduates.

(a) Economic resources. Our measure of the family's economic resources when the youth was in the eighth grade is the parent's report of family income measured in the base-year survey. The definition of family income is the total family income from all sources in 1987.

(b) Parenting behavior. We include four measures of parenting behavior. The questions underlying these measures were structured to reflect the involvement and monitoring received by the youth which, in principle, could have been given by any adult member of the household. However, these questions were answered by only one adult caregiver and 78 percent of the respondents to the parent's questionnaire in the NELS were the youths' mothers. Thus, it is likely that these measures primarily reflect the behaviors of the primary caregiver and in most cases reflect maternal behaviors.

The first measure is a seven-item index (alpha= .70) of the mother's report of whether she imposes rules regarding television, student grades, homework, and chores. The second is single-item measure of monitoring based on student reports of how often their caregiver limits their going out with friends on school nights. The third is a three-item index of parental involvement (alpha= .60) based on student reports of how often they have discussions with their caregiver concerning school programs, activities, and subjects. The fourth is a set of three mutually exclusive dummy variables measuring whether the caregiver's educational expectations for the student is high school, college, or graduate school.

(c) Home and School Environment. We have six measures of the students' home and school environments. The first is a ten-item index (alpha= .84) of the number and quality of educational materials present in the home based on base-year student reports. These materials include whether the family subscribes to a newspaper, whether they own an encyclopedia, and whether they own a computer, for example. The second is an eight-item index (alpha= .61) of

the student's involvement in extra-curricular activities including art, music, dance, and language lessons, religion, history, and computer classes. The third is a four-item index (alpha= .79) of the student's involvement in cultural activities based on caregiver reports on the student's attendance at musical events, art, science, or history museums. The fourth is an 11-item index (alpha= .89) of the caregiver's assessment of the quality of the school the youth attends including whether the school is safe, whether the school places a high priority on learning, and whether homework assigned is worthwhile. The fifth and sixth measures include the percentage of students in the school that are minority and receiving subsidized lunch, based on school administrative records.

(d) Student and parent characteristics. The student characteristics we control for include an index (alpha= .91) of eighth-grade achievement test scores (based on math, reading, history, and science tests) collected from school records, eighth grade GPA, caregivers' reports of whether the student has a physical or mental disability, whether the youth worked for pay in the eighth grade, race and ethnicity (black, Hispanic, non-Hispanic white), age, urbanicity and region, and family size. The parental characteristics we control for include caregiver's age and education. We do not have complete information on family structure transitions in the NELS. We control for stability using two measures. First, we use a variable assessing whether the caregiver became divorced, separated, widowed, married, re-married, or began living with someone in the period between the youth's eighth grade and the second follow-up interview. Second, we use a measure that asked the caregiver how many times the youth had changed schools prior to the eighth grade (excluding changes from primary to middle school, etc.).

Results of the Empirical Analysis

Table 1 reports summary statistics, weighted to be nationally representative, for all of the variables used in our empirical analyses. 65 percent of 8th graders live in married-parent families (two married biological parents); 2 percent live with two unmarried biological parents; 12 percent live in a step-family; 1.2 percent live with never married single mothers; 11 percent live with divorced mothers; 2.2 percent live with single fathers; 3.2 percent are in cohabiting arrangements; 0.3 live with never married mothers in multigenerational households; 1.3 percent live with divorced mothers in multigenerational households; and 2 percent of youth live in grandparent headed households with no biological parent present.

The distribution of family structure types in the NELS is consistent with that reported from other data sources including the recent National Survey of America's Families (NSAF; Brown 2000). Where differences exist, for example the NELS has a slightly higher proportion of step-families; these differences are likely a result of the NELS' being representative of eighth graders while the NSAF is representative of all families.

Table 2 reports averages for the adolescent developmental outcomes and for the mediator and control variables of interest for each of the ten family structure types. Important points illustrated in this table include, first, that youth in married-parent families are more advantaged economically than all non-married family types. Second, youth in married-parent families have better developmental outcomes than youth in most non-married family structure types. The one exception is youth in never married single mother, multigenerational families. These youth are as likely to graduate from high school and attend college and much less likely to smoke or drink despite being the poorest of all family structure groups.

Tables 3 through 6 report the results of the statistical analyses for the four student outcomes: high school graduation, college attendance, substance use, and sexual initiation. For each student outcome, we report the predicted difference between a student in each family structure relative to a student in a married-parent family (the omitted group). We present the results of five different models which add variables in succession. Doing so allows us examine the relative importance of key sets of mediating variables in explaining family structure effects. Model 1 includes the family structure variables and student demographic characteristics. Model 2 adds parents' demographic characteristics. Model 3 adds family income. Model 4 adds parenting behaviors. Model 5 adds characteristics of the home and school environment. In all models, we report the estimated change in probability of an outcome. For example, the estimate for two unmarried, biological parents in Column 1 of Table 3, is -0.089 and should be interpreted as the difference in the probability of graduating from high school between a youth in a two unmarried biological parent family and a youth in a married-parent family. That is, the former youth is 8.9 percentage points less likely to graduate from high school than the youth in the married-parent family.

For all four outcomes, youth exhibit substantial differences across family structure types. These persist even when we control for the complete set of student and parent characteristics and mediating variables. For all four outcomes, youth in non-married families fare poorly relative to youth in married-parent families with two exceptions. Youth in never-married single mother, multigenerational households are more likely to graduate from high school, more likely to enroll in college, less likely to smoke or drink, and no more likely to initiate sex than youth in married-parent families. Youth in divorced single parent, multigenerational families are no less likely to

graduate from high school, no less likely to enroll in college (controlling for income), no more likely to smoke or drink, and no more likely to initiate sex.

All of these differences are relative to youth married-parent families. We also examined some pair-wise comparisons of interest between other family structure types. In particular, for all four outcomes, the family structure variables are jointly significant in all models. Second, we examined whether outcomes were different between youth in never married, multigenerational and never married single families and significant differences for high school graduation, substance use, and (marginally) college attendance favoring youth in the multigenerational arrangement. Third, we compared youth in never married multigenerational families with those in cohabiting families and found differences favoring youth in multigenerational families for high school graduation, substance use, and (marginally) college attendance. Finally, we compared youth in divorced multigenerational families with those in divorced single mother families and also with those in cohabiting arrangements but found no significant differences.

Comparing the different models in Tables 3 through 6 allows one to assess the extent to which the observed family structure effects are mediated through parental characteristics, family income, parenting behaviors, and home and school characteristics. The results suggest that demographic characteristics and income explain some, but not all, of the differences in high school graduation and college attendance across different family structures. In particular, these characteristics were important for explaining differences in high school graduation between married-parent families and those in never married, divorced, and cohabiting family structures. With respect to college enrollment, demographic characteristics explained differences between married-parent families and those in step, never married, and cohabiting arrangements, while income was important for the children of unmarried biological parents, cohabitors, divorced

multigenerational, and grandparent headed families. In contrast, the demographic characteristics and income explained virtually none of the differences in substance use and initiation of sex. Moreover, none of our measures of parental behavior or the home and school characteristics, although related to the teen outcomes in expected ways, mediated the family structure effects.

Discussion

In summary, our results show that (1) with two exceptions, relative to living in a married-parent family during the eighth grade, youth in all other family structures demonstrate poorer outcomes; (2) the exceptions are living with a never-married single mother in a multigenerational household in which case children are observed to have better outcomes than children in married-parent families; further, children of divorced single mothers in multigenerational household fare no differently than those in married-parent families; (3) these effects are generally consistent across the outcome measures; and (4) differences in family economic resources, parental behavior, and home and school characteristics, although varying in expected ways across family structure and contributing as expected to the youth outcomes, account for relatively little of the family structure effects.

Our results with other ones regarding the effects of divorce and remarriage on children's development. In the NELS, eighth graders in stepfamilies and those whose mothers were divorced at that time had lower educational attainment and more problem behavior (i.e., higher levels of substance use and earlier sexual debut) than children in married-parent families. These findings are not surprising and parallel the findings of McLanahan and Sandefur (1994), whose research using different data (the NLSY, PSID, HSB, and PSID) showed that youth in one-parent families were more likely to drop out of high school, less likely to enroll in and graduate from

college, more likely to be out of school and out of work, and were more likely to be teenage mothers.

The results for the remaining family structure types (with the exception of the two multigenerational household structures) showed a somewhat less consistent pattern, although where differences occurred, they always favored youth from married-parent families.

In contrast to these relatively predictable findings, a new and noteworthy finding from the present study is the identification of a group of single mothers whose children fare well due to the apparent beneficial effect of multigenerational coresidence. Our results are consistent with those of Aquilino (1996) whose work examined the living arrangements of single mothers and developmental outcomes for their children during adolescence. This work showed that among children born to single mothers, those who lived with their parent and a coresident grandparent at some point before age 15 had higher educational attainment compared with those who lived with a single mother all of childhood. Jayakody and Kalil (2001) find that grandfathers who play a "social-father" role (but who may or may not coreside with the youth) increase the school readiness of pre-school children of single, black women through their positive influence on the children's home environment.

We should reiterate that our family structure measure is a cross-sectional one—we cannot rule out that the youth in single-mother arrangements in eighth grade had never had a coresident grandparent. We should also note that the existing literature distinguishes between two types of grandparent coresidence—one in which the grandparent is the householder (owns or rents the home) and the other in which the parent is the householder (Bryson and Casper 1999). Unfortunately, we cannot tell which kinds of families the multigenerational ones represent, although nationally, 75 percent of families with coresident grandparents and grandchildren are

grandparent-maintained (Bryson and Casper 1999). Given the relatively young age of the never-married mothers in the multigenerational households, we might reasonably assume that they are grandparent-headed households. Future research should aim to distinguish these kinds of households more carefully, as they have different socioeconomic characteristics (Bryson and Casper 1999) and appear to be differentially related to youth outcomes (Aquilino 1996).

A possibility that we are unable to test is that the observed effects of family structure on the youth outcomes are due to an unmeasured factor that causes both. For example, it may be that mothers who choose to coreside with the child's grandparents represent the "best" parents—they coreside because they believe coresidence will benefit their children by, for example, increasing resources to which the child has access. Mothers may be willing to accept the tradeoffs that coresidence entails for their own well-being (e.g., inter-adult conflict, lack of privacy). These "altruistic" mothers might have other positive characteristics that are also beneficial to children's development.

In contrast, evidence provided by the Baltimore longitudinal study of teenage mothers suggests that there is negative selection into multigenerational families; that is, single mothers who remain living with their parents are the least well-functioning and lack the resources or motivation to live independently (Chase-Lansdale et al., 1994). If this is true, it suggests that, if anything, we should observe a negative association between multigenerational residence and youth outcomes. The fact that we observe a positive association implies an even greater causal role of multigenerational family structure.

We should not necessarily assume that there is a selection bias, however. Mothers may simply be following cultural norms and expectations about family structure when forming

multigenerational households; we would not expect these cultural norms to be correlated with mother's skills, motivation, or abilities (Geronimus et al. 1994).

To the extent that our results highlighting the beneficial features of grandparent presence differ from those that have found negative effects of multigenerational coresidence (e.g., Chase-Lansdale et al. 1994), it may be because most previous studies examined parenting and development outcomes for preschoolers. Further, none of those studies was longitudinal and most included a more limited set of controls. It is also important to remember that our results apply only to teenagers, and not to all children.

What can explain such positive outcomes for children in multigenerational families? One explanation is that among low-income young mothers living in disadvantaged neighborhoods, grandparent presence provides a set of resources to mitigate the negative outcomes that children would otherwise experience. In some of our multigenerational households, children may have resided with their mother and both grandparents (the NELS does not differentiate between one and two grandparents). In some cases, children may have had access to at least three parental figures.

We do not think it is true that grandparents are substitutes for biological fathers and that this effect holds true across all levels of socioeconomic status. Instead, we suspect that the presence of grandparents interacts with socioeconomic status and is particularly beneficial among low-income families. Among these families, grandparents might contribute in ways that benefit children relative to what a single mother can do by herself. Grandparent presence in such families might even be more beneficial than biological father presence, particularly if the marital relationship is unstable or conflicted due to social forces affecting many low-income urban families (e.g., high rates of male unemployment; Edin 1999; Wilson 1996). Unfortunately,

because the number of never married single mother, multigenerational households in our sample is small, we cannot test the hypothesis that the effect of a grandparent differs by income.

Similarly, Geronimus (1997) posited that multigenerational coresidence might be especially beneficial in certain sub-populations, namely young, black, low-income single mothers. This would be true, she speculated, because grandparents in this sub-population would be relatively young and healthy and would be better able to actively care for the mother's children. In our sample, it turns out that the group who is residing in a multigenerational household is mostly black and has younger mothers with less education and family income. Therefore, our findings of positive child outcomes for this group lends support to Geronimus's thesis.

However, the demographic composition of the never-married multigenerational families in our data suggests that we should be cautious in interpreting our results. In particular, even though these children do relatively well even before we control for economic resources and caregiver characteristics and behavior, we do not have many non-black nor economically advantaged children in this group. Therefore, it may be that the beneficial effects of living in this arrangement might only be true in the context of economic disadvantage.

Taking this cautious view, our results do, however, suggest that economically disadvantaged, black teenagers in multigenerational households have better outcomes than do similarly disadvantaged, black teenagers in married households. Several new research and social policy initiatives have referred to the broad group of economically disadvantaged couples (which include married, cohabiting, and non-coresident relationships) as "fragile families." These initiatives (including, for example, aspects of the 1996 Welfare Reform Act) have focused on how children's well-being could be improved by helping these couples stay together. Our

results, on the other hand, suggest that economically disadvantaged teenagers would do better in multigenerational households. Perhaps policies should also recognize the beneficial effects of multigenerational coresidence for economically disadvantaged families with teenage children, irrespective of the presence of fathers. As the demography of family structure continues to change and new family forms are introduced, future research and policies will need to attend to these variations and their consequences for child development.

References

Aquilino, W.S. (1996). The lifecourse of children born to unmarried mothers: Childhood living arrangements and young adult outcomes. *Journal of Marriage and the Family* 58: 293-310.

Aseltine, R. (1996). Pathways linking parental divorce with adolescent depression. *Journal of Health and Social Behavior*, 37: 133-148.

Brown, S. (2000) Child well-being in cohabiting families. Forthcoming in A. Booth and A. Crouter (Eds), *Just living together: Implications of cohabitation for children, families, and social policy*. Mahwah, NJ: Lawrence Erlbaum.

Bryson, K. and Casper, L. (1999). Coresident grandparents and grandchildren. *U.S. Census Bureau: Current Population Reports P23-198.*

Bumpass, L. & Sweet, J. (1989). Children's experience in single parent families: Implications of cohabitation and marital transitions. *Family Planning Perspectives* 21: 256-260.

Burton, L. (1996). The timing of childbearing, family structure, and role responsibilities of aging black women. In E. Hetherington and E. Blechman (Eds.), *Stress, coping, and resiliency in children and families* (pp. 155-172). Mahwah, NJ: Lawrence Erlbaum.

Cameron, S. and J. Heckman (1993). The Nonequivalence of High School Equivalents. *Journal of Labor Economics* 11(1) Part 1: 1-47.

Chase-Lansdale, P.L., Brooks-Gunn, J., & Zamsky, E.S. (1994). Young African American multigenerational families in poverty: Quality of mothering and grandmothering. *Child Development*, 65: 373-393.

Cherlin, A. & Furstenberg, F. (1991). *Divided families: What happens to children when parents part*. Cambridge, MA: Harvard University Press.

Dawson, D. (1991). Family structure and children's health and well-being: Data from the 1988 National Health Interview Survey on Child Health. *Journal of Marriage and the Family,* 53: 573-584.

Dornbusch, S., Carlsmith, J., Bushwall, S., Ritter, P., Leiderman, H., Hastorf, A., & Gross, R. (1985). Single parents, extended households, and the control of adolescents. *Child Development,* 56: 326-341.

East, P., & Felice, M. (1996). *Adolescent pregnancy and parenting.* Mahwah, NJ: Lawrence Erlbaum.

Edin, K. (1999). What do low-income single mothers say about marriage? *Social Problems,* 47: 112-133.

Entwisle, D. and Alexander, K. (1996). Family type and children's growth in reading and math over the primary grades. *Journal of Marriage and the Family*, 58: 341-355.

Flewelling, R. and Bauman, K. (1990). Family structure as a predictor of initial substance use and sexual intercourse in early adolescence. *Journal of Marriage and the Family*, 52: 171-181.

Furstenberg, F.F., Cook, T.D., Eccles, J., Elder, G.H., & Sameroff, A. (1999). Managing to make it: Urban families and adolescent success. Chicago: University of Chicago Press.

Geronimus, A. (1997). Teenage childbearing and personal responsibility: An alternative view. Political Science Quarterly, 112 [http://epn.org/psq/geronimus.html].

Geronimus, A, S. Korenman, & M.M. Hillemeier (1994). Does young maternal age adversely affect child development? Evidence from cousin comparisons in the United States. *Population and Development Review* 20(3):585-609.

Haurin, R.J. (1992). Patterns of childhood residence and the relationship to young adult outcomes. *Journal of Marriage and the Family* 54: 846-860.

Hetherington, E. M. & Clingempeel, W. (1992). *Coping with marital transitions: A family systems perspective.* Monographs of the Society for Research in Child Development, 57 (2-3, Serial No. 227).

Jayakody, R. 1999. Single mother families and living arrangements. Working Paper, Population Research Institute, Pennsylvania State University.

Jayakody, R. and A. Kalil (2001) ???

Jayakody, R. and Snyder, A. (1998). Living arrangements after a non-marital birth. Paper presented at the Annual Meetings of the Population Association of America, Chicago, IL.

Leadbeater, B., and Bishop, S. (1994). Predictors of behavior problems in preschool children of inner-city Afro-American and Puerto-Rican adolescent mothers. *Child Development* 65:638-648.

McLanahan, S.S. and Sandefur, G. (1994). *Growing up in a single parent family: What hurts, what helps.* Cambridge, MA: Harvard University Press.

McLanahan, S.S. & Teitler, J. (1999). The consequences of father absence. In M. Lamb (Ed.), *Parenting and child development in non-traditional families.* Mahwah, NJ: Lawrence Erlbaum.

Mott, F.L. (1990). When is a father really gone? Paternal--child contact in father-absent homes. *Demography* 27(4): 499-517.

Pope, S., Whitside, L., Brooks-Gunn, J., Kelleher, K., Rickert, V., Bradley, R., & Casey, P. (1993). Low-birth-weight infants born to adolescent mothers: Effects of coresidency with grandmother on child development. *JAMA,* 269: 1396-1400.

Rosenbaum, E. and D Kandel (1990). Early onset of adolescent sexual behavior and drug involvement. *Journal of Marriage and the Family.* 52:783-79.

Simmons , T. and G. O'Neil (2001). Households and families:2000. *Census 2000 Brief.* U.S. Bureau of the Census: Washington DC.

Stack, C. and Burton, L. (1993). Kinscripts. *Journal of Comparative Family Studies*, 24: 157-170.

Thompson, M. Entwisle, D., Alexander, K., and Sundius, M. (1992). The influence of family composition on children's conformity to the student role. *American Educational Research Journal,* 29: 405-424.

Unger, D., & Cooley, M. (1992). Partner and grandmother contact in black and white teen parent families. *Journal of Adolescent Health,* 13: 546-552.

Wilson, W. (1996). *When work disappears: the world of the new urban poor*. New York: Vintage Books.

Wu, L. (1996). Effects of family instability, income and income instability on the risk of a premarital birth. *American Sociological Review* 61: 386-404.

Wu, L., Cherlin, A. & Bumpass, L. (1997). Family structure, early sexual behavior, and premarital births. Institute for Research on Poverty, University of Wisconsin-Madison.

Zill, N. & Peterson, J.L. (1986). Marital disruption, parent-child relationships, and behavior problems in children. *Journal of Marriage and the Family,* 48: 295-307.

Appendix: Scale Properties

(1) *Achievement Test Scores*
Potential Range: 0 to 100
Alpha: 0.9104
Scale is an average of 4 Items:
- 8th grade math standardized test
- 8th grade reading standardized test
- 8th grade science standardized test
- 8th grade history standardized test

(2) *Parents Impose Rules*
Potential Range: 0 to 7
Alpha: 0.7037
Scale is a sum of 7 items:
Are there family rules for your eighth grader about any of the following activities?
- Type of TV programs (0-1)
- Watching TV early or late (0-1)
- Number of hours of TV (0-1)
- TV on school days (0-1)
- Maintain GPA (0-1)
- Do homework (0-1)
- Do chores (0-1)

(3) *Parental Involvement*
Potential Range: 3 to 9
Alpha: 0.6006
Scale is a sum of 3 items:
Since the beginning of the school year, how many times have you discussed the following with your parent/guardian?
- Programs at school (1-3)
- Activities at school (1-3)
- Subject matter at school (1-3)

1 = not at all, 2 = once or twice, and 3 = three times or more

(4) *Extra-Curricular Activities*
Potential Range: 0 to 8
Alpha: 0.6063
Scale is the sum of 8 items:

Has your eighth grader attended classes outside of his or her regular school to study any of the following?

Art (0-1)
Music (0-1)
Dance (0-1)
Language (0-1)
Religion (0-1)
History (0-1)
Computers (0-1)
Other (0-1)

(5) *Cultural Activities*
Potential Range: 0 to 4
Alpha: 0.7949
Scale is a sum of 4 items:

Does your eighth grader take part in any of the following activities?

Concerts of musical events (0-1)
Art museums (0-1)
Science museums (0-1)
History museums (0-1)

(6) *Educational Materials*
Potential Range: 0 to 11
Alpha: 0.8382
Scale is a sum of 11 items:

(Asked of eighth grader) Which of the following does your family have in your home?

Place to study (0-1)
Daily newspaper (0-1)
Regularly received magazine (0-1)
Encyclopedia (0-1)
Atlas (0-1)
Dictionary (0-1)
Typewriter (0-1)
Computer (0-1)
More than 50 books (0-1)
VCR (0-1)
Calculator (0-1)

(7) *School Quality*

Potential Range: 0 to 11

Alpha: 0.8903

Scale is a sum of 11 items:

Do you strongly agree with each of the following statements concerning your eighth grader's school?

School places a high priority on learning (0-1)
Homework assigned is worthwhile (0-1)
Student is challenged at school (0-1)
Student is working hard at school (0-1)
Student enjoys school (0-1)
Standards set by school are realistic (0-1)
School is preparing students well for high school (0-1)
School is preparing students well for college (0-1)
School is a safe place (0-1)
Parents have adequate say in setting school policy (0-1)
Parents work together in supporting school policy (0-1)

Table 1: Summary Statistics

	Mean	Standard Deviation
Number of Observations	11213	
Youth Outcomes		
Graduated from High school	0.849	0.358
Attended College	0.645	0.479
Smokes or Drinks	0.440	0.496
Age of Initiation of Sexual Activity[a]	16.029	1.968
Ever Had Sex	0.755	0.430
Family Structure		
2 Married, Biological Parent Family	0.646	0.478
2 Unmarried, Biological Parent Family	0.024	0.152
Step-Family	0.120	0.325
Single Mother, Solo, Never Married	0.012	0.109
Single Mother, Solo, Divorced	0.109	0.312
Single Father	0.022	0.145
Single Mother, Cohabiting	0.032	0.177
Single Mother, 3 Generation, Never Married	0.003	0.054
Single Mother, 3 Generation, Divorced	0.013	0.111
Grandparent Headed Family	0.020	0.140
Stability Measures		
No Change in Family Structure	0.714	0.452
Number of Times Changed School	1.206	1.506
Student Demographics		
Black	0.112	0.316
Hispanic	0.089	0.285
Female	0.507	0.500
Year of Birth	73.623	0.589
Teenager Has Any Disability	0.165	0.371
Family Size	4.557	1.352
Achievement Test Scores (Index)	51.099	8.833
8th Grade Grades	2.939	0.752
Did not Work (for pay) in 8th Grade	0.294	0.456
Lives in Urban Area	0.246	0.431
Lives in Rural Area	0.318	0.466
Northeast	0.186	0.389
South	0.276	0.447
Midwest	0.357	0.479
West	0.179	0.384
Caregiver Demographics		
Caregiver's Age 59 +	0.011	0.106
Caregiver's Age 58 to 49	0.076	0.264
Caregiver's Age 48 to 44	0.171	0.376
Caregiver's Age 43 to 39	0.334	0.472
Caregiver's Age 38 to 34	0.301	0.459
Caregiver's Age 33 to 29	0.096	0.294
Caregiver's Age Less Than 29	0.004	0.066
Caregiver High School Dropout	0.160	0.367

Caregiver High School Graduate	0.222	0.416
Caregiver Some College	0.414	0.493
Caregiver College Graduate	0.204	0.403
Economic Resources		
Family Income (8th Grade)	39,280	36,740
Parenting Variables		
Parents Impose Rules (Index)	5.094	1.725
Parental Monitoring	1.939	0.991
Parental Involvement (Index)	7.177	1.490
Caregiver's Educational Expectation is High School	0.306	0.461
Caregiver's Educational Expectation is College	0.448	0.497
Caregiver's Educational Expectation is Grad School	0.246	0.430
Home and School Environment		
Educational Materials (Index)	8.145	2.049
Extra-Curriculars (Index)	1.295	1.366
Cultural Activities (Index)	2.088	1.459
School Quality (Index)	2.130	2.848
% Minority in School	22.903	28.333
% Free Lunch in School	23.188	22.674

a Conditional upon ever having sex

Table 2: Mean Levels of Control Variables by Family Structure Type

	2 Married, Biological Parent Family	2 Unmarried, Biological Parent Family	Step-Family	Single Mother, Solo, Never Married	Single Mother, Solo, Divorced	Single Father	Single Mother, Cohabiting	Single Mother, 3 Generation, Never Married	Single Mother, 3 Generation, Divorced	Grandparent Headed Family
Number of Observations	7601	277	1122	124	1189	203	342	30	146	240
Youth Outcomes										
Graduated from High school	0.90	0.74	0.78	0.69	0.75	0.79	0.72	0.91	0.81	0.61
Attended College	0.71	0.53	0.54	0.47	0.52	0.59	0.47	0.72	0.48	0.43
Smokes or Drinks	0.40	0.50	0.52	0.51	0.47	0.64	0.56	0.14	0.44	0.55
Age of Initiation of Sexual Activity[a]	16.32	16.03	15.54	15.08	15.71	15.35	15.69	15.32	15.55	14.85
Ever Had Sex	0.72	0.74	0.83	0.75	0.83	0.88	0.84	0.61	0.78	0.76
Stability Measures										
No Change in Family Structure	0.80	0.57	0.62	0.74	0.54	0.41	0.43	0.75	0.53	0.54
Number of Times Changed School	0.92	1.32	2.11	1.08	1.42	1.68	1.93	0.82	1.50	2.03
Student Demographics										
Black	0.06	0.22	0.09	0.71	0.22	0.16	0.20	0.69	0.27	0.47
Hispanic	0.09	0.13	0.07	0.11	0.10	0.04	0.10	0.06	0.10	0.12
Female	0.50	0.51	0.53	0.52	0.51	0.38	0.54	0.67	0.51	0.56
Year of Birth	73.67	73.52	73.55	73.56	73.55	73.48	73.60	73.44	73.63	73.46
Teenager Has Any Disability	0.15	0.22	0.19	0.27	0.17	0.23	0.18	0.36	0.27	0.28
Family Size	4.77	4.84	4.72	3.59	3.53	3.13	4.79	3.92	4.33	4.02
Achievement Test Scores (Index)	52.18	49.67	50.71	44.91	49.26	48.19	47.67	46.86	48.56	45.01
8th Grade Grades	3.04	2.84	2.78	2.67	2.75	2.64	2.76	2.92	2.69	2.53
Did not Work (for pay) in 8th Grade	0.29	0.31	0.29	0.42	0.29	0.27	0.27	0.41	0.32	0.30
Caregiver Demographics										
Caregiver's Age	40.94	36.10	37.17	36.16	39.54	43.40	36.98	36.22	39.38	47.30
Caregiver High School Dropout	0.14	0.28	0.19	0.29	0.16	0.16	0.23	0.16	0.19	0.37
Caregiver High School Graduate	0.23	0.17	0.23	0.17	0.22	0.14	0.20	0.20	0.21	0.13
Caregiver Some College	0.39	0.40	0.46	0.47	0.46	0.43	0.50	0.64	0.49	0.34
Caregiver College Graduate	0.24	0.15	0.12	0.08	0.16	0.27	0.07	0.00	0.12	0.15
Economic Resources										
Family Income (8th Grade)	45890	27250	37500	12890	20974	37818	19457	12614	16619	18246

Parenting Variables										
Parents Impose Rules (Index)	5.13	4.98	5.28	5.35	4.78	5.16	5.07	4.63	5.01	4.51
Parental Monitoring	1.94	1.96	1.88	1.89	1.94	2.42	2.03	1.92	1.79	1.76
Parental Involvement (Index)	7.28	7.00	7.11	6.96	6.96	6.89	7.08	6.60	6.98	6.61
Caregiver's Ed. Expect. is H. S.	0.28	0.41	0.35	0.41	0.34	0.36	0.36	0.33	0.34	0.36
Caregiver's Ed. Expect. is College	0.47	0.35	0.45	0.36	0.40	0.39	0.40	0.49	0.42	0.38
Caregiver's Ed. Expect. is Grad Sch.	0.25	0.25	0.20	0.23	0.26	0.24	0.24	0.18	0.24	0.26
Neighborhood and School Environment										
Educational Materials (Index)	8.47	7.74	7.95	6.74	7.36	7.63	6.99	6.85	7.78	7.32
Extra-Curriculars (Index)	1.42	1.04	1.06	1.21	1.18	0.86	0.89	0.99	0.99	0.89
Cultural Activities (Index)	2.19	1.93	1.97	2.23	1.92	1.96	1.77	1.34	1.69	1.47
School Quality (Index)	2.24	2.46	1.65	2.48	1.98	1.97	1.95	1.87	2.21	2.23
% Minority in School	19.65	32.28	20.73	57.04	30.39	23.56	34.34	38.98	32.85	40.88
% Free Lunch in School	20.84	29.42	23.66	44.06	28.05	22.97	30.53	29.10	26.97	34.72

a Conditional upon ever having sex

Table 3. The Relationship Between 8th Grade Family Structure and High School Graduation

	Model 1	Model 2	Model 3	Model 4	Model 5
Single Mother, 3 Generation, Never Married	.052 (.026)*	.057 (.023)**	.059 (.019)**	.061 (.017)**	.059 (.016)**
Single Mother, 3 Generation, Divorced	-.027 (.039)	-.020 (.039)	-.002 (.032)	.000 (.030)	.001 (.030)
2 Unmarried, Biological Parent Family	-.089 (.039)**	-.079 (.038)*	-.063 (.035)*	-.059 (.033)*	-.057 (.032)*
Step-Family	-.044 (.016)**	-.033 (.015)*	-.033 (.015)*	-.033 (.015)*	-.031 (.015)*
Single Mother, Never Married	-.126 (.052)**	-.095 (.045)**	-.072 (.041)*	-.074 (.041)*	-.067 (.039)*
Single Mother, Divorced	-.082 (.022)**	-.076 (.022)**	-.055 (.020)**	-.050 (.019)**	-.045 (.018)**
Single Father	-.026 (.053)	-.032 (.046)	-.028 (.043)	-.029 (.042)	-.021 (.038)
Single Mother, Cohabiting	-.088 (.028)**	-.072 (.026)**	-.054 (.024)**	-.054 (.024)*	-.042 (.022)*
Grandparent Headed Family	-.122 (.048)**	-.097 (.049)*	-.077 (.045)*	-.069 (.042)*	-.072 (.042)*
No Change in Family Structure	.039 (.010)**	.037 (.010)**	.035 (.010)**	.034 (.010)**	.032 (.010)**
# of Times Changed School	-.014 (.003)**	-.014 (.003)**	-.013 (.003)**	-.013 (.003)**	-.012 (.003)**
Black	.006 (.019)	.004 (.019)	.010 (.018)	.010 (.016)	.029 (.012)
Hispanic	-.000 (.014)	.014 (.012)	.018 (.011)	.018 (.011)	.035 (.009)
Female	-.002 (.009)	.003 (.009)	.003 (.009)	.001 (.009)	-.004 (.008)
Birth Year	.066 (.006)**	.059 (.006)**	.057 (.006)**	.056 (.006)**	.054 (.006)**
Teenager Has Any Disability	-.015 (.011)	-.020 (.011)*	-.020 (.011)*	-.019 (.011)	-.022 (.011)
Family Size	-.006 (.005)	-.003 (.004)	-.003 (.004)	-.002 (.004)	-.002 (.004)
Achievement Test Scores (Index)	.005 (.001)**	.004 (.001)**	.004 (.001)**	.003 (.001)**	.003 (.001)**
8th Grade Grades	.083 (.008)**	.077 (.008)**	.074 (.007)**	.071 (.007)**	.069 (.007)**
Did not Work in 8th Grade	-.002 (.010)	.001 (.009)	.001 (.009)	.003 (.009)	.006 (.009)
Caregiver's Age 58 to 49		-.013 (.040)	-.011 (.039)	-.010 (.039)	-.012 (.037)
Caregiver's Age 48 to 44		.023 (.031)	.024 (.030)	.025 (.030)	.023 (.028)
Caregiver's Age 43 to 39		.018 (.034)	.017 (.033)	.018 (.033)	.016 (.031)
Caregiver's Age 38 to 34		.006 (.035)	.008 (.033)	.006 (.033)	.005 (.031)
Caregiver's Age 33 to 29		-.004 (.038)	-.000 (.035)	-.002 (.036)	-.001 (.034)
Caregiver's Age Less Than 29		.041 (.028)	.039 (.027)	.041 (.026)	.038 (.026)
Caregiver High School Graduate		.042 (.009)**	.036 (.009)**	.035 (.009)**	.029 (.009)**
Caregiver Some College		.050 (.011)**	.040 (.010)**	.036 (.010)**	.026 (.009)**
Caregiver College Graduate		.076 (.011)**	.061 (.012)**	.059 (.012)**	.046 (.013)**
Family Income / 10,000			.008 (.002)**	.008 (.002)**	.006 (.002)**
Parents Impose Rules				.006 (.003)*	.004 (.002)*
Parental Monitoring				.002 (.004)	.001 (.004)
Parental Involvement				.007 (.003)*	.005 (.003)*
Expectation for College				.008 (.009)	.005 (.009)
Expectation for Grad School				-.010 (.011)	-.013 (.011)
Educational Materials (Index)					.004 (.002)
Extra-Curriculars (Index)					.014 (.004)**
Cultural Activities (Index)					.001 (.003)
School Quality (Index)					.002 (.001)
% Minority in School					-.001 (.000)**
% Free Lunch in School					-.000 (.000)
Log Likelihood Value	-3519.25	-3452.07	-3428.81	-3408.76	-3366.56
Number of Observations	11213	11213	11213	11213	11213

Note: Marginal effects from a probit model are reported. Standard errors are reported in parentheses and correct for intra-cluster correlation at the 8th grade school level. High school graduation status is measured as of the third follow-up survey. Models also control for urbanicity and region (not reported). * p <.05 ** p<.01

Table 4. The Relationship Between 8th Grade Family Structure and College Enrollment

	Model 1	Model 2	Model 3	Model 4	Model 5
Single Mother, 3 Generation, Never Married	.098 (.099)	.138 (.085)	.164 (.073)*	.171 (.074)*	.170 (.075)*
Single Mother, 3 Generation, Divorced	-.147 (.055)**	-.123 (.058)*	-.069 (.054)	-.067 (.053)	-.073 (.051)
2 Unmarried, Biological Parent Family	-.111 (.050)*	-.090 (.051)	-.059 (.049)	-.051 (.048)	-.054 (.049)
Step-Family	-.095 (.022)**	-.058 (.023)*	-.055 (.023)*	-.054 (.024)*	-.044 (.023)
Single Mother, Never Married	-.140 (.064)*	-.079 (.063)	-.036 (.060)	-.037 (.060)	-.034 (.060)
Single Mother, Divorced	-.134 (.027)**	-.123 (.029)**	-.074 (.028)**	-.068 (.027)**	-.065 (.027)*
Single Father	.010 (.095)	-.022 (.082)	-.008 (.077)	-.007 (.073)	.011 (.068)
Single Mother, Cohabiting	-.136 (.039)**	-.093 (.039)*	-.051 (.037)*	-.055 (.037)	-.038 (.035)
Grandparent Headed Family	-.109 (.069)	-.105 (.079)	-.064 (.074)	-.057 (.072)	-.067 (.071)
No Change in Family Structure	.084 (.016)**	.077 (.016)**	.076 (.016)**	.074 (.016)**	.065 (.016)**
# of Times Changed School	-.014 (.005)**	-.015 (.005)**	-.014 (.005)**	-.015 (.005)**	-.013 (.005)**
Black	.026 (.028)	.023 (.031)	.038 (.030)	.034 (.030)	.055 (.029)
Hispanic	.016 (.022)	.057 (.021)**	.072 (.020)**	.072 (.020)**	.093 (.021)**
Female	.049 (.015)**	.065 (.014)**	.066 (.014)**	.062 (.014)**	.048 (.014)**
Birth Year	.097 (.012)**	.090 (.012)**	.088 (.012)**	.084 (.012)**	.084 (.012)**
Teenager Has Any Disability	-.003 (.020)	-.021 (.019)	-.021 (.019)	-.017 (.019)	-.024 (.019)
Family Size	-.025 (.007)**	-.016 (.006)*	-.014 (.006)*	-.012 (.006)	-.011 (.006)
Achievement Test Scores (Index)	.016 (.001)**	.013 (.001)**	.012 (.001)**	.011 (.001)**	.010 (.001)**
8th Grade Grades	.182 (.012)**	.171 (.012)**	.167 (.012)**	.157 (.012)**	.157 (.012)**
Did not Work in 8th Grade	-.003 (.016)	.002 (.016)	.003 (.016)	.008 (.016)	.015 (.016)
Caregiver's Age 58 to 49		-.019 (.071)	-.014 (.070)	-.017 (.071)	-.030 (.072)
Caregiver's Age 48 to 44		-.001 (.068)	.001 (.066)	-.001 (.067)	-.010 (.068)
Caregiver's Age 43 to 39		-.010 (.068)	-.011 (.066)	-.011 (.068)	-.021 (.068)
Caregiver's Age 38 to 34		-.067 (.070)	-.059 (.067)	-.063 (.069)	-.067 (.068)
Caregiver's Age 33 to 29		-.107 (.075)	-.093 (.073)	-.099 (.074)	-.093 (.074)
Caregiver's Age Less Than 29		.061 (.085)	.063 (.082)	.058 (.082)	.052 (.084)
Caregiver High School Graduate		.069 (.019)**	.052 (.019)**	.046 (.019)*	.028 (.019)
Caregiver Some College		.147 (.020)**	.120 (.020)**	.109 (.020)**	.079 (.020)**
Caregiver College Graduate		.269 (.019)**	.224 (.021)**	.212 (.022)**	.173 (.024)**
Family Income / 10,000			.024 (.003)**	.025 (.003)**	.017 (.003)**
Parents Impose Rules				.006 (.005)	.000 (.004)
Parental Monitoring				.006 (.007)	.004 (.007)
Parental Involvement				.015 (.005)**	.009 (.005)
Expectation for College				.084 (.016)**	.075 (.016)**
Expectation for Grad School				.049 (.018)**	.039 (.018)*
Educational Materials (Index)					.013 (.004)**
Extra-Curriculars (Index)					.038 (.006)**
Cultural Activities (Index)					-.001 (.005)
School Quality (Index)					.011 (.002)**
% Minority in School					-.000 (.000)
% Free Lunch in School					-.001 (.000)**
Log Likelihood Value	-5572.56	-5349.27	-5280.02	-5238.09	-5147.44
Number of Observations	11213	11213	11213	11213	11213

Note: Marginal effects from a probit model are reported. Standard errors are reported in parentheses and correct for intra-cluster correlation at the 8th grade school level. College attendance status is measured as of the third follow-up survey. Models also control for urbanicity and region (not reported). * p <.05 ** p<.01

Table 5. The Relationship Between 8th Grade Family Structure and 12th Grade Smoking and Drinking

	Model 1	Model 2	Model 3	Model 4	Model 5
Single Mother, 3 Generation, Never Married	-.276 (.075)**	-.277 (.076)**	-.274 (.077)**	-.274 (.077)**	-.275 (.078)**
Single Mother, 3 Generation, Divorced	-.028 (.062)	-.033 (.063)	-.028 (.064)	-.029 (.063)	-.030 (.063)
2 Unmarried, Biological Parent Family	.055 (.041)	.046 (.042)	.049 (.042)	.046 (.042)	.046 (.042)
Step-Family	.066 (.024)**	.060 (.024)**	.061 (.024)**	.061 (.025)**	.059 (.025)**
Single Mother, Never Married	.104 (.066)	.095 (.067)	.099 (.067)	.098 (.067)	.102 (.067)
Single Mother, Divorced	.007 (.024)	.004 (.024)	.009 (.025)	.005 (.024)	.006 (.024)
Single Father	.138 (.063)*	.129 (.055)*	.131 (.055)*	.130 (.055)*	.125 (.055)*
Single Mother, Cohabiting	.084 (.040)*	.078 (.041)	.082 (.041)*	.081 (.041)*	.079 (.041)
Grandparent Headed Family	.054 (.068)	.028 (.069)	.032 (.069)	.030 (.067)	.033 (.066)
No Change in Family Structure	-.102 (.016)**	-.102 (.016)**	-.102 (.016)**	-.100 (.016)**	-.100 (.016)**
# of Times Changed School	.002 (.005)	.002 (.005)	.002 (.005)	.002 (.005)	.001 (.005)
Black	-.146 (.027)**	-.147 (.026)**	-.146 (.027)**	-.149 (.026)**	-.152 (.027)**
Hispanic	-.029 (.023)	-.047 (.023)*	-.045 (.023)	-.049 (.023)*	-.051 (.026)
Female	-.079 (.015)**	-.083 (.015)**	-.083 (.015)**	-.083 (.015)**	-.078 (.015)**
Birth Year	-.080 (.012)**	-.076 (.012)**	-.076 (.012)**	-.075 (.012)**	-.076 (.012)**
Teenager Has Any Disability	.013 (.020)	.015 (.019)	.015 (.019)	.013 (.019)	.015 (.018)
Family Size	.000 (.006)	-.002 (.006)	-.002 (.006)	-.003 (.006)	-.003 (.006)
Achievement Test Scores (Index)	-.009 (.001)**	-.008 (.001)**	-.008 (.001)**	-.008 (.001)**	-.008 (.001)**
8th Grade Grades	-.098 (.011)**	-.095 (.011)**	-.095 (.011)**	-.093 (.012)**	-.091 (.012)**
Did not Work in 8th Grade	-.062 (.015)**	-.064 (.015)**	-.064 (.015)**	-.065 (.015)**	-.065 (.015)**
Caregiver's Age 58 to 49		-.066 (.066)	-.066 (.066)	-.063 (.066)	-.063 (.065)
Caregiver's Age 48 to 44		-.073 (.065)	-.072 (.065)	-.070 (.065)	-.071 (.063)
Caregiver's Age 43 to 39		-.061 (.065)	-.060 (.065)	-.059 (.065)	-.059 (.063)
Caregiver's Age 38 to 34		-.055 (.066)	-.053 (.065)	-.050 (.065)	-.050 (.063)
Caregiver's Age 33 to 29		-.050 (.067)	-.048 (.067)	-.044 (.067)	-.044 (.065)
Caregiver's Age Less Than 29		-.170 (.087)	-.170 (.087)	-.169 (.086)	-.169 (.085)
Caregiver High School Graduate		-.067 (.021)**	-.069 (.021)**	-.066 (.021)**	-.066 (.021)**
Caregiver Some College		-.076 (.020)**	-.079 (.020)**	-.074 (.020)**	-.072 (.021)**
Caregiver College Graduate		-.078 (.025)**	-.085 (.027)**	-.083 (.027)**	-.077 (.028)**
Family Income / 10,000			.002 (.002)	.002 (.002)	.002 (.002)
Parents Impose Rules				-.003 (.004)	-.002 (.004)
Parental Monitoring				-.003 (.006)	-.003 (.006)
Parental Involvement				-.003 (.005)	-.002 (.005)
Expectation for College				-.037 (.016)*	-.036 (.016)*
Expectation for Grad School				.007 (.020)	.008 (.020)
Educational Materials (Index)					.000 (.004)
Extra-Curriculars (Index)					-.013 (.006)*
Cultural Activities (Index)					.003 (.005)
School Quality (Index)					-.003 (.002)
% Minority in School					.000 (.000)
% Free Lunch in School					-.000 (.000)
Log Likelihood Value	-6974.06	-6955.79	-6954.71	-6945.57	-6938.75
Number of Observations	11213	11213	11213	11213	11213

Note: Marginal effects from a probit model are reported. Standard errors are reported in parentheses and correct for intra-cluster correlation at the 8th grade school level. Smoking and drinking behavior is measured at the second follow-up survey. Models also control for urbanicity and region (not reported). * p <.05 ** p<.01

Table 6. The Relationship Between 8th Grade Family Structure and Sexual Initiation

	Model 1	Model 2	Model 3	Model 4	Model 5
Single Mother, 3 Generation, Never Married	-.015 (.018)	-.020 (.016)	-.019 (.016)	-.019 (.016)	-.019 (.016)
Single Mother, 3 Generation, Divorced	.013 (.010)	.010 (.010)	.011 (.010)	.011 (.010)	.012 (.010)
2 Unmarried, Biological Parent Family	.002 (.007)	.000 (.007)	.001 (.007)	.000 (.007)	.001 (.007)
Step-Family	.026 (.006)**	.022 (.005)**	.022 (.005)**	.023 (.005)**	.022 (.005)**
Single Mother, Never Married	.007 (.014)	.002 (.012)	.003 (.013)	.003 (.013)	.005 (.013)
Single Mother, Divorced	.014 (.004)**	.013 (.004)**	.014 (.004)**	.013 (.004)**	.014 (.004)**
Single Father	.026 (.011)**	.028 (.011)**	.028 (.011)**	.028 (.011)**	.027 (.011)**
Single Mother, Cohabiting	.022 (.007)**	.018 (.007)**	.019 (.007)**	.018 (.007)**	.019 (.007)**
Grandparent Headed Family	.015 (.015)	.015 (.016)	.016 (.016)	.015 (.015)	.017 (.015)
No Change in Family Structure	-.007 (.003)*	-.006 (.003)*	-.006 (.003)*	-.006 (.003)*	-.006 (.003)*
# of Times Changed School	.003 (.001)**	.003 (.001)**	.003 (.001)**	.002 (.001)**	.002 (.001)**
Black	.011 (.006)*	.010 (.006)*	.011 (.006)*	.009 (.005)	.012 (.006)*
Hispanic	-.001 (.004)	-.004 (.004)	-.003 (.004)	-.004 (.004)	-.002 (.004)
Female	-.019 (.002)**	-.019 (.002)**	-.019 (.002)**	-.019 (.002)**	-.018 (.002)**
Birth Year	.003 (.002)	.003 (.002)	.003 (.002)	.003 (.002)	.003 (.002)
Teenager Has Any Disability	-.004 (.003)	-.004 (.003)	-.004 (.003)	-.004 (.003)	-.004 (.003)
Family Size	-.004 (.001)**	-.005 (.001)**	-.005 (.001)**	-.005 (.001)**	-.005 (.001)**
Achievement Test Scores (Index)	-.000 (.000)**	-.000 (.000)	-.000 (.000)	-.000 (.000)*	-.000 (.000)*
8th Grade Grades	-.015 (.002)**	-.014 (.002)**	-.014 (.002)**	-.014 (.002)**	-.014 (.002)**
Did not Work in 8th Grade	-.007 (.002)**	-.007 (.002)**	-.007 (.002)**	-.007 (.002)**	-.006 (.002)**
Caregiver's Age 58 to 49		.002 (.013)	.002 (.013)	.003 (.013)	.003 (.012)
Caregiver's Age 48 to 44		-.001 (.013)	-.001 (.013)	-.000 (.012)	.000 (.012)
Caregiver's Age 43 to 39		.003 (.012)	.003 (.012)	.004 (.012)	.005 (.012)
Caregiver's Age 38 to 34		.004 (.013)	.004 (.013)	.005 (.012)	.006 (.012)
Caregiver's Age 33 to 29		.020 (.016)	.021 (.016)	.022 (.016)	.022 (.015)
Caregiver's Age Less Than 29		.008 (.018)	.008 (.018)	.007 (.017)	.008 (.017)
Caregiver High School Graduate		-.006 (.004)	-.007 (.004)	-.006 (.004)	-.006 (.004)
Caregiver Some College		-.008 (.004)*	-.008 (.004)*	-.008 (.004)*	-.008 (.004)*
Caregiver College Graduate		-.013 (.004)**	-.015 (.004)**	-.015 (.004)**	-.014 (.004)**
Family Income / 10,000			.001 (.000)	.000 (.000)	.000 (.000)
Parents Impose Rules				-.001 (.001)	-.001 (.001)
Parental Monitoring				.000 (.001)	.000 (.001)
Parental Involvement				-.001 (.001)	-.001 (.001)
Expectation for College				.001 (.002)	.001 (.003)
Expectation for Grad School				.013 (.003)**	.013 (.003)**
Educational Materials (Index)					.001 (.001)*
Extra-Curriculars (Index)					.003 (.001)**
Cultural Activities (Index)					.000 (.001)
School Quality (Index)					-.001 (.000)*
% Minority in School					-.000 (.000)
% Free Lunch in School					.000 (.000)
Log Likelihood Value	-23108.41	-23067.15	-23064.61	-23034.17	-23007.38
Number of Observations	88597	88597	88597	88597	88597

Note: Marginal effects from a discrete-time event history model (estimated by a probit) are reported. Standard errors are reported in parentheses and correct for intra-cluster correlation at the 8th grade school level. The number of observations reflects the total person-years at risk; there are 11213 underlying individuals. Age of sexual initiation is measured at the third follow-up survey. The models also include controls for urbanicity, region, and a set of dummy variables to allow for a time-varying hazard rate. $p < .05$ ** $p < .01$

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

REPRODUCTION BASIS

☑ This document is covered by a signed "Reproduction Release (Blanket) form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☐ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").