

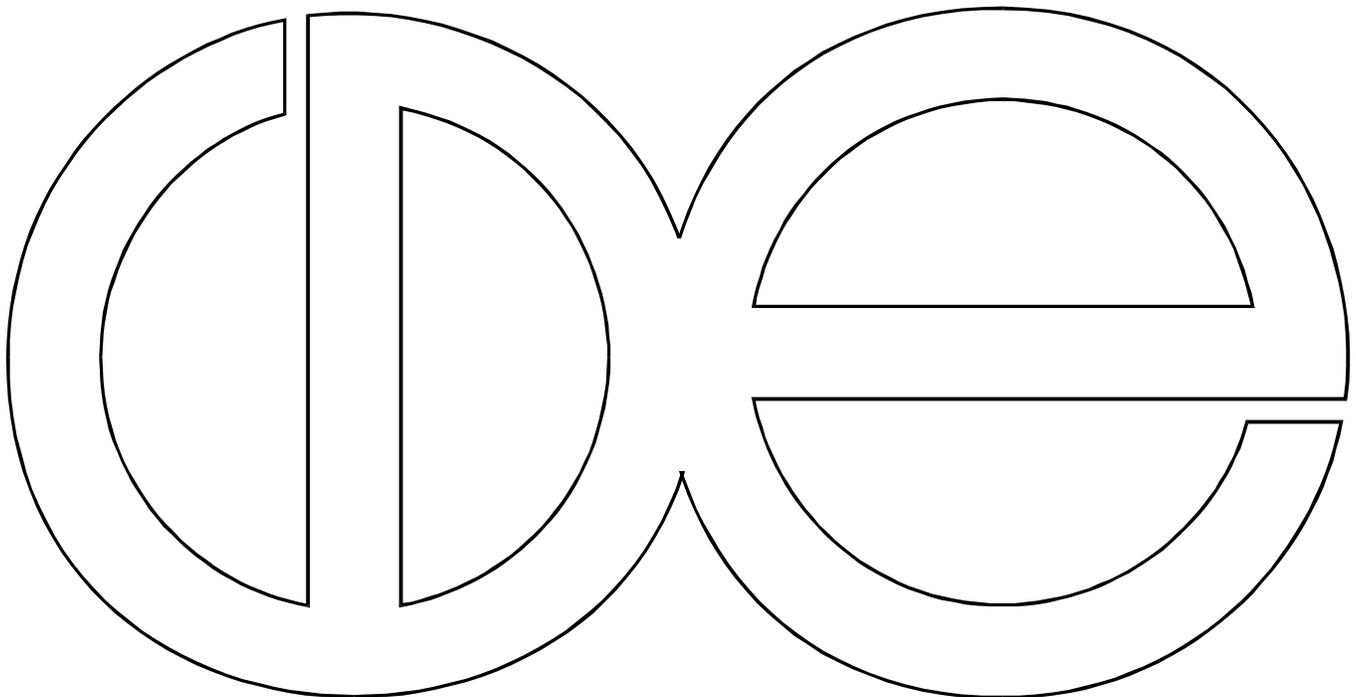
**Center for Demography and Ecology**

**University of Wisconsin-Madison**

**The Effects of Changing Family Structures on Higher  
Education for Black and White  
American Cohorts: 1908-1969**

**Wendy Y. Carter**

**CDE Working Paper No. 96-22**



**The Effects of Changing Family Structures on Higher Education for Black and  
White American Cohorts: 1908-1969**

CDE Working Paper No. 96-22

Wendy Y. Carter, Ph.D.  
Assistant Professor of Sociology  
Department of Social and Behavioral Sciences  
Arizona State University West  
4701 West Thunderbird Road  
P.O. Box 37100  
Phoenix, AZ 85069-7100

Submission for Population Association of America  
1999 Annual Meeting

## Abstract

Social scientists have been concerned with the effect of social origins on educational attainment since the early days of the discipline. One important aspect of social origins that continues to occupy the interest of researchers and the public is the family. The issue of race has also been central to this concern. Recent demographic changes in mortality and marriage behavior have had a profound impact on the increasing proportion of children who will reach age eighteen without both biological parents. This research investigates the effects of trends in family and household structures on the educational attainment for recent black and white cohorts in the United States.

We know from previous cross-sectional reports that those who grow up with both biological parents are more likely to attain higher levels of education than those who do not. The weakness of that approach was that it did not account for changes in the effects of family structure over time. This paper addresses that weakness in greater detail.

Using three national surveys, this study considers the implication of changes in the effect of different family types on rates of high school graduation, college attendance, and college graduation.

The research finds that at any given time, growing up in a non-intact family clearly has a negative effect on adult educational attainment. However, the analysis showed that the effect is somewhat more diverse than previously recognized. For the most part, at higher levels of educational attainment there were no significant differences in the effects of family structure over time. The predicted rates for college attendance and college graduation showed little variation over time. However, significant racial differences in the effects of family structure over time for two educational outcomes do exist. If the dependent variable is the number of years of schooling completed, time is a factor to be considered. For whites the comparative advantage of growing up in an intact family remains the same over time. For blacks this advantage declines with each cohort.

With respect to high school completion, the analysis reveals significant changes in the effect of family structure on rates of high school graduation for whites. In contrast, there appear to be no significant changes in the influence of family structure on high school completion for blacks.

## *Introduction*

A considerable amount of attention has been devoted to studying the persistence of social inequality from generation to generation and the role of schooling in attenuating these inequalities (Blau & Duncan, 1967; Jencks, et al., 1972; Hauser and Featherman, 1976; Mare, 1980). These findings suggest that the life-course of parents and children are linked in such a way that decisions made by one generation have severe consequences for the life-course of the next generation. The studies find an educational advantage for adults who lived with both biological parents during childhood. Because this family type is the traditional ideal against which all others are compared, these findings tell us little about the effects of growing up in alternative family types. As indicated earlier, Census data show that “non-traditional” families make up a disproportionate share of all families and an increasing share of the poverty population. Many social scientists agree that educational advancement is one avenue out of poverty, but children not raised by both biological parents generally acquire significantly less education.

## *Past Research on Family and Educational Attainment*

Using two major Occupational Change in a Generation surveys (OCGI, 1962; OCGII, 1973), researchers have generated considerable data on the trends in educational inequality for black and white male cohorts born prior to World War II (Blau and Duncan, 1967; Hauser and Featherman, 1976; Featherman and Hauser, 1978; Sewell and Hauser, 1975; Mare, 1980; Kuo and Hauser, 1995). In general, the educational attainment literature suggests that the influence of family background on schooling achievement has been declining over time for blacks and whites. In these analyses, the components of family background often included an array of social and economic factors which include parental education, parental occupational status, income, race, geographic location, family size and family structure. Typically, these studies almost always

include family structure as an independent variable because of its significance for adult educational attainment and its association with family socioeconomic status. Family structure is often loosely defined as intact vs. non-intact. To this extent, changes in family structure over time have been documented in the same literature. Given the complexity and variety of changes that have taken place in the American family over the past four decades, the use of a traditional dichotomous measure of family structure may no longer adequately characterize the patterns of family change over time.

Aside from the status attainment and mobility literature, the general body of family research has not generated much detailed information on cohort changes in family structure. Accordingly, these studies provide results that are based on more than one cohort. The most consistent finding drawn from this literature suggests that educational attainment varies systematically with family structure. Growing up in a “non-intact” family setting has substantial negative effects on educational success (McLanahan, 1985; Astone and McLanahan, 1991; Sandefur, McLanahan and Wojtkiewicz, 1992). For example, Sandefur, McLanahan and Wojtkiewicz (1992) report that adolescents who lived in single parent families, in step-families or with neither parent were less likely to graduate from high school than those who lived with both biological parents. These findings have been replicated using several cross-sectional data sets and appear to be consistent across many racial and ethnic groups in the United States (Sandefur, McLanahan, and Wojtkiewicz, 1992; McLanahan and Sandefur, 1994).

Like the status attainment research, these studies have substantiated the educational advantage of growing up in an intact family, however they do not address the global trends in educational achievement. These trends suggest that each generation has acquired more education than the previous one. By including more than one cohort in these analyzes it is difficult to distinguish short-term effects from long-term trends. Thus the adverse effects of growing up in a non-intact family might be mitigated by the overall educational upgrading of each generation or by a decline in these effects over time.

Though past research has compared and documented racial differences in educational attainment, many of the components of these differences have been analyzed only recently. Historically, blacks have been at an educational disadvantage relative to whites because of several factors: socioeconomic differences, lower levels of parental education, ethnic and racial discrimination in schools, different community characteristics based on class and race, group differences in values placed on formal schooling, and marked differences in family formation. Blacks also have higher rates of poverty and a lower median family income than whites with similar levels of educational attainment, family composition and patterns of work (U.S. Bureau of Census, 1990). These differences in outcomes suggest that education, family composition and patterns of work might play different roles in terms of social mobility for different racial groups. While many social factors contribute to racial and ethnic differences in educational attainment, this study will focus on one specific aspect of social change, the family.

Recent studies that have addressed the adverse effects of the growing number of “broken families” in great detail have not considered possible changes in these effects over time. They assume that the relative advantages of growing up in an intact family have remained constant over

time. Secular increases in marital disruption and non-marital fertility suggest that children's experiences today are different from those of children who grew up a generation ago. Can the results of these studies be generalized to a population of adults who grew up five decades ago? Growing up in a step or single parent family today might be a different experience than it was a generation or two ago. Perhaps the disadvantage of growing up in a non-intact family has declined as the prevalence of step and single parent families has increased.

The early status attainment researchers used the OCG surveys to assess the trends in educational attainment by measuring the number of years of schooling completed. Although previous analyses of these data used a simple measure of family structure, they suggest that the negative impact of "broken families" appears to have declined over time. Similarly, this paper investigates the trends in educational attainment and family structure, but measures the latter in greater detail than the early status attainment research.

This paper begins by considering the effects of family structure and social background on the four indicators of educational attainment, (1) the number of years of schooling completed, (2) high school graduation, (3) college attendance, (4) and college graduation. The first section uses a linear regression model to estimate the average number of years of schooling completed. The next three sections use a logit model to estimate cohort-specific effects of family structure on rates of high school graduation, college attendance, and college graduation respectively. Within each section the regression model and the control variables are the same within each cohort. The main purpose of this paper is to answer two questions. (1) Do the effects of family structure change over time? (2) Are there racial differences in the effects of family structure over time? The last section provides a summary and conclusion.

### *Factors Increasing the Prevalence of Single Mother Families*

Several researchers have examined the social and economic outcomes of adults who have been reared in single and step-parent families. Adults who were raised by single parents experience lower educational and occupational attainment, higher rates of teen births, and greater incidences of idleness (Garfinken and McLanahan, 1986; Krein and Beller, 1988; McLanahan and Sandefur, 1994). The negative outcomes associated with being raised in a non-intact family arouse much concern as non-intact families become more prevalent.

McLanahan and Sandefur (1994) point to three factors that have increased the prevalence of single mother families over the past three decades. The first two factors deal with the growing economic independence of women. First, they suggest that women's economic independence allows women to become more selective in the choices that they make with regard to marriage and divorce. Women who have their own source of income can leave a bad marriage or decide not to get married if they become pregnant. Also, they conclude that "each new cohort of young women has entered the labor force in greater proportions and has stayed at work longer than the previous cohort" (McLanahan and Sandefur, 1994;141).

The second factor contributing to secular increases in single mother families is the decline in men's earnings relative to women's. The decline in men's earnings reduced the economic benefits of marriage. The third factor is that changing social mores reduced the stigma associated with divorce and non-marital childbearing. Single motherhood has become a more acceptable lifestyle.

The available evidence indicates that the effects of family structure on educational attainment should become less influential over time. It is possible that secular changes in marital

disruption and non-marital fertility have been met with institutionalized changes in the educational process. For example, Mare (1995) suggests that the increase in the number of persons attending nursery school and kindergarten has been fueled by the increase in the number of mothers working full-time. He suggests that early childhood programs improved the educational prospects of disadvantaged children. Because highly educated and upper income families also participate in these early childhood programs, the educational inequalities among families are likely to persist well into the future.

Other changes in the educational system have occurred as well. Some school districts in the U.S. have extended the school year. Others have extended the school day with full-day kindergarten and before and after-school programs.

#### *Methods, Data and Analytic Strategy*

This section describes the data and three statistical tests used to investigate the relative importance of family structure over time.

The data used for this study come from three recent national surveys of American households: The General Social Survey 1972-1994 (GSS), The Survey of Income and Program Participation Personal History Topical Module (SIPP) 1986-1988, and two waves of the National Survey of Families and Households 1988-1994 (NSFH1 and NSFH2). These files are sufficiently large for reliable sub-population estimates, and they include detailed information on household composition and other social background characteristics. They also provide measures of schooling which include number of years completed and the degree attained. In each survey, respondents were asked to recall their family experiences while growing up and to report their past educational attainment levels.

Each survey provides a nationally representative cross-sectional sample of the working-age population of the United States. Nonetheless, there is some variation across the surveys in terms of certain oversamples and the detail of information obtained. Wherever possible, attempts were made to construct comparable measures across surveys. We return to this issue later in this chapter when describing how the endogenous and exogenous variables are defined and measured.

In order to cover a maximum time-span and a significant number of individuals, the three cross-sectional data-sets described earlier are merged. Combining the rich data from the GSS, SIPP, and NSFH is ideal for an investigation of cohort change because these surveys afford us the opportunity to explore a timely and sizable sample of American adults born between 1908 and 1969. Furthermore, the use of three data sets provides for a greater number of blacks in each cohort; the cohort size would have been considerably smaller with the use of only two. Because the three surveys are similar in the wording of questions regarding family background and education, we are able to compare the results across data sets. We are also able to explore the trends and effects of family structure on educational attainment over a significant period of time during which educational attainment has been increasing steadily and families have become more diverse.

The pooled sample consists of 73,316 persons age 25 to 69, of whom 64,621 are white and 8,695 are black. Table 1 shows the number of observations by race and cohort in each survey. Since schooling is often completed by age 25, persons who were under age 25 and over 64 at the time of the interview were dropped from the analysis.<sup>1</sup> Therefore, this analysis will be

---

<sup>1</sup>The Census Bureau reported a decline in college enrollment for persons age 18 to 24, the “traditional” college age population. They note that the growth in the total college enrollment increased as a result of a large increase in college enrollment by persons age 25 and over (CPR Pp. 20-487).

limited to five ten-year cohorts born before 1970 (see Table 1).

Most persons born in the youngest cohort (born in 1969) had just recently completed their educational careers as of 1994. In contrast, the oldest cohort, born in 1908, finished their educational careers around the 1930s. Thus, the following analysis covers the mobility processes after the Great Depression to the early 1990s. However, the small size of the oldest cohort limits the conclusions of this research primarily to the reflection of events from 1943 to 1994.

One important consideration for the selection of the variables for this analysis was the comparability across data sets (GSS, SIPP and NSFH) used for estimation purposes. Educational attainment is assumed to be a function of a set of independent family and demographic variables that are common to the three surveys and that have been traditionally linked to student achievement. These include birth cohort, sex, family structure, sibship size, parental education, father's occupation, region (south, non-south) and residence (farm, non-farm).

#### *Survey Comparability and Missing Data*

While every effort was made to define comparable subsamples, some very minor differences still exist. The issue of comparability involves dealing with two different coding schemes for assessing parental education. In the NSFH and the GSS, mother's and father's educational levels are measured as a continuous variable indicating the number of years of schooling completed by the respondent's parents. In the SIPP, parental education is measured by a categorical variable indicating a set number of years of schooling completed. This measure included a separate category for "high school graduate" and "completed four years of college."

---

Using age 25 as the lower age limit creates right censoring of the dependent variable. The most recent cohort might not yet have completed their education.

To make this measure comparable to the NSFH and the GSS, this variable was transformed from a categorical variable into a continuous variable. Parents who were high school and college graduates were assigned a numerical value of 12 and 16 respectively to indicate that they had completed the equivalent years of schooling. Those who had no formal schooling were assigned the value of zero. The transformation of the other educational categories, elementary (1-8 years), high school (1-3 years), and college (1-3 years) proved to be more challenging and required some manipulation of the other two data sets. The historical record shows that blacks' and whites' years of schooling changed dramatically over time, even within these broad categories. Hence, simply substituting the race specific mean would not have captured the true variability in educational attainment for black or white parents. From a pooled GSS and NSFH sample, the race and cohort specific mean level of education were estimated for parents who had completed 1-8 years of elementary school, 1-3 years of high school, and 1-3 years of college. Afterwards, the race and cohort group mean estimates were substituted for the respective educational category in the SIPP sample. In other words, within each racial-cohort group, the educational characteristics of parents in the SIPP data were recoded to match those of similar parents in the GSS and NSFH samples.

Overall, there were also some households for which parental education was not reported, some heads without occupations, and a large number of single-parent families. Consequently, in these cases, there were no data for mother's or father's education. Because black and white differences in educational attainment and family background have changed so dramatically over time, substituting either the race mean or the cohort mean for missing data did not seem feasible. Instead, I recoded the missing cases at the mean values of nonmissing cases in the race and cohort

specific group and introduced a dummy variable for cases with missing data. Persons who had missing information on educational attainment were left out of the sample.

The forthcoming analysis was also conducted using each data set separately before pooling the sample. By pooling the sample the results did not change.

*Dependent Measures: Measuring Educational Attainment*

Educational attainment is assessed as the mean number of grades completed using the linear regression model. In addition, educational attainment is considered as a series of three categorical variables measuring four levels of educational certification. The categorical (0/1) dependent variables were constructed to capture the odds that an adult can make an educational transition given that he/she has successfully completed the previous transition. The same models were specified for blacks and whites.

This study will use several regression equations to display and analyze cohort trends. The analysis will begin by noting the observed mean levels of education for each cohort. Each cohort also has a set of family type proportions which indicate changes in the proportion of adults growing up in a particular family type.

*The Linear model of the Number of Years of Schooling Completed:*

(1)

$$Y_{ij} = \alpha_{kj} + \beta_2 F_{i2} + \beta_3 F_{i3} + \beta_4 F_{i4} + \beta_5 F_{i5} + \beta_6 F_{i6} + \sum \lambda_{kj} X_{ikj} + \delta_2 C_{i2} \dots \delta_5 C_{i5} + \epsilon_{ij}$$

Where  $Y_{ij}$  is the highest grade of schooling completed for the  $i$ th individual in the  $j$ th cohort, the  $\alpha$

is a constant,  $\varepsilon$  is the stochastic disturbance,  $F$  is a series of dichotomous variables for family type for each individual,  $X_{ikj}$  is the value on the  $k$ th social background variable for the  $i$ th individual in the  $j$ th cohort, and  $C$  is a dummy variable for each cohort for each individual.

### *Logit Models of Education Transitions*

First, **high school graduate** is a dichotomous variable coded one if the individual has completed twelve or more years of schooling. This measure includes respondents who have either received a high school diploma or the General Equivalency Degree (GED). Second, among those who have completed high school, **college attendance** is coded one if the respondent has ever attended any type of post-secondary schooling. Third, of those who have attended college, **college graduation** equals one if the respondent has completed sixteen or more years of schooling and zero otherwise.

A logit equation was estimated for each educational transition. Logit models estimate the effects of several variables on the log odds of making a single transition. This paper is concerned with the log odds of graduating from high school, continuing on to college, and graduating from college, taking into account compositional changes in family type and other social background parameters for each cohort. The logit model:

(2)

$$\text{Log}_e \frac{P_{ij}}{(1-P_{ij})} = \alpha + \beta_2 F_{i2} + \beta_3 F_{i3} + \beta_4 F_{i4} + \sum \lambda_{kj} X_{ikj} + \delta_2 C_{i2} \dots \delta_5 C_{i5}$$

Where  $P_{ij}$  is the probability that the  $i$ th individual in the  $j$ th cohort will continue from one level of schooling to another,  $F$  is a dummy variable to specify family type,  $X_{ikj}$  is the value on the  $k$ th

social background for the  $i$ th individual in the  $j$ th cohort, and  $\alpha_{kj}$  and  $\lambda_{kj}$  are parameters to be estimated.  $C$  is a dummy variable for each cohort. Comparisons among the  $\delta_j$  denote inter-cohort comparisons in the log odds of school continuation adjusted for cohort differences in composition of the family type.

There are some major advantages to using the logit response model, which distinguishes itself from the linear model described earlier. First, the estimated effects of the independent variables are not affected by changing marginal distributions of either the independent or dependent variables; this property does not hold in the case of the linear probability model of schooling (Mare, 1981). The linear model assumes that background effects confer equal amounts of additional schooling at any schooling level. The logit model allows us to consider variation in the effects of background within a cohort and within degree levels across cohorts. In addition, the functional form of the logistic response model enables us to distinguish the sources of variation in the effects of family structure on educational attainment. Hence, the linear coefficients can be expressed as a function of both the association between family structure and schooling and the distribution of schooling (Mare, 1981).

*Independent Measures:*

The primary independent variables are race, sex, cohort and family structure. **Race** and **sex** are dichotomous measures indicating 0 for whites and 1 blacks and 0 for males and 1 for females respectively. In the United States it is well-known that males have historically had slightly higher mean level of educational attainment than females (B. Duncan, 1968; Sewell, 1971; Mare, 1995).

**Cohort** is measured by a set of dummy variables indicating the respondent's year of birth. To consider changes over time, the pooled data was partitioned into six birth cohorts of ten year intervals. The respondent's birth cohort was determined by year of birth or calculated by survey year and age reported at the time of the interview. The cohorts consist of persons born between 1908-1917, 1918-1927, 1928-37, 1938-47, and 1958-1968. Table 1 shows that the sample sizes for each cohort are 1091, 7838, 12948, 17265, 11164, and 11910 respectively. The sample sizes for each cohort are sufficiently large to provide reliable estimates of the effect of family types across several cohorts. Because each survey was conducted over different time periods, not all cohorts listed appear in each data set. For example, persons born in the earliest cohort (1908-1917) do not appear in the NSFH or the SIPP data because of the age selection criteria. For this reason, estimates from the multi-variate analyses rely on the five cohorts common to the three data sets. The 1958-69 cohort is the reference cohort.

Although these surveys give us only a cross-sectional look at American family life, they enable us to construct a composite "synthetic" picture about differences in the distributions of family types and the possible effects on the distribution of educational equality for different birth cohorts. If the distribution of family types does not vary systematically across cohorts, then the effect on educational achievement should not change educational attainment in any dramatic way.

**Family structure** is measured by a set of dummy variables indicating the respondent's living arrangements at age 16 (whether he or she lived with both biological parents, one biological parent and a step parent, biological mother or father, no biological parents). One of the primary interests of this work is to look at the cohort distributions of family types and their effects on educational attainment. The concept of family is important in the conceptual framework used for

this study. The American family has undergone an evolution in terms of family structure. The growing diversity of family types has been the result of several important demographic trends: a decline in mortality, an increase in non-marital childbearing, later ages at marriage, a rise in marital disruption, an increase in female-headed households and an increase in dual-earner households. These demographic trends have led to more children being raised in step families, in single-parent families, and in households where both parents work, in households with unrelated individuals, or “*doubling up*” with other families (McLanahan and Casper, 1995).

Along with an interest in looking at family types, we distinguish between male and female single parents to determine whether the gender of the parent mitigates or exacerbates the effect of having grown up in a single-parent family. Consequently, we expect those differences to persist among single mothers and fathers as well. Although much of the attention in the literature has been focused on the plight of single mothers, there is still a small but growing percentage of men raising children. While fathers might cut back on hours worked to care for their children, their higher incomes might also provide them more money for day-care as well.

Clearly, the trends in family living arrangements have had an impact on the economic well-being of all children. This research assumes that changes have occurred for both racial groups and for children raised by two parents, as well as those raised by one. This research will answer the question: to what extent do racial differences in family structure account for racial differences in educational attainment?

It is worth noting that we chose to disregard the marital status of the single parent, largely because the information is not available across the three data sets. Significant economic differences between divorced and never-married mothers exist. A major reason for this is that

divorced mothers are more likely than never-married mothers to be awarded child support (House Committee on Ways and Means, 1994). However, many nonresident fathers do not pay adequate child support. The economic differences between divorced and never-married mothers are substantially less than the economic differences between single-parent and two-parent families. Therefore, we treat all single parents in the following analysis in the same manner despite their prior marital status.

#### *Other Social Background Variables*

Several control variables are included in the multivariate analysis because previous research has found them to be associated with educational attainment.

**Father's occupation** status is coded using two alternative classification schemes. For the most part, all Socio-Economic Index (SEI) scores are based on the 1980 Census occupational codes. However, from 1972 to 1987, the GSS employed 1970 Census occupational codes to classify parental job characteristics. Thus, these codes had to be transformed into corresponding SEI scores. In 1988, the GSS began to classify jobs according to both the 1980 Census occupational codes and the 1970 codes. By 1990, occupations in the GSS were exclusively based on 1980 codes. Father's occupational status using the 1970 occupational codes were transformed into a SEI variable using Stevens and Featherman's (1981) SEI coding scheme for men. The 1980 codes in the GSS, SIPP and NSFH were transformed into another SEI variable developed by Stevens and Cho (1985). The two variables were combined into one SEI variable which concatenated the two coding schemes.

Blau and Duncan's (1967) basic model provides the basic framework for interpreting the role of father's education and occupational status on the respondent's educational attainment and

the process of stratification. Results from Blau and Duncan's study and several subsequent studies (Sewell and Hauser, 1975; Hauser and Featherman, 1976) generally confirm that fathers are able to influence their son's occupational attainment by influencing their son's educational attainment.

**Father's and mother's educations** are measured as the number of years of schooling completed. A major component of the educational growth in successive cohorts is related to the secular increases in the parents' educational attainment (Hauser and Featherman, 1976; Mare, 1980 and 1995). According to the Census bureau, the educational attainment of parents have increased greatly between 1960 and 1990. Whereas 62 percent of single mothers in 1960 had less than a high school education, that percentage was reduced to 25% by 1990. In 1990, 20 percent of parents had completed some college; there were no percentage differences between married couple families and single-mother families. However, a higher proportion (28%) of married couples had completed four or more years of college compared to 10 percent of single-mother families.

There are several possible reasons why children raised by parents with higher educational levels attain higher levels of education themselves than children with less educated parents. One theoretical explanation for the relationship between parents' schooling and their children's educational success suggests that parents invest in their children by providing them with both economic resources and human capital (Becker, 1981). Human capital is often assessed as a measure of parents' skills and knowledge, i.e., education. Better educated parents may instill higher demands for education in their offspring and may be better able to provide a home environment more conducive to doing well in school. Because of the economic advantages

associated with higher levels of education, the offspring of higher educated parents might have greater economic resources available to them for furthering their education. Also, the quality of the high school they attend might encourage them to go to college rather than drop out. They may also feel more inclined to persevere with schooling, despite their academic performance or their disdain for the educational process (Jencks et al., 1972). Manski, Sandefur, McLanahan, and Powers (1992) find the effect of parental education on probability of graduating from high school is higher in non-intact families than in intact ones. They find that the effect of mother's and father's education were significant in predicting high school completion.

**Residential location** is measured by a dummy variable indicating whether or not the respondent lived on a farm during adolescence. Father's occupation was used as a crude indicator of this measure. As farming becomes less of a family-owned business, We expect that the relationship between working on a farm and living on a farm is diminishing. Nevertheless, studies have shown that men with farm origins achieved fewer years of schooling than men with non-farm origins (Blau and Duncan, 1967; Hauser and Featherman, 1976; Featherman and Hauser, 1978; Kuo and Hauser, 1995). In addition, Hauser and Featherman (1976) and Kuo and Hauser (1995) document a decline, over time, in the effect of a farm background on educational attainment for cohorts of black and white men. For these reasons, We expect this effect to fade for more recent cohorts.

**Region** is a dichotomous variable, indicating whether or not an individual was born in the South or resided in the South at age 16. This regional variable is constructed to capture whether or not the individual was educated in the South. With southern birth there is an assumption that the individual attended Southern schools. As with farming, the same studies have shown that

Southern origins also have a negative affect on educational achievement. Featherman and Hauser (1978) found that when compared to Northerners, Southern natives lagged behind national trends of greater levels of educational achievement. They also suggest that while blacks complete less schooling than whites in any region, racial differences in schooling are larger in the South than in the North. In addition, Smith and Welch (1989) found that Southern schooling reduces the wage premium to schooling for both blacks and whites. They suggest that the quality of schooling in the South is inferior to schools in the North for both races. However, they show that the proportion of blacks and whites who are “citizens” of the South have not changed much over the past four decades. While a majority of blacks remain citizens of the South, only 30 percent of whites live in the South. In addition, Smith and Welch attribute the improvement in blacks’ schooling to the overall improvement in the quality of southern schools and also to the migration of southern blacks to the North. Consequently, we expect a decline in the negative effect of Southern birth over time, especially for the most recent cohorts.

**Number of siblings** is measured as a continuous variable. Because the NSFH and the SIPP top coded the number of siblings to 10+, the maximum number of siblings in the pooled sample is 10. Because of the well-documented relationship between family size and educational achievement, there is a substantial amount of evidence to suggest that a large number of siblings will have a negative affect on educational achievement. Previous research has shown that the inverse relationship between sibship size and achievement is due to the dilution of available family resources in larger families compared to the resulting concentration of resources in smaller families (Alwin and Thornton, 1984; Blake, 1989; Zajonc, 1976). For example, Zajonc’s (1976:227) main hypothesis is that, according to the confluence model the spacing between births (i.e.,

the age gaps between successive children) totally mediates the effects of birth order. Zajonc argued that sibship size was inversely related to intellectual functioning. While Blake (1989) acknowledged that the number of siblings is important for cognitive development, she argued that large families dilute parents' time, emotional and physical energy, attention and ability to interact with children as individuals. Comparisons by race show that net of cohort and socioeconomic background, number of siblings has a negative affect on verbal ability for blacks and whites (Alwin, 1991). Recently, Alwin (1991) found that birth order has no net effect on verbal ability. These findings support the earlier findings in the literature on educational attainment (Blake, 1989; Hauser and Sewell, 1985).

According to the Census Bureau, after 1960 the total fertility rate declined sharply and reached a low of 1.8 in 1974. Most women of childbearing age are expected to have two children, yet approximately 10 percent of the women of childbearing age are expected to remain childless. The measure of the number of siblings is available for all relevant years in all three of the data sets used for this analysis. We expect that a large sibship size will contribute to lower levels of educational attainment within each cohort. However, with the decline in fertility for each cohort, this effect should provide some insight into the social costs of having a large family.

### *Sample Weights*

For the subsequent analyses, a weight variable was created for the pooled sample which incorporates the different weights used in each cross-sectional data set. Within each cross-section, the population weight provided on each survey tape was divided by the average weight for that subsample. This new weight now has an average of one within each data set. This adjustment allows each observation to represent a different proportion of the total population

based on the probability of being selected at random without artificially increasing the sample size. Thus, the total number of cases is equivalent to the actual (unweighted) sample size within each data set.

Several variables known to be important in the determination of educational attainment were not available across the three surveys. For example, academic achievement and parental income while growing up would have been ideal variables. There are no measures of parental income in any of the three data sets. McLanahan and Sandefur (1994) found that 50% of the outcomes which included educational attainment could be attributed to income differences among family types. In addition, Grissmer, Kirby, Berends and Williamson (1994) found that parental education, family size, family income and age of mother when the child was born are important determinants of predicting student test scores. Grissmer et al. used income in their analysis, but they suggest parental education and a reduction in family size are the key predictors of high test scores for children. It is quite likely that the effects of family background factors used in this analysis might be overestimated by this omission.

Some studies rely on welfare use while growing up or home ownership as a measure of family income while growing up. Hauser and Phang (1993), after controlling for home ownership in the family of origin, found that these variables had a strong significant effect on high school completion. Neither welfare use nor home ownership was available across the three surveys.

### *Analytic Strategy*

To test whether the family structure coefficients are the same across each cohort, we use the F-test to test the null hypothesis that the dummy variables for family structure are the same across all cohorts. The information from the R-square provided from the linear regression

estimating the average number of years completed was used. The restricted model includes six family categories and several other social and economic background variables as independent variables. A new expanded model includes the variables in restricted model in addition to twenty dummy (cohort and family structure) interaction terms as the unrestricted model. To test whether a group of variables is significant the formulation is given below:

(3)

$$F = [(R_{UR}^2 - R_R^2)/q] / [(1 - R_{UR}^2)/(N - k)]$$

The restricted model has q degrees of freedom. If the critical exceeds the value of the F distribution at either 1 or the 5 percent levels, the null hypothesis that the effect of family structure is the same across each cohort is rejected.

Similarly, the maximum-likelihood ratio tests were used to compare two logit models. The simpler model is restricted model. The final model includes the variables in restricted model in addition to the twenty interaction terms discussed earlier.

(4)

$$\chi^2 = -2(\ln L_i - \ln L_f)$$

$L_i$  is the log likelihood for the simpler model and  $L_f$  is the log likelihood for the model that includes the interaction terms. The simpler model has 20 degrees of freedom. The more complex model has 32 degrees of freedom. The probability of a greater  $\chi^2$ , with 12 degrees of freedom (the difference in the complexity between the initial and final model), is rejected if the test-statistic exceeds the critical-value in the chi-square table.

In some cases, a t-statistic was used to compare specific coefficients.<sup>2</sup> The test statistic for each dependent variable is presented in Table 2. The regression models are specified exactly the same in each cohort. The tables provide the numerical results for the net effects of family background. The numerical results from the gross effects are not shown. The first graphs display the gross effects from model II, followed by graphs which display the family structure effects net of family background (restricted model).

### *Results*

Rather than looking at the effect of changing family composition on years of education completed, this paper takes an alternative view of years of schooling completed and asks if the effects of family structure have declined over time for blacks and whites. We estimated ten linear regression models to assess the inter-cohort trends in the number of years of schooling completed. Because we want to know if these effects are the same or different across time, we perform an F-test on the coefficients of family structure.<sup>3</sup> The results in Table 2 provide comprehensive insight

---

<sup>2</sup>To test whether the difference in estimated coefficients is significant, the regression coefficient of the variable in one sample is subtracted from the corresponding coefficient from the other sample. For example, for blacks and whites, the following statistic is used.

(5)

$$t_{(n_w+n_b-2k)} = (\beta_w - \beta_b) / \sqrt{s_w^2 + s_b^2}$$

Where beta w is the regression coefficient for the independent variable in the sample for whites, and beta b is the corresponding regression coefficient for the sample for blacks,  $s_w$  and  $s_b$  are the standard errors of beta w and beta b respectively. The variables in each regression are specified in the same way in each sample and each cohort sample.

<sup>3</sup>I compared two models to test whether the differences across time are significant at the .10 and .05 levels. The first model contains the direct effects for family structure and cohort dummy variables and the social background variables. The second model includes several cohort and family interaction terms along with main effects for family structure, cohort dummy variables and the social

into the discussion regarding the changing effects of family structure over time. For example, when examining the number of years of schooling completed, we reject the null hypothesis that the effect is similar across each cohort for blacks but not for whites; the test statistic for blacks (2.06) is larger than the corresponding p-value (1.88). For whites the test statistic is .09 which is considerably smaller than the p-value of 1.88. Therefore, we can conclude that among blacks, the effect of family structure changes over time. Among whites the effect of family structure remains stable over time.

Tables 3 and 4 present regression analyses of educational attainment for each birth cohort for blacks and whites respectively. The regression coefficients describe the relationship between family structure and the number of grades completed. The influence of family structure on schooling can be detected by the family structure coefficients in Tables 3 and 4. Within each cohort schooling varies by family type. The negative signs on the family structure coefficients indicate that individuals who grew up in non-intact families attain lower levels of education than those who grew up with both biological parents. The same is true for blacks and whites in every cohort. Comparisons of the family structure coefficients in Table 3 to those in 4 show no significant racial differences in the effect of family structure on the average number of grades completed in each cohort. These findings are consistent with the earlier cross-sectional reports on family structure and educational attainment.

Figures 1 through 4 display the gross and net cohort effects on the number of years of schooling completed based on the coefficients in tables. The graphs present the relative effects of growing up in a family type other than an intact family (line 0). Whereas Figures 2 and 4 show

---

background variables.

the effect of family structure after controlling for differences in family background, Figures 1 and 3 show the effects of family structure without these controls. The overall patterns are the same when we look at the gross and net effects.

Focusing exclusively on blacks, Figures 1 and 2 confirm that the effects of family structure on years of schooling completed are not the same across each cohort for blacks. In particular, Figures 1 and 2 depict fluctuation in the negative effect of growing up in a “non-traditional” family especially among those who grew up with a single father. The effect is most severe for cohorts born in 1928 and 1948. Controlling for family background does not appear to reduce the negative effect of growing up in a single-father household. On the contrary, the negative effects of growing up with either a step, single or no biological parents decrease when family background is accounted for. Most notable is the effect of growing up with a single mother. The negative effect of growing up with a single mother appears to have declined for blacks born after 1928.<sup>4</sup> Simply put, when examining the average number of years of schooling completed, the effects of family structure vary over time for blacks. Consequently, cross-sectional studies which investigate the relationship between family structure and educational attainment understate the influence of family structure for older blacks and overestimate it for younger blacks.

Nevertheless, for whites the relative advantage/disadvantage of growing up in a “non-traditional” family type has not changed over time. Comparing the gross (Figure 3) to net (Figure

---

<sup>4</sup> The solid line shows the trends for persons who grew up with both biological parents (0 on the y-axis). The dotted line with diamonds shows the results for those who grew up in a step family. The solid line with asterisks represents the results for individuals who grew up with a single mother. The results for those who were raised by their fathers are indicated by the heavy solid line with the stars. The broken line with a box represents the average years of schooling for those who did not grow up with any biological parents.

4) effects for whites, we see that differences in family background help to explain much of the differences in the effects of family structure over time, especially among those who grew up with no biological parents. In particular, when family background is controlled the gender difference among single parents also disappears. Nevertheless, the conclusions from the F-tests and the graphs suggest that the negative effect of growing up in a non-intact family is the same for whites born in any cohort.

#### *Effect of Family Structure on Three Major Educational Transitions*

At each grade level, some individuals end their formal schooling while others continue to progress through a graded system. The next section looks at three major points at which many Americans end their educational careers. We examine the inter-cohort effects of family structure on high school graduation, college attendance and college graduation. Afterward, we provide results from the chi-square test in Table 2 to see whether or not the effects are similar across successive cohorts.

Prior research has shown a negative relationship between family structure and high school completion (McLanahan and Sandefur, 1994; Wojtkiewicz, 1993). In Tables 5 and 6, this negative relationship has been replicated by the negative sign on the family structure coefficients in each cohort. The odds of graduating from high schools are lower if an individual did not grow up with both biological parents; the pattern has been consistent for blacks but not for whites.

Examining the chi-square results in Table 2 shows that the null hypothesis that the effect of family structure is the same across each cohort is true for blacks but not for whites. In other words, the effect of family structure on high school graduation has not changed over time for blacks. In contrast, the effect of family structure on the likelihood of graduating from high school

has changed over time for whites.

The direction and magnitude of these effects are detected more clearly in Tables 5 and 6 which present information about the effects of family structure on high school completion over time. When we compare the effect of growing up with at least one biological parent, Table 5 shows an increase in the negative effects associated with growing up in a step family for blacks. In contrast, Table 6 shows a decrease in the disadvantage for whites who grew up in a step family. Among single parent families, the effect is more disadvantageous for whites than for blacks. In general, these findings are consistent with other cross-sectional studies using one cohort which compare differences in high school completion by family type. However, the inter-cohort changes in the effect over time have not been documented before. Consequently, the negative effects of growing up in a single parent family documented by cross-sectional studies are overestimated and underestimated for older and young individuals respectively.

Figures 6 and 8 present the same information using the cohort means to predict the log odds of high school completion for each family type. In general, the negative effect of growing up in a single parent family for both blacks and whites continues across time (See Figures 6 and 8). Figure 5 shows less variation than Figure 6. Net of family background, differences in the effects of family type among black families increase. Results from the chi-square tests indicate that the lines in Figure 6 are parallel; family structure effects do not vary significantly across time for blacks. Conversely, the effect of family structure varies significantly in Figure 8 from one cohort to the next. The distance between intact families and single-parent families in Figure 8 is increasing over time. Hence, the educational advantage of whites who have been raised by two biological parents appears to be increasing over time.

This relative advantage has also been experienced by other family types as well. After performing a t-test on the single-parent coefficients, we find that the only statistically significant change for single parent families is the change from the third cohort (1938-48) to the fourth cohort (1948-57). The odds of graduating from high school are significantly lower for whites (born in 1948) who grew up in single parent families. Figure 6 and Figure 8 look like mirror images of each other. The most severe effects of growing up in a single parent family were for blacks born in 1928 and for whites born twenty years later. These findings might help to explain why Sandefur and McLanahan found that marital disruption eliminated the advantage of being white. They were looking at whites who were born in a more recent cohort.

McLanahan and Sandefur find that the advantage of growing up in an intact family continues beyond high school. Tables 7 and 8, along with Figures 9 through 12 examine this issue more closely by showing the effects of family structure on the log odds of college attendance. Despite the variations shown in Figure 10 and 12, results from the chi-square tests from Table 2 suggest that the changes are not statistically significant. The negative effects of growing up in a “non-traditional” household on the odds of attending college do not change over time for either group. These findings are also consistent with earlier findings by Sandefur, McLanahan and Wojtkiewicz (1992), who find that the rate of college attendance among high school graduates does not differ across family types.

We turn now to examine the effect of family structure over time on the odds of college graduation for those who have attended college. Tables 8 and 9 provide results of the estimated effect of family structure within each cohort. Clearly, the effects of family structure are more important at the high school level than at the college level. In spite of fluctuation in the family

structure coefficients in Tables 9 and 10, the chi-square tests results in Table 2 do not reveal any significant differences in the effects of family structure on the log odds of college graduation for blacks and whites.

Looking at the series of variables representing family structure effects suggests no real patterns over time. The intercept terms in Tables 9 and 10 suggest that the log odds of graduating from college are less than one in each cohort even for those who grew up with two natural parents. Figure 16 shows that for every cohort the negative effects of family structure are higher for whites who grew up in a stepparent family than those who grew up in a single-parent household. In other words, whites who grew up with a stepparent were less likely to attend college than those who lived with a single parent. Controlling for differences in family background do not change the results in any discernible way.

Figures 13 and 16 graphically display the family structure effects on the likelihood of college graduation for blacks and whites. Statistical tests of the family structure coefficients indicate no significant differences in the odds of college graduation across family types over time. The same is true for blacks and whites. Therefore, the effect of growing up in a non-intact family on the odds of college graduation has not changed over time.

The graphs for each educational level are placed on the same scale to allow for comparisons across each level. At the high school level the family structure effects are below negative one. Moreover, the family structure effects on college attendance hover around or above negative .5. The family structure effects increase at college graduation; Figures 13 through 16 show that the family structure coefficients are approximately  $-.55$  or higher in any graph. Generally speaking the graphs show that the negative effects of growing up in a non-intact family

persist but attenuate at higher levels of education. Seemingly, the handicap of growing up in a non-intact family is less severe for getting into college than it is for graduating from college. Staying in college until graduation might require more of a long term dependence on the family's financial resources.

### *The Influence of Social Background Factors*

It is important to note that educational success is not based solely on variations in parental structure during adolescence. Other social background factors, as indexed by parental education, father's occupation, number of siblings, farm origins and southern origins have been shown to influence many of the educational outcomes examined in this paper (Kuo and Hauser, 1995; McLanahan and Sandefur, 1994; Mare 1980; Hauser and Featherman, 1976). Tables 3 and 4 show a decline in the magnitude of these effects over each cohort. The family background factors which hindered blacks in the past have been declining over time. The negative impact of family size, farm origins and southern origins has declined over time. For example, the coefficients on farm origins range from -1.935 for the oldest cohort to .116 for the most recent cohort. Blacks born in 1918-27 and raised on a farm completed almost two fewer years of schooling. Whites born at the same time completed .767 fewer years of schooling. The number declined to .043 for whites born in 1958-69. When examining effects of the social background on these three educational transitions, the results show that these factors attenuate at higher educational levels. A more detailed discussion of other substantive findings is not offered here, inasmuch as they have been reported elsewhere at some length (Kuo and Hauser, 1995; Hauser, 1993; Mare, 1980; Hauser and Featherman, 1976 ).

### *Summary and Conclusions*

Carter (1997) provided a comprehensive look at educational attainment by examining the average effects of family structure and family background on four indicators of educational success; the results were the same. Changes in the proportion of individuals growing up in non-intact families have not had much influence on trends in educational attainment. In other words, changes in the distribution of family composition have not slowed the growth of high school graduation, college attendance or college graduation. In each successive cohort, the proportion of persons growing up in non-intact families has increased by small amounts. Consequently, the impact of these changes on educational attainment has been relatively small as well.

The previous research has been concerned with the rates of educational attainment and the growth in the proportion of adults who have been raised in alternative family types. In general, this research has used the average effects of family structure and social background over each birth cohort to predict a particular educational outcome. With this in mind, this paper takes a closer look at the impact of family structure and social background within each cohort.

At any given time, growing up in a non-intact family clearly has a negative effect on adult educational attainment. However, the analysis showed that the effect is somewhat more diverse than previously recognized. For the most part, at higher levels of educational attainment there were no significant differences in the effects of family structure over time. The predicted rates for college attendance and college graduation showed little variation over time. However, we did find significant racial differences in the effects of family structure over time for two educational outcomes. If the dependent variable is the number of years of schooling completed time is a factor to be considered. For whites the comparative advantage of growing up in an intact family

remains the same over time. Figure 2 shows that for blacks this advantage declines with each cohort.

With respect to high school completion, the reverse is true: the analysis reveals significant cohort changes in the effect of family structure on rates of high school graduation for whites. In contrast, there appear to be no significant cohort changes in the influence of family structure on high school completion for blacks. McLanahan and Sandefur find that the advantage of being white is reduced substantially for whites who have experienced marital disruption. Their samples consisted of younger individuals. The trends in Figure 8 indicate similar results for the youngest cohort. Using two cohorts from the NSFH to examine the change of effects in marital disruption on high school graduation over time, McLanahan and Sandefur find no differences in the effects over time. However, they did not report these effects separately by race.

As noted earlier, family structure is but one aspect of social origins. Factors that have been associated with the increasing prevalence of single mother families have also been associated with higher levels of education. When we consider the factors which have influenced women's economic independence we have to look at the influence of the other social background factors in the models. One would suspect that women's independence, economic or otherwise coincides with a reduction in fertility. For example, it is possible that as each generation of women have attained higher levels of education, they have also reduced the number of children they were willing to bear. The effect of family size is inversely related to the number of years of schooling completed. Furthermore, whichever educational transition is selected, on average an increase in siblings tends to coincide with a decrease in educational attainment. It is unlikely that reductions in family size alone can account for substantial increases in educational attainment.

Other factors to consider have been the increases in parental educational documented by Mare (1995). He documents a substantial growth in the mean levels of mothers' and fathers' educational levels over time. Other negative factors have declined as well; the proportion of individuals being raised on a farm and in the south have also changed as well. The combination of these positive factors has more than offset the dampening effects of family structure on educational attainment over time.

## References

- Alwin, Duane F. (1991). "Family of Origin and Cohort Differences in Verbal Ability." *American Sociological Review* 56(October): 625-638.
- Alwin, Duane F., and Arland Thornton. (1984). "Family Origins and The Schooling Process: Early versus Later Influence of Parental Characteristics." *American Sociological Review* 49(December): 784-802.
- Astone, Nan Marie, and Sara S. McLanahan. (1991). "Family Structure, Parental Practices and High School Completion." *American Sociological Review* 56:309-320.
- Becker, Gary S. (1964). *Human Capital: a Theoretical and Empirical Analysis, with Special References to Education*. New York: National Bureau of Economic Research distributed by Columbia University Press.
- Blau, Peter, and Otis Dudley Duncan. (1967). *The American Occupational Structure*. New York: John Wiley and Sons.
- Blake, Judith. (1989). *Family Size and Achievement*. Berkeley: University of California Press.
- Carter, Wendy Y. (1997). The Effects of Changing Family Structures on Educational Outcomes of Black and White American Cohorts: 1908-1969. Ph.D. dissertation, University of Wisconsin.
- Duncan, Beverly. (1968). "Trends in Output and Distribution of Schooling," pp. 601-670 in *Indicators of Social Change: Concepts and Measurement*, (eds) Eleanor B. Sheldon and Wilbert E. Moore. Russell Sage Foundation. New York.
- Featherman, David, and Robert M. Hauser. (1978). *Opportunity and Change*. New York: Academic Press.
- Garfinkel, Irving, and Sara McLanahan. (1986). *Single mothers and their children: A new American dilemma*. Washington, DC: Urban Institute Press.
- Grissmer, David W., Sheila N. Kirby, Mark Berends and Stephanie Williamson. (1994). *Student Achievement and the Changing American Family*. Santa Monica, CA: RAND Corporation.

- Hauser, Robert M. (1993). "The Decline in College Entry among African-Americans: Findings in Search of Explanations," pp. 271-309 in *Prejudice, Politics, and the American Dilemma*, edited by Paul M. Sniderman, Philip E. Tetlock, and Edward G. Carmines. Stanford, CA: Stanford University Press.
- Hauser, Robert M. and David L. Featherman. (1976). "Equality of Schooling: Trends and Prospects." *Sociology of Education* 49(April): 99-120.
- Hauser, Robert M. and William H. Sewell. (1985). "Birth Order and Educational Attainment in Full Sibships." *American Educational Research Journal* 22:1-23.
- Hauser, Robert M. and Hanam S. Phang. (1993). "Trends in High School Dropout Among White, Black, and Hispanic Youth 1974 to 1989." CDE Working Paper No. 93-10, Center for Demography and Ecology, Madison, WI.
- Jencks, Christopher, Marshall Smith, Henry Acland, Mary Jo Bane, David Cohen, Herbert Gintis, Barbara Heyns and Stephan Michelson. (1972). *Inequality: A Reassessment of the Effect of Family and Schooling in America*. New York: Basic Books.
- Krein, Shelia F. and Andrea H. Beller. (1988). "Educational Attainment of Children from Single-Parent Families: Differences by Exposure, Gender, and Race." *Demography* 25(2): 221-234.
- Kuo, Hsiang-Hui D. and Robert M. Hauser. (1995). "Trends in Family Effects on Education of Black and White Brothers." *Sociology of Education* 68(April): 136-160.
- Manski, Charles F., Gary D. Sandefur, Sara McLanahan, and Daniel Powers. (1992). "Alternative Estimates of the Effect of Family Structure During Adolescence on High School Graduation." *Journal of the American Statistical Association* 87(March): 25-37.
- Mare, Robert D. (1980). "Social Background and School Continuation Decisions." *Journal of the American Statistical Association* 75(370): 295-305.
- (1981). "Change And Stability In Educational Stratification." *American Sociological Review* 46(February): 72-87.
- (1995). "Changes in Educational Attainment and School Enrollment," pp. 155-214 in *State of the Union: America in the 1990s. Volume 1: Economic Trends*, edited by Reynolds Farley. New York: Russell Sage Foundation.
- McLanahan, Sara. (1985): "Family Structure and the Reproduction of Poverty," *American Journal of Sociology* 90(4), 873-901.

- McLanahan, Sara and Gary Sandefur. (1994). *Growing Up with a Single Parent: What Hurts, What Helps*. Cambridge: Harvard University Press.
- McLanahan, Sara and Lynne Casper. (1995). "Growing Diversity and Inequality in the American Family," pp. 1-46 in *State of the Union: America in the 1990s. Volume 2: Social Trends*, edited by Reynolds Farley. New York: Russell Sage Foundation.
- Sandefur, Gary D., Sara McLanahan, and Roger A. Wojtkiewicz. (1992). "The Effects of Parental Marital Status During Adolescence on High School Graduation." *Social Forces* 71:102-121.
- Sewell, William H. (1971). "Inequality of Opportunity for Higher Education." *American Sociological Review* 36: 793-808.
- Sewell, William H., and Robert M. Hauser. (1975). *Education, Occupation and Earnings: Achievement in the Early Career*. New York: Academic Press.
- Smith, James P. and Finis R. Welch. (1989). "Black Economic Progress After Myrdal." *Journal of Economic Literature* 27(June): 519-564.
- Stevens, G. and David L. Featherman. (1981). "A Revised Socioeconomic Index of Occupational Status." *Social Science Research* 10(December): 364-95.
- Stevens, G. and Joo H. Cho. (1985). "Socioeconomic Indexes and the New 1980 Census Occupational Classification Scheme." *Social Science Research* 14: 74-168.
- U.S. Bureau of the Census. (1992) *Current Population Reports*, pp. 23-181, "Households, Families and Children: A 30-year Perspective." Washington, D.C.: U.S. Dept. of Commerce, Economics and Statistics Administration.
- U.S. Bureau of the Census. (1990). *SIPP User's Guide*, Second Edition. Washington, DC: USGPO.
- U.S. House of Representatives, Committee on Ways and Means. (1994). Overview of entitlement programs (1994 Green Book). Washington, DC: U.S. Government Printing Office.
- Wojtkiewicz, Roger A. (1993). "Simplicity and Complexity in the Effects of Parental Structure on High School Graduation. *Demography* 30(4)(November): 701-717.
- Zajonc, Robert B. (1976). "Family Configuration and Intelligence." *Science* 192: 227-36.

TABLE 1: Data Sets Used in Regression Analyses--Number of Observations by Year of Birth and Data Set.<sup>a</sup>

Data Set	1908-17	1918-27	1928-37	1938-47	1948-57	1958-69	Totals
<b>Black</b>							
Survey of Income and Program Participation: Wave 2 (1986-88)		362	700	862	1378	762	4064
General Social Survey (1972-1994)	113	401	589	722	866	418	3109
National Survey of Families and Households (1988-1993)		80	229	284	489	440	1522
Total	113	843	1518	1868	2733	1620	8695
<b>White</b>							
Survey of Income and Program Participation: Wave 2 (1986-88)		3940	7139	9281	12644	6147	39151
General Social Survey (1972-1994)	978	2700	3483	4887	4773	2264	19085
National Survey of Families and Households (1988-1993)		355	808	1229	2114	1879	6385
White Total	978	6995	11430	15397	19531	10290	64621
Overall Cohort Totals	1091	7838	12948	17265	22264	11910	73316

<sup>a</sup> Unweighted Ns

TABLE 2. Tests For Cohort Differences in the Effects of Family Structure on Educational Attainment.

Dependent Variable	Type of Regression	Test Statistic	Degrees of Freedom	P-Value
<b>Blacks</b>				
Years of Schooling Completed	Linear	2.06	16	1.88
P(High School Graduation)	Logit	9.46	12	66.33
P(College Attendance H.S. Grad)	Logit	14.17	12	29.00
P(College Graduation College Attendance)	Logit	9.45	12	66.37
<b>Whites</b>				
Years of Schooling Completed	Linear	0.09	16	1.88
P(High School Graduation)	Logit	23.16	12	2.65
P(College Attendance H.S. Grad)	Logit	11.53	12	48.43
P(College Graduation College Attendance)	Logit	15.81	12	20.01

Source: Pooled Sample (SIPP-GSS-NSFH).

TABLE 3. Regression Analysis of Number of Years of Schooling on Family Structure and Social Background Variables for Blacks by Year of Birth.

Variable Name	1918-27	1928-37	1938-47	1948-57	1958-69
N	(843)	(1518)	(1868)	(2733)	(1620)
Intercept	8.914 (0.606)	9.667 (0.421)	10.715 (0.338)	11.027 (0.242)	10.165 (0.307)
(Male)					
Female	0.353 (0.231)	0.624 (0.157)	0.098 (0.125)	-0.124 (0.085)	0.242 (0.095)
(Both Biological Parents)					
Step Parent	0.539 (0.447)	-0.633 (0.297)	-0.348 (0.230)	-0.556 (0.152)	-0.385 (0.169)
Single Mother	-0.655 (0.378)	-1.561 (0.240)	-0.836 (0.175)	-0.707 (0.108)	-0.703 (0.116)
Single Father	-1.274 (0.613)	-1.820 (0.475)	-0.302 (0.427)	-1.165 (0.279)	-0.575 (0.321)
No Biological Parents	0.349 (0.357)	-0.912 (0.260)	-0.156 (0.224)	-0.245 (0.156)	-0.136 (0.177)
Father's Education	0.121 (0.054)	0.112 (0.035)	0.065 (0.026)	0.033 (0.018)	0.084 (0.024)
Mother's Education	0.270 (0.045)	0.230 (0.033)	0.189 (0.024)	0.164 (0.017)	0.144 (0.020)
Father's Occupation	0.014 (0.012)	0.013 (0.009)	0.015 (0.006)	0.032 (0.004)	0.020 (0.004)
Number of Siblings	-0.087 (0.038)	-0.091 (0.025)	-0.090 (0.021)	-0.082 (0.014)	-0.052 (0.017)

TABLE 3. (continued)

Variable Name	1918-27	1928-38	1938-47	1948-57	1958-69
Farm Origins	-1.935 (0.298)	-1.388 (0.205)	-1.151 (0.192)	-0.324 (0.182)	0.116 (0.269)
Southern Origins	-0.858 (0.267)	-0.437 (0.171)	-0.130 (0.132)	-0.104 (0.084)	0.032 (0.094)
(SIPP)					
GSS	-0.401 (0.254)	0.040 (0.174)	0.008 (0.140)	0.001 (0.097)	0.089 (0.118)
NSFH	-0.170 (0.412)	-0.220 (0.231)	-0.006 (0.183)	-0.009 (0.115)	-0.307 (0.116)
R <sup>2</sup>	23.47	20.12	16.53	17.18	17.31

Source: Pooled Sample (SIPP-GSS-NSFH) \*Indicators for missing information on Mother's Education, Father's Education and Father's Occupation are not shown.

TABLE 4. Regression Analysis of the Number of Years of Schooling on Family Structure and Social Background Variables: Whites by Year of Birth.

Variable Name	1918-27	1928-38	1938-47	1948-57	1958-69
N	(6995)	(11430)	(15397)	(19532)	(10290)
Intercept	10.265 (0.150)	9.977 (0.124)	10.264 (0.107)	10.019 (0.095)	8.940 (0.133)
(Male)					
Female	-0.363 (0.065)	-0.426 (0.050)	-0.490 (0.040)	-0.287 (0.033)	-0.091 (0.043)
(Both Biological Parents)					
Step Parent	-0.487 (0.153)	-0.492 (0.113)	-0.295 (0.083)	-0.375 (0.069)	-0.564 (0.078)
Single Mother	-0.795 (0.118)	-0.668 (0.090)	-0.737 (0.074)	-0.790 (0.059)	-0.673 (0.072)
Single Father	-1.149 (0.212)	-1.050 (0.178)	-0.711 (0.174)	-0.662 (0.132)	-0.879 (0.168)
No Biological Parents	-0.370 (0.146)	-0.574 (0.113)	-0.473 (0.100)	-0.518 (0.088)	-0.656 (0.112)
Father's Education	0.120 (0.013)	0.130 (0.010)	0.123 (0.008)	0.126 (0.007)	0.138 (0.010)
Mother's Education	0.183 (0.013)	0.211 (0.010)	0.196 (0.009)	0.197 (0.007)	0.213 (0.010)
Father's Occupation	0.025 (0.003)	0.023 (0.002)	0.027 (0.001)	0.020 (0.001)	0.019 (0.001)
Number of Siblings	-0.212 (0.013)	-0.205 (0.010)	-0.205 (0.009)	-0.171 (0.008)	-0.121 (0.010)

TABLE 4. (continued)

Variable Name	1918-27	1928-37	1938-47	1948-57	1958-69
Farm Origins	-0.767 (0.088)	-0.393 (0.073)	-0.286 (0.070)	-0.213 (0.069)	-0.043 (0.108)
Southern Origins	-0.547 (0.073)	-0.360 (0.057)	-0.278 (0.046)	-0.185 (0.039)	-0.244 (0.051)
(SIPP)					
GSS	-0.033 (0.070)	0.038 (0.057)	-0.041 (0.046)	0.180 (0.040)	0.433 (0.055)
NSFH	-0.070 (0.150)	-0.050 (0.100)	0.010 (0.077)	0.128 (0.055)	-0.029 (0.059)
R <sup>2</sup>	26.30	28.05	29.06	26.21	26.39

Source: Pooled Sample (SIPP-GSS-NSFH) \*Indicators for missing information on Mother's Education, Father's Education and Father's Occupation are not shown.

Table 5. Parameter Estimates for the Log Odds of Graduating from High School for Blacks by Year of Birth.

Variable Name	1918-27	1928-37	1938-47	1948-57	1958-69
N	(843)	(1518)	(1868)	(2733)	(1620)
Intercept	-0.528 (0.437)	-0.731 (0.339)	0.229 (0.332)	0.076 (0.322)	0.097 (0.492)
(Male)					
Female	-0.033 (0.161)	0.199 (0.116)	0.131 (0.111)	-0.018 (0.103)	0.065 (0.141)
(Both Biological Parents)					
Step Parents	-0.025 (0.314)	-0.394 (0.222)	-0.373 (0.205)	-0.593 (0.176)	-0.453 (0.263)
Single Parents	-0.332 (0.224)	-0.982 (0.162)	-0.789 (0.150)	-0.872 (0.129)	-1.012 (0.175)
No Biological Parents	-0.073 (0.251)	-0.461 (0.191)	-0.290 (0.191)	-0.248 (0.176)	-0.749 (0.246)
Father's Education	0.083 (0.040)	0.124 (0.028)	0.046 (0.025)	0.025 (0.024)	0.046 (0.038)
Mother's Education	0.135 (0.033)	0.131 (0.025)	0.138 (0.023)	0.153 (0.021)	0.135 (0.030)
Father's Occupation	0.004 (0.009)	0.010 (0.008)	0.013 (0.008)	0.031 (0.008)	0.016 (0.009)
Number of Siblings	-0.060 (0.027)	-0.064 (0.018)	-0.076 (0.018)	-0.082 (0.017)	-0.065 (0.024)

Table 5. (continued)

Variable Name	1918-27	1928-37	1938-47	1948-57	1958-69
Farm Origins	-1.150 (0.212)	-0.905 (0.151)	-0.904 (0.157)	-0.194 (0.195)	-0.338 (0.342)
Southern Origins	-0.404 (0.177)	-0.418 (0.125)	-0.132 (0.121)	-0.210 (0.102)	-0.035 (0.139)
(SIPP)					
GSS	-0.485 (0.180)	-0.078 (0.129)	-0.188 (0.126)	0.013 (0.118)	-0.008 (0.175)
NSFH	0.219 (0.281)	-0.222 (0.171)	-0.093 (0.167)	0.194 (0.145)	0.234 (0.178)
-2L (d.f.=15*)	-477.18	-912.23	-1003.75	-1268.21	-684.21

Source: Pooled Sample (SIPP-GSS-NSFH) \*Indicators for missing information on Mother's Education, Father's Education and Father's Occupation are not shown.

TABLE 6. Parameter Estimates for the Log Odds of High School Graduation for Whites by Year of Birth.

Variable Name	1918-27	1928-38	1938-47	1948-57	1958-69
N	(6995)	(11430)	(15397)	(19532)	(10290)
Intercept	-0.429 (0.142)	-0.768 (0.131)	-0.549 (0.138)	-0.409 (0.142)	-1.279 (0.195)
(Male)					
Female	0.113 (0.057)	0.035 (0.048)	-0.026 (0.050)	0.010 (0.051)	0.028 (0.064)
(Both Biological Parents)					
Step Parents	-0.586 (0.132)	-0.484 (0.105)	-0.384 (0.096)	-0.288 (0.099)	-0.604 (0.105)
Single Parents	-0.748 (0.088)	-0.919 (0.074)	-0.966 (0.079)	-1.309 (0.074)	-1.145 (0.091)
No Biological Parents	-0.281 (0.118)	-0.480 (0.094)	-0.433 (0.097)	-0.493 (0.097)	-0.692 (0.125)
Father's Education	0.103 (0.013)	0.133 (0.011)	0.113 (0.011)	0.127 (0.011)	0.151 (0.014)
Mother's Education	0.119 (0.012)	0.154 (0.011)	0.171 (0.011)	0.178 (0.011)	0.175 (0.014)
Father's Occupation	0.021 (0.003)	0.023 (0.003)	0.029 (0.003)	0.019 (0.002)	0.016 (0.003)
Number of Siblings	-0.138 (0.011)	-0.154 (0.009)	-0.174 (0.009)	-0.157 (0.010)	-0.124 (0.013)

TABLE 6. (continued)

Variable Name	1918-27	1928-37	1938-47	1948-57	1958-69
Farm Origins	-0.515 (0.072)	-0.110 (0.064)	-0.064 (0.074)	-0.254 (0.088)	0.266 (0.146)
Southern Origins	-0.566 (0.061)	-0.350 (0.051)	-0.407 (0.052)	-0.427 (0.054)	-0.344 (0.071)
(SIPP)					
GSS	-0.165 (0.061)	-0.143 (0.055)	-0.244 (0.056)	-0.044 (0.063)	-0.077 (0.083)
NSFH	0.206 (0.142)	0.012 (0.101)	0.113 (0.108)	0.346 (0.104)	0.157 (0.097)
-2L (d.f.=15*)	-3719.23	-5381.01	-5355.30	-5364.47	-3269.20

Source: Pooled Sample (SIPP-GSS-NSFH) \*Indicators for missing information on Mother's Education, Father's Education and Father's Occupation are not shown

TABLE 7. Parameter Estimates for the Log Odds of College Attendance for Blacks by Year of Birth.

Variable Name	1918-27	1928-38	1938-47	1948-57	1958-69
N	(321)	(736)	(1329)	(2164)	(1344)
Intercept	-1.374 (0.641)	-0.588 (0.395)	-1.363 (0.330)	-1.222 (0.281)	-3.162 (0.437)
(Male)					
Female	-0.016 (0.258)	-0.075 (0.159)	-0.170 (0.118)	-0.069 (0.094)	0.433 (0.122)
(Both Biological Parents)					
Step Parents	1.280 (0.485)	-0.561 (0.315)	-0.090 (0.222)	0.062 (0.174)	-0.614 (0.217)
Single Parents	-0.406 (0.350)	-0.458 (0.220)	-0.172 (0.154)	-0.420 (0.113)	-0.382 (0.141)
No Biological Parents	0.720 (0.409)	-0.311 (0.272)	0.510 (0.217)	0.120 (0.175)	0.172 (0.225)
Father's Education	-0.022 (0.059)	0.010 (0.033)	0.066 (0.024)	0.048 (0.020)	0.084 (0.031)
Mother's Education	0.076 (0.050)	0.060 (0.032)	0.095 (0.023)	0.104 (0.019)	0.160 (0.028)
Father's Occupation	0.023 (0.012)	0.008 (0.008)	0.011 (0.006)	0.017 (0.005)	0.019 (0.006)
Number of Siblings	0.011 (0.045)	-0.026 (0.026)	-0.049 (0.020)	-0.056 (0.016)	-0.032 (0.022)

TABLE 7. (continued)

Variable Name	1918-27	1928-37	1938-47	1948-57	1958-69
Farm Origins	-0.754 (0.402)	-0.402 (0.231)	-0.302 (0.209)	-0.424 (0.219)	0.385 (0.361)
Southern Origins	-0.122 (0.259)	0.046 (0.161)	-0.043 (0.122)	-0.043 (0.092)	-0.019 (0.120)
(SIPP)					
GSS	0.325 (0.283)	0.261 (0.175)	0.142 (0.134)	0.116 (0.108)	0.314 (0.152)
NSFH	-0.619 (0.466)	0.264 (0.230)	0.110 (0.173)	0.097 (0.126)	-0.059 (0.146)
-2L (d.f.=15*)	-194.96	-484.81	-859.49	-1384.67	-835.44

Source: Pooled Sample (SIPP-GSS-NSFH) \*Indicators for missing information on Mother's Education, Father's Education and Father's Occupation are not shown.

TABLE 8. Parameter Estimates for the Log Odds of College Attendance for Whites by Year of Birth.

Variable Name	1918-27	1928-38	1938-47	1948-57	1958-69
N	(4628)	(8386)	(12906)	(17387)	(8943)
Intercept	-1.653 (0.158)	-1.730 (0.125)	-2.145 (0.114)	-2.394 (0.107)	-3.514 (0.170)
(Male)					
Female	-0.805 (0.067)	-0.689 (0.048)	-0.528 (0.039)	-0.291 (0.034)	0.003 (0.047)
(Both Biological Parents)					
Step Parents	-0.415 (0.169)	-0.281 (0.113)	-0.195 (0.081)	-0.152 (0.069)	-0.370 (0.085)
Single Parents	-0.047 (0.108)	-0.131 (0.077)	-0.272 (0.064)	-0.285 (0.054)	-0.305 (0.071)
No Biological Parents	0.237 (0.158)	0.181 (0.119)	0.162 (0.102)	-0.024 (0.093)	-0.136 (0.128)
Father's Education	0.079 (0.013)	0.062 (0.010)	0.085 (0.008)	0.087 (0.007)	0.104 (0.011)
Mother's Education	0.087 (0.013)	0.111 (0.010)	0.117 (0.009)	0.133 (0.008)	0.162 (0.013)
Father's Occupation	0.023 (0.002)	0.022 (0.002)	0.027 (0.001)	0.020 (0.001)	0.020 (0.002)
Number of Siblings	-0.140 (0.015)	-0.092 (0.011)	-0.092 (0.009)	-0.107 (0.008)	-0.075 (0.012)

TABLE 8. (continued)

Variable Name	1918-27	1928-37	1938-47	1948-57	1958-69
Farm Origins	-0.043 (0.099)	-0.257 (0.075)	-0.064 (0.069)	0.201 (0.071)	0.194 (0.117)
Southern Origins	0.306 (0.079)	0.086 (0.057)	-0.056 (0.045)	-0.091 (0.040)	-0.144 (0.056)
(SIPP)					
GSS	0.144 (0.072)	-0.011 (0.055)	0.008 (0.044)	0.196 (0.041)	0.480 (0.061)
NSFH	-0.342 (0.148)	-0.114 (0.094)	0.108 (0.072)	0.204 (0.055)	0.129 (0.062)
-2L(d.f.=15*)	-2724.26	-5067.02	-7696.83	-10458.04	-5384.53

Source: Pooled Sample (SIPP-GSS-NSFH) \*Indicators for missing information on Mother's Education, Father's Education and Father's Occupation are not shown.

TABLE 9. Parameter Estimates for the Log Odds of College Graduation for Blacks by Year of Birth.

Variable Name	1918-27	1928-38	1938-47	1948-57	1958-69
N	(125)	(328)	(634)	(1150)	(671)
Intercept	-2.763 (1.122)	-0.061 (0.563)	-1.431 (0.473)	-1.452 (0.379)	-2.624 (0.634)
(Male)					
Female	-0.623 (0.485)	-0.349 (0.249)	-0.269 (0.174)	-0.186 (0.134)	0.308 (0.195)
(Both Biological Parents)					
Step Parents	-1.605 (0.820)	0.280 (0.523)	-0.190 (0.332)	-0.520 (0.255)	-0.090 (0.361)
Single Parents	0.207 (0.619)	-0.790 (0.363)	-0.730 (0.241)	-0.463 (0.167)	-0.224 (0.229)
No Biological Parents	0.647 (0.632)	-0.225 (0.441)	0.035 (0.323)	-0.500 (0.283)	0.610 (0.369)
Father's Education	-0.133 (0.093)	-0.114 (0.048)	0.041 (0.034)	-0.040 (0.027)	0.094 (0.046)
Mother's Education	0.246 (0.086)	0.052 (0.045)	0.113 (0.034)	0.084 (0.026)	0.043 (0.039)
Father's Occupation	0.034 (0.019)	0.036 (0.011)	0.007 (0.007)	0.032 (0.005)	0.019 (0.007)
Number of Siblings	0.041 (0.080)	-0.013 (0.039)	-0.015 (0.030)	-0.030 (0.023)	-0.028 (0.037)

TABLE 9. (continued)

Variable Name	1918-27	1928-37	1938-47	1948-57	1958-69
Farm Origins	-1.241 (0.967)	-0.171 (0.383)	0.152 (0.346)	0.611 (0.358)	0.953 (0.560)
Southern Origins	0.747 (0.460)	0.231 (0.251)	0.146 (0.180)	0.170 (0.133)	0.218 (0.188)
(SIPP)					
GSS	-0.775 (0.484)	-0.803 (0.284)	-0.487 (0.198)	-0.377 (0.154)	-0.879 (0.226)
NSFH	0.530 (0.906)	-0.447 (0.360)	-0.365 (0.255)	-0.314 (0.180)	-1.057 (0.244)
-2L(d.f.=15*)	-61.64	-201.91	-397.19	-692.79	-364.19

Source: Pooled Sample (SIPP-GSS-NSFH) \*Indicators for missing information on Mother's Education, Father's Education and Father's Occupation are not shown.

TABLE 10. Parameter Estimates for the Log Odds of College Graduation for Whites by Year of Birth.

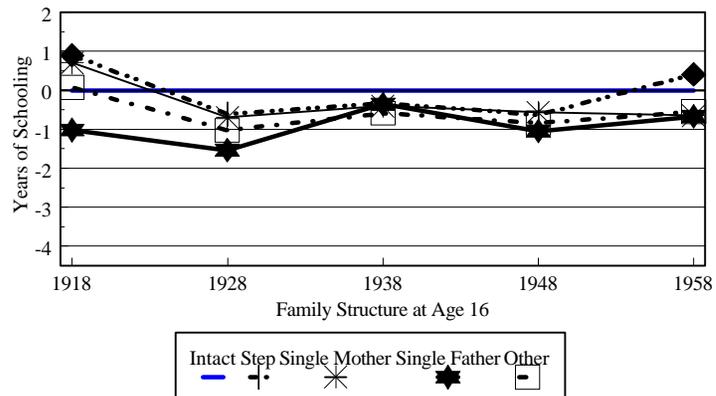
Variable Name	1918-27	1928-38	1938-47	1948-57	1958-69
N	(1942)	(3879)	(7147)	(10179)	(5013)
Intercept	-0.538 (0.220)	-0.746 (0.169)	-0.876 (0.140)	-1.560 (0.130)	-2.445 (0.208)
(Male)					
Female	-0.832 (0.098)	-0.655 (0.068)	-0.488 (0.050)	-0.270 (0.042)	-0.136 (0.060)
(Both Biological Parents)					
Step Parents	-0.220 (0.251)	-0.500 (0.166)	-0.261 (0.107)	-0.692 (0.093)	-0.612 (0.121)
Single Parents	-0.166 (0.164)	-0.028 (0.113)	-0.163 (0.088)	-0.341 (0.072)	-0.397 (0.098)
No Biological Parents	-0.571 (0.238)	-0.278 (0.177)	-0.662 (0.147)	-0.501 (0.137)	-0.934 (0.205)
Father's Education	0.060 (0.017)	0.016 (0.012)	0.051 (0.010)	0.059 (0.009)	0.058 (0.014)
Mother's Education	0.046 (0.018)	0.060 (0.013)	0.052 (0.011)	0.067 (0.010)	0.113 (0.015)
Father's Occupation	0.004 (0.003)	0.016 (0.002)	0.013 (0.002)	0.013 (0.001)	0.014 (0.002)
Number of Siblings	-0.064 (0.023)	-0.069 (0.016)	-0.110 (0.013)	-0.069 (0.011)	-0.052 (0.016)

TABLE 10. (continued)

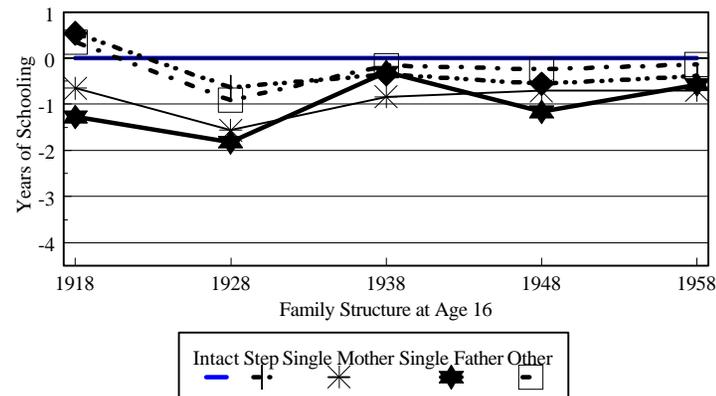
Variable Name	1918-27	1928-37	1938-47	1948-57	1958-69
Farm Origins	0.002 (0.158)	0.294 (0.119)	0.342 (0.103)	0.428 (0.097)	0.446 (0.166)
Southern Origins	-0.002 (0.111)	-0.132 (0.080)	-0.110 (0.059)	-0.004 (0.050)	-0.178 (0.073)
(SIPP)					
GSS	-0.164 (0.102)	0.038 (0.076)	-0.106 (0.056)	-0.085 (0.050)	0.141 (0.073)
NSFH	0.179 (0.223)	0.040 (0.131)	-0.064 (0.089)	-0.064 (0.065)	-0.264 (0.081)
-2L 9(d.f.=15)	-1270.49	-2523.77	-4611.19	-6621.05	-3225.60

Source: Pooled Sample (SIPP-GSS-NSFH) \*Indicators for missing information on Mother's Education, Father's Education and Father's Occupation are not shown.

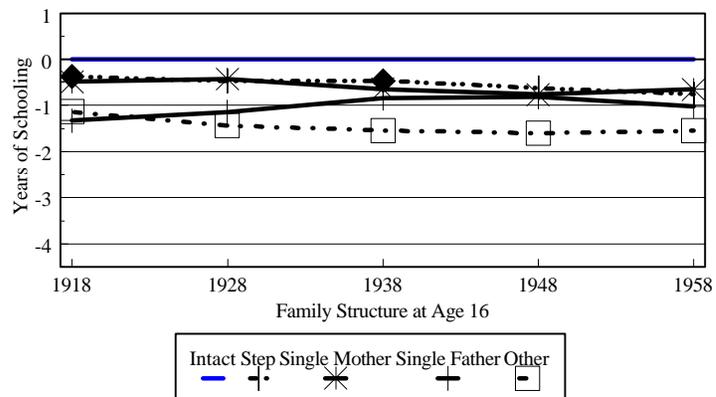
**Figure 1.** Inter-Cohort Effects of Family Structure on Years of Schooling Completed for Blacks *without* controls for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



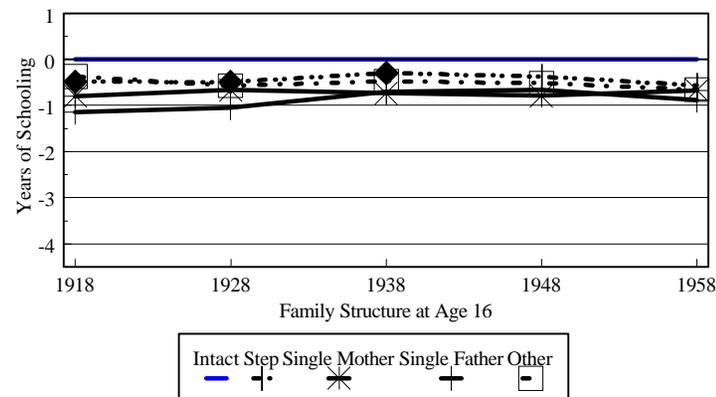
**Figure 2.** Inter-Cohort Effects of Family Structure on Years of Schooling Completed for Blacks controlling for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



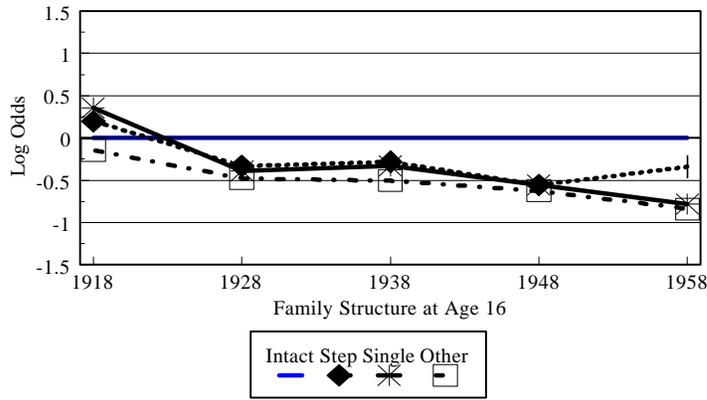
**Figure 3.** Inter-Cohort Effects of Family Structure on Years of Schooling Completed for Whites *without* controls for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



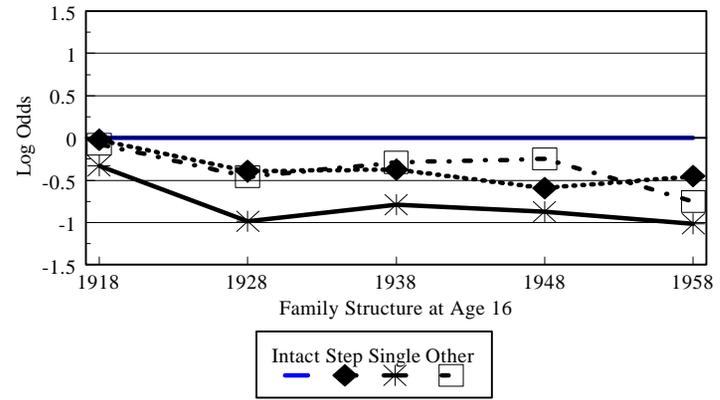
**Figure 4.** Inter-Cohort Effects of Family Structure on Years of Schooling Completed for Whites controlling for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



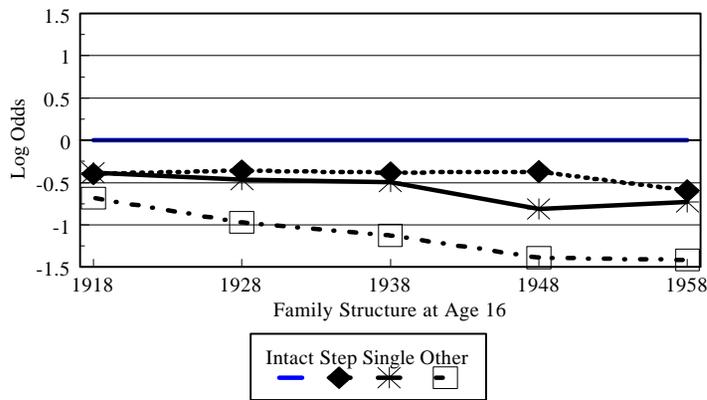
**Figure 5.** Inter-Cohort Effects of Family Structure on High School Graduation for Blacks *without* controls for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



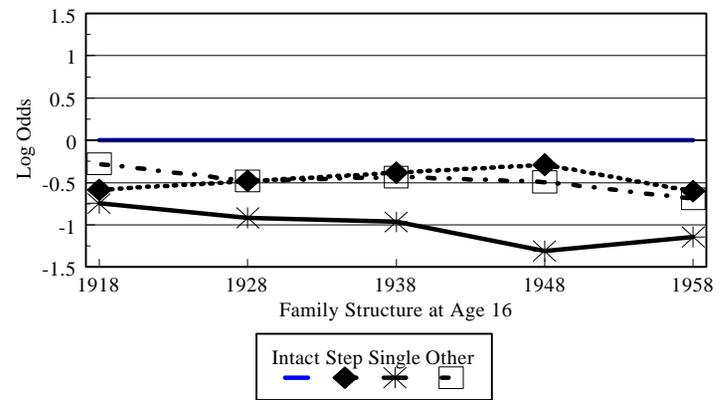
**Figure 6.** Inter-Cohort Effects of Family Structure on High School Graduation for Blacks controlling for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



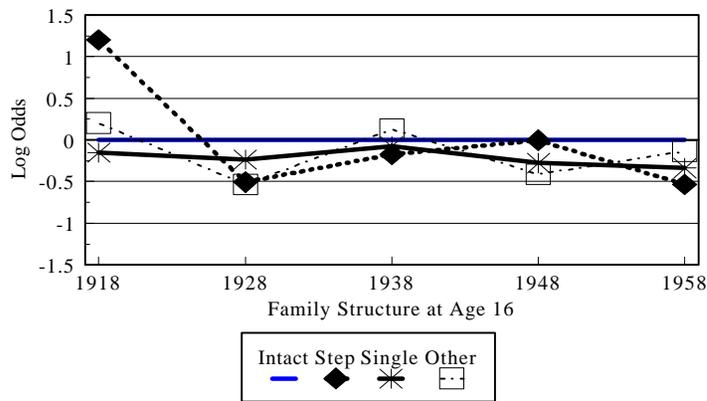
**Figure 7.** Inter-Cohort Effects of Family Structure on High School Graduation for Whites *without* controls for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



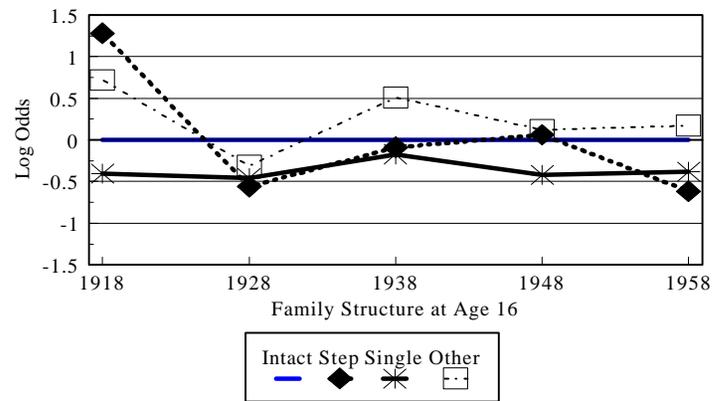
**Figure 8.** Inter-Cohort Effects of Family Structure on High School Graduation for Whites controlling for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



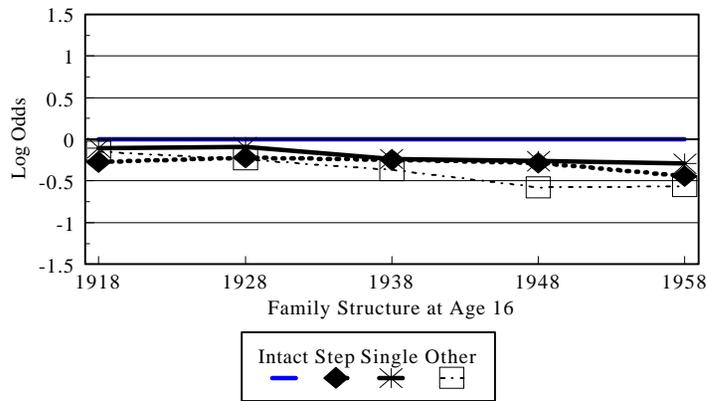
**Figure 9.** Inter-Cohort Effects of Family Structure on College Attendance for Black High School Graduates *without* controls for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



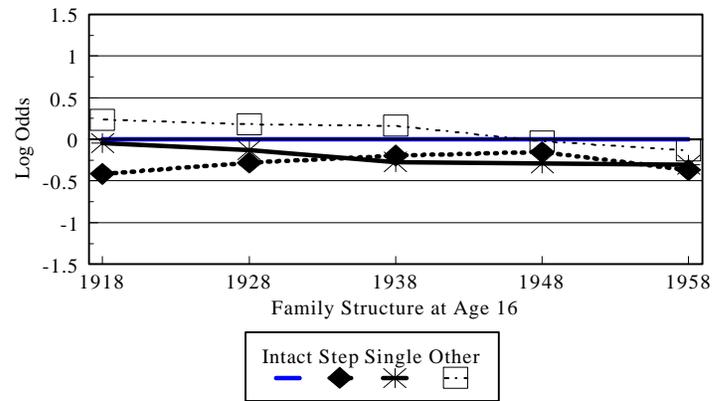
**Figure 10.** Inter-Cohort Effects of Family Structure on College Attendance for Black High School Graduates controlling for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



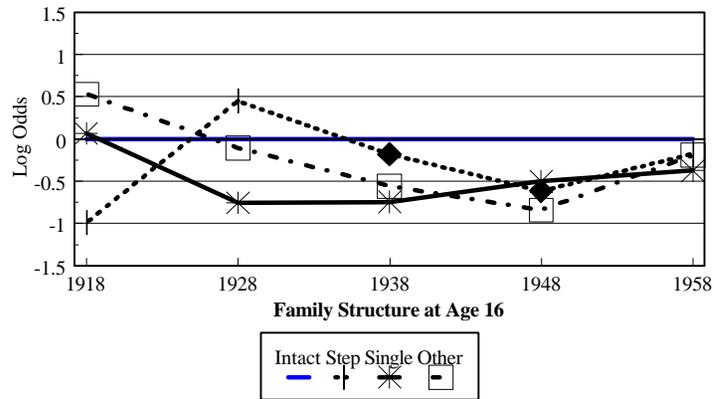
**Figure 11.** Inter-Cohort Effects of Family Structure on College Attendance for White High School Graduates *without* controls for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



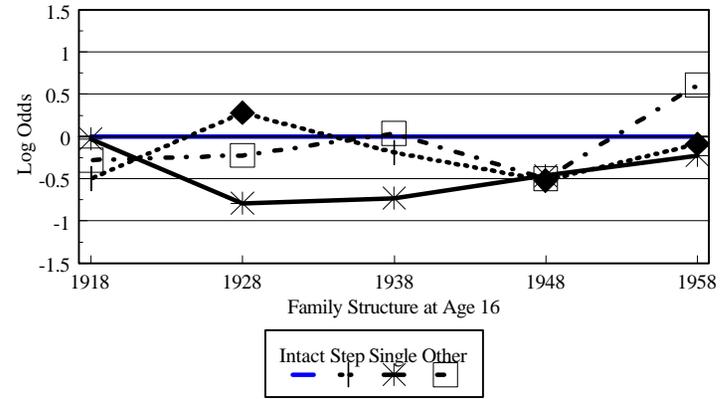
**Figure 12.** Inter-Cohort Effects of Family Structure on College Attendance for White High School Graduates controlling for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



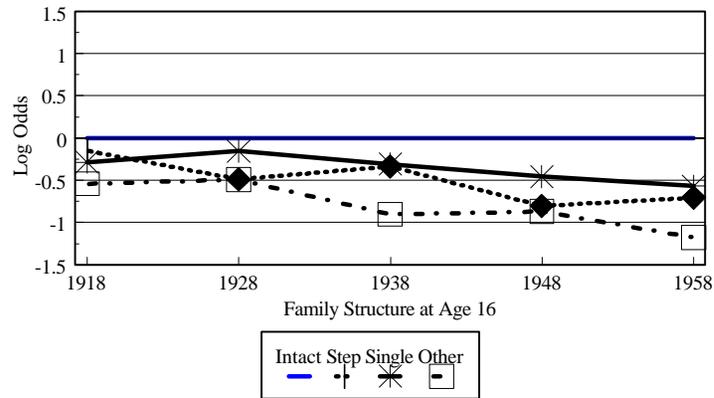
**Figure 13.** Inter-Cohort Effects of Family Structure on College Graduation for Blacks who attended college *without* controls for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



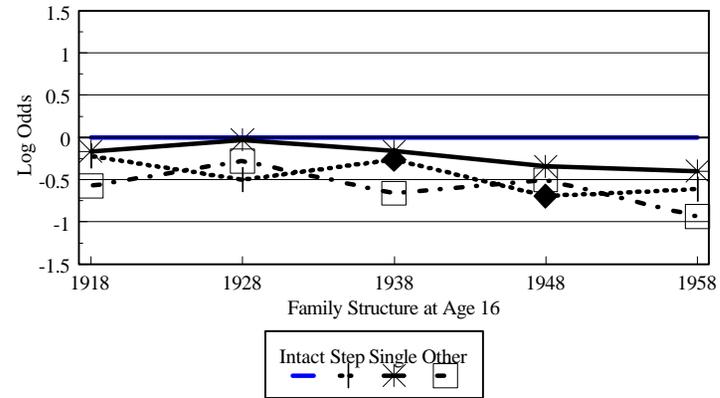
**Figure 14.** Inter-Cohort Effects of Family Structure on College Graduation for Blacks who attended college controlling for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



**Figure 15.** Inter-Cohort Effects of Family Structure on College Graduation for Whites who attended college *without* controls for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



**Figure 16.** Inter-Cohort Effects of Family Structure on College Graduation for Whites who attended college controlling for family background. *Source:* Pooled Sample (SIPP-GSS-NSFH).



Center for Demography and Ecology  
University of Wisconsin  
1180 Observatory Drive Rm. 4412  
Madison, WI 53706-1393  
U.S.A.  
608/262-2182  
FAX 608/262-8400  
comments to: [carter@ssc.wisc.edu](mailto:carter@ssc.wisc.edu)  
requests to: [cdepubs@ssc.wisc.edu](mailto:cdepubs@ssc.wisc.edu)