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Comments invited.

# Choosing the Right Parents:

# Changes in the Intergenerational Transmission of Inequality

# Between the 1970s and the early 1990s

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*Abstract:* This paper uses the General Social Survey and the comparison between the National Longitudinal Surveys of Young Men and of Youth to measure how returns to young men's family background have changed from the late 1970's to the late 1980's and early 1990's. Coming from a wealthy family and having a well-educated father who worked in a high-prestige occupation were much more powerful predictors of a young man's success in the later period. In contrast, maternal education was less important in determining a young man's income and educational attainment. Rising returns to education coupled with a constant relation between family background and education explains most of the rising importance of family background.

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During the last twenty years, cross-sectional income inequality among men in the United States has increased dramatically (Levy and Murname, 1992; Murphy and Welch, 1992). This increase has occurred across almost all dimensions: both between and within age groups, industries, occupations, racial groups, and educational groups. The increase has been observed for both wage and non-wage income, and for income both before and after taxes and transfers (Levy and Murnane, 1992). Researchers have decomposed the rise in inequality into the portion due to changes in characteristics such as education or industry, the portion due to changing returns to these characteristics, and the portion due to changes in the variance of the residual.

Family background is also an important predictor of income. Moreover, several researchers have examined changes during the 1980s and 1990s in the intergenerational transmission of education and occupation. Nevertheless, little research has examined the role changes in the intergenerational transmission of inequality might play in the increase in cross-sectional inequality.

This paper analyzes the General Social Survey (GSS) and the National Longitudinal Surveys of Labor Market Experience, Young Men and of Youth cohorts (NLSYM and NLSY, hereafter NLSX) to measure how returns to young men's family backgrounds have changed from the late 1970's to the late early 1980's. Having a well-educated, high-prestige, and wealthy father is a much more powerful predictor of a young man's income in the 1980's than it was in the 1970's. In contrast, the effect of mothers' education has decreased.

### *Theory and Literature Review*

As the saying goes, "The most important decision you will ever make is choosing the right parents." A number of studies have found that parents' characteristics can help predict a child's lifetime success (e.g., Atkinson, 1981; Massagli and Hauser, 1983).

Social scientists have proposed a number of overlapping channels to explain the correlation between family background and children's economic success: (1) genetically transmitted ability; (2) parents' investment in their child's human capital via (2a) transmission of human capital within the home, (2b) more years of schooling, and (2c) higher quality of schooling; and (3) parental implicit and explicit transmission of valuable social networks and social capital. Transmission may also occur due to (4) sons having a high propensity to have the same

occupation as fathers, when this following in fathers' footsteps is due to social conditioning or favoritism by gatekeepers (in addition to transmission of human capital and networks of information and favoritism). Finally, (5) the intergenerational transmission of inequality may have increased if family background has a constant relation with some investment such as education, and returns to education have risen.

Data limitations, overlapping definitions of what is included in each channel, and interactions among the channels make it impossible to completely unravel the relative importance of these factors. In this paper we provide some (often indirect) evidence against most of these channels, while showing that the increase in intergenerational income correlation due to rising returns to education (channel 5) has played a major role.

Substantial evidence suggests that returns to human capital has increased from the 1970s to the 1990s. To the extent that parental characteristics predict higher social or human capital, and returns to such capital has risen, we have the baseline hypothesis of this paper:

H0: The importance of having parents with advantaged characteristics increased from the 1970s to the 1980s and early 1990s.

**Genes:** Some analysts have hypothesized that inequality has risen due in part to an increased labor market returns to genetically transmitted ability (channel 1, e.g., Herrnstein and Murray 1995). Assume that maternal and paternal education are equally good measures of parental genetic endowments. Because genes are received equally from each parent, with this auxiliary assumption we have the hypothesis:

H1: Returns to mothers' and fathers' education have risen by similar amounts.

**Human capital investments:** Wealthy parents are likely to invest more in the quality of their children's human capital, especially if poor parents cannot borrow against the human capital of their children (Becker, 1981). Human capital is interpreted broadly here to encompass behavioral dispositions and skills such as obedience, promptness, and so forth (Gintis, 1971), as well as cognitive and academic skills such as reading and mathematical abilities. Families' investment occurs partly within the home, as children grow up in enriched environments (refered to as channel 2a above). Because mothers are typically more involved than fathers with child rearing in the United States, this causal channel implies:

H2a: The increased correlation of sons' income with parental characteristics is due primarily to increases in returns to maternal characteristics.

This hypothesis is weakened to the extent that mothers increasingly work outside the home. This reduction in contact could reduce the effect of mothers' characteristics on their sons' human and social capital. (At the same time, high-earning mothers typically purchase more expensive childcare, which may reinforces hypothesis 2a.)

The parental investment in their children's human capital also often has occurred via lower discount rates and relaxed liquidity constraints leading to more years of education for the children of the wealthy (channel 2b; see the citations in Gaviria, 1998). In this case, we have the hypothesis:

H2b: Some of the increased correlation of sons' income with parental characteristics is due to the increased correlation of sons' years of schooling with parental characteristics.

In the United States, children from prosperous families have always enjoyed above-average quality of schooling. Families increase their children's school quality improvement by moving to areas with good schools and by sending their children to private schools. If prosperous parents of young men who entered the labor force in the 1980s and early 1990s invested more in above-average quality of schooling for their children or if the quality difference between the schools of the more and less prosperous widened, or if the returns to school quality rose, then:

H2c: In predicting a respondent's income, the interaction of his years of schooling and parental advantage is larger (or less negative) in the 1980s and early 1990s than in the 1970s.

Some evidence indirectly supports the hypothesis of a widening quality gap. For example, the returns to attending an elite college rose in the time period we are studying (Brewer et al., 1996), and these colleges are attended disproportionately by the children of the prosperous. Other evidence casts doubt on this hypothesis. For example, the correlation between parental characteristics and child test scores has not trended much in the 1970s and 1980s (Hedges and Nowell, 1998: Table 5B-3).

**Following in footsteps:** Inequality among occupations has increased. Thus, if sons are equally likely to follow in their father's footsteps in terms of occupation, the importance of father's characteristics will rise automatically (channel 4). If this channel is important, then

H4: The importance of paternal characteristics in any specific year and the increase in that importance in predicting sons' outcomes over time is substantially lower when the sample does not include sons who share the occupation of their fathers.

**Rising returns to education:** In addition, parental characteristics can be increasingly important in predicting youth outcomes even if their relation with investments is constant, if those investments have increasing returns. Consider the extreme hypothetical case when only children from prosperous families attend college in both the early and later periods. If the college wage premium has risen over these two decades, then the wage premium for being from a prosperous family would have risen as well. Thus, a fifth channel relating rising importance of parental characteristics in predicting education is rising returns to education coupled with a constant relation between parental characteristics and youth education. If this is the main channel, we have

H5a: Parental characteristics are similarly important in predicting education in the early and later periods,

and

H5b: The rising importance in predicting income of having parents with favorable characteristics is largely eliminated by controlling for the son's education.

## Past results on intergenerational transmission

Social scientists have long been interested in the intergenerational transmission of inequality. They have focused on three measures of parental economic standing: educational attainment, income, and occupational status.

Although economists are most familiar with income measures, all three of these correlated components are potentially useful in measuring parents' lifetime economic status (Goldberger, 1989).. Both measurement error and transitory fluctuations are greatest for income, leading to potentially serious downward bias on coefficients of intergenerational correlations of inequality (Solon, 1992; Zimmerman, 1992). Occupational status is problematic to measure because it reflects an average of society-wide attitudes, but it is highly correlated with permanent income. Years of parental education is the easiest to measure, but is subject to variations in quality and has only a modest correlation with income. All the parental characteristics analyzed in this study are measured by sons' recollections, which increases measurement error.

The main finding in studies of intergenerational transmission of inequality has been that there is substantial intergenerational correlation of lifetime economic success. This correlation appears among all three measures for either fathers' or sons' advantage: education, occupational status, or income (Solon, 1992; Zimmerman, 1992; Massagli and Hauser, 1983).

A second finding in the literature is that measurement error and transitory fluctuations lead the estimated correlation between a single year's measure of fathers' and sons' income to be biased down by roughly half (Solon, 1992; Zimmerman, 1992). For example, using average income over several years greatly increases (usually doubling) the estimated correlation or regression coefficient between sons' and fathers' incomes. Although estimates vary, studies that adjust for measurement error typically find that a one standard deviation rise in a father's permanent income probably predicts a roughly 0.4 standard deviation increase in a son's permanent income (e.g., Solon, 1992; Zimmerman, 1992).

A number of social scientists have investigated changes over time in the intergenerational transmission of education, of income, and of occupational status up through the 1970s. In general, links between generations became weaker from the fifties to the 1970s (e.g., Featherman and Hauser, 1977). Since 1970 the results on changes in correlations of occupation, education, and income are less consistent.

Michael Hout found that the intergenerational transmission of occupational status continued to weaken at least through the late 1980s (Hout, 1988). Gottschalk, et al., summarize several studies examining data from different decades (1994: 101). To the extent the results in the studies are comparable, these comparisons also imply a decline in occupational status inheritance.

Based in large part on the studies of declining occupational correlations, McMurrer and his co-authors concluded "Overall, the evidence suggests that the playing field is becoming more level in the United States. Socioeconomic origins today are less important than they used to be." (1997). In fact, the results are less clear for education and income as for occupation.

Turning first to education: Manski (1993) found that the correlation of parental income and youth college enrollment rose using Current Population Survey data 1970 to 1988. In contrast, he found the correlation between income quintile and college graduation rates of the high school classes of 1972 and 1980 were similar. (The analysis of college graduation rate compared the National Longitudinal Survey of the Class of 1972 and the High School and

Beyond survey of the class of 1980). David Ellwood and Thomas Kane (1999) found that in the 1990s compared with the 1970s the proportion of dependent 18- and 19-year-olds enrolled in college rose for children of the richest income quartile, but declined slightly for children of the poorest quartile.

Changes in the intergenerational transmission of income also have mixed results. Duncan, et al., (1996) examine the careers of young men in the PSID. They examined the proportion at various ages that earned twice the poverty level. Consistent with other evidence on the declining incomes of young men, fewer 30-year olds earned this much in the 1980s than in the 1970s.

By this metric, the reduction in mobility was largest for workers from more advantaged backgrounds. For men coming from families with incomes less than 150% of the poverty line, the drop was from 27% to 20%. For men advantaged by a parental income level of more than four times the poverty line the drop was nearly 20 percentage points, from 74% to 56%. The odds of earning twice the poverty line dropped by about one fourth for each group, but the absolute percent change was far larger for the more privileged sample. Thus, the Duncan, et al., results imply the returns to family background in terms of the probability of making a middle-class income by age 30 have declined.

In contrast, Murname, et al., (1995) compared the earnings of youth six years after graduating high school in 1972 (the National Longitudinal Survey of the Class of 1972) or in 1980 (High School and Beyond). Controlling for respondent education, neither paternal nor maternal education were useful in predicting sons' earnings in either the earlier or later period; hence, there was no statistically significant increase in the returns to having well educated parents. In contrast to their results on young men, maternal and paternal education were increasingly powerful predictors of daughters' earnings, a sample not studied here. Given that many previous studies find an important channel for the advantage of youth from advantaged families is more education, it is important to replicate these analyses both with and without controlling for son's education.

Given the mixed findings from past studies, it is important to analyze additional datasets. The current research builds on these past studies of intergenerational correlations of sons' attainment and earnings by examining two additional datasets, by analyzing multiple outcomes

(both income and education), and by examining income both with and without controlling for education.

### *Methods*

The standard method for studying the intergenerational transmission of income and education is to run a regression of the form:

1) $Y_{son} = a + b\ Y_{family}$,

where Y is the log of income.

As noted above, measurement error on $Y_{family}$ is an important problem in regressions such as equation (1). Some analysts have averaged several years of parental income; a strategy we cannot follow in our more limited datasets.

We first present results that do not address issues of measurement error, and then discuss an instrumental variable estimator with the opposite bias. Ignoring measurement error is not too serious if the measurement error is similar in both the early and late samples. Under this assumption, *changes* in the intergenerational transmission of inequality should be of the correct sign, although the *magnitudes* will be biased downward in both samples.

We estimate a variant of equation 1 using several indicators of family background:

2) $Y_{son} = a + b_1\ Y_{family} + b_2\ Education_{father} + b_3\ Education_{Mother} + b_4\ Occupational\ status_{father}$.

The basic hypothesis (H0) is that between the early and late periods the coefficients $b_i$ rose, and their contribution to $R^2$ also rose. Because inequality is higher in the later period ($sd(Y_{son})$ rose), a variable with the same standardized coefficient will contribute less to $R^2$ in the later period. Thus, looking for an increased contribution to $R^2$ is a conservative test of "rising importance."

**Education:** We are also interested in whether parental characteristics are increasingly important for predicting sons' education (hypotheses 2a and 5a). To test this hypothesis we run regressions similar to equation 2 that predicts sons' education:

3) $Education_{son} = a + b_1\ Y_{family} + b_2\ Education_{father} + b_3\ Education_{Mother}$

$+ b_4\ Occupational\ status_{father}$.

If rising returns to education are responsible for the rising importance of family background in predicting income, then including the son's education in equation (2) should largely eliminate the rising returns to family background (hypothesis 5b):

4) $Y_{son} = a + b'_1 Y_{family} + b'_2 \text{Education}_{father} + b'_3 \text{Education}_{Mother}$

$+ b'_4 \text{Occupational status}_{father} + c \text{ Education}_{son}$

That is, the rise in the coefficients $b'_i$ and the increase in contribution to $R^2$ from adding the family background variables should be far less in equation (4) than in equation (2).

**Measurement error:** Young men's reports of their parent's income is a noisy measure of true income. If self-reported family income when the respondent was a teenager (age 14 or 16) is an unbiased but noisy measure of family background and family characteristics such as parental education only affect sons' income via an income effect, parental education is an appropriate instrumental variable to identify the true role of family income (Solon, 1992; Zimmerman, 1992). The instruments we use include mother's and father's education, and (in the GSS) father's occupational prestige. Because parental education may affect respondents in other ways besides through higher income, the instrumental variable estimator represents an upper bound on the effect of family income alone (Solon 1992: 400). At the same time, it remains a sensible indicator of the *total* effect of having an advantaged family background, and can provide a bound on the true effect of income alone.

In addition to measurement error and transitory fluctuations of family income, Massagli and Hauser find very large measurement error in retrospective evaluations by children of their parents' characteristics (1983). Fortunately, this measurement error was uncorrelated with the true attributes of the parents and the children; thus, the measurement error introduced downward bias due to added noise, but no additional biases.

## *Data*

We analyze two cohorts from the National Longitudinal Surveys of Labor Market Experience and several decades of data from the General Social Survey.

### National Longitudinal Surveys of Labor Market Experience

The National Longitudinal Surveys (NLS), sponsored by the Bureau of Labor Statistics, include several age cohorts and cover several periods from 1966 through 1994 (Center for Human

Resource Research, 1993a, b). We examine the Young Men cohort, surveyed initially in 1966, and then again annually until 1981. We paired this group of young men with a similar male subsample of the later National Longitudinal Survey of Youth (NLSY), begun in 1979 and continued through 1991, to create a pair of cross-sectional looks at the socioeconomic origins and destinations of several thousand young US males. Both samples began with a nationally representative set of young men.

These two snapshots of socioeconomic outcomes were taken in 1976 and 1989. These dates were ten years from the survey start dates for the NLS Young Men cohort (for our purposes, NLSB), and the NLSY Young Men (NLSY) cohort, respectively. The surveys began when the respondents were aged 14-24 and 14-22, respectively. For our analysis of outcomes ten years hence, adult male respondents aged 24-32 were included in our analysis. Thus, we have family background and demographic information primarily gleaned from the 1966 (NLSB) and 1979 (NLSY) surveys, and socioeconomic outcome information from the later interviews in 1976 (NLSB) and 1989 (NLSY). For convenience, the NLS Young Men cohort (NLSB) surveys and the NLS Youth male cohort (NLSY) surveys will be referred to hereafter in this paper as the NLSX.

The sample was restricted in the later period of each survey to male respondents who were not living with their parents, were not enrolled in school, and provided data on their current incomes and years of schooling. The sample chosen in this way was not statistically significantly different on observable characteristics than the entire sample.

## General Social Survey

The General Social Survey (GSS), conducted by the National Opinion Research Center (NORC) and the Roper Center, is an annual (biannual beginning in 1994) cross-sectional survey of a representative sample of the entire US population (Davis, J. & Smith, T. 1994a, b). A subsample of males aged 24-32 was chosen (that is, the same age group as the NLSB and NLSY respondents). Because the annual sample size for the GSS is roughly 1500 for respondents of all ages, the years 1972-1980 were pooled to correspond with the 1976 period of the NLSB, and the years 1985-1993 were aggregated to correspond with the 1989 period of the NLSY. In each aggregate period of the GSS, respondents who were aged 24-32 when they were surveyed are

included in our analysis. Because the GSS is a cross-sectional survey, family background data were gathered during each administration of the survey. The GSS sample was also restricted to respondents that were not living with their parents, were not enrolled in school, and provided data on their income and schooling. The sample we use was not statistically significantly different from the entire sample of men that age on observable characteristics.

The surveys differ in the timing when parental data were collected. In the NLSX, data on the family background were gathered in the base year of each longitudinal study, when respondents were living with their parents as dependents. The respondents, ranging in age from 14 to 22, reported on themselves, as well as parental income and wealth, etc. These data were used to measure family background conditions during youth, when specific data for age 14, for example, were not otherwise available. Self-report data were also obtained in the adulthood year of each survey. In the GSS, all data were obtained from the respondent during the single interview of the respondent as an adult. Respondents answered retrospectively about their parents and their family income at age 16.

In summary, we examined men aged 24-32 who grew up with two parents (defined here as a mother or stepmother, plus a father or stepfather) present during their youth (at age 14-22 for NLSX respondents, or age 16 for GSS respondents). The lower bound on age was set at 24 so that most respondents would have finished their education. The upper bound of 32 was chosen to focus on younger workers, because older workers' careers in the 1980's were largely determined by what occurred in the 1970's or before. Summary statistics are presented in Table 1.

## The measures

The NLSX contains 3 measures of family background: family income at age 14 and maternal and paternal education. For all variables, data from a stepmother or stepfather were treated the same as data from biological parents.

In the NLSB, family income was coded categorically, while in the NLSY it was continuous. To create an NLSY variable with the same characteristics as its NLSB counterpart, we adjusted the category boundaries for the NLSB measure by inflation (using the CPI-U-X1) and re-coded the NLSY family income using these new categories. A small number of responses were top-coded.

In all datasets, interval measures of income were coded at the midpoint of the interval and natural logs were taken of the midpoints to measure log(income). The top-code for each variable was chosen to be 1.5 times the truncation level. Different treatments of the top-coding did not change the results.

Like the NLSX, the GSS includes mother's and father's education. The GSS has a coarser income measure: relative income class when the respondent was 16 (1 = "far below average"; 3 = "average"; 5 = "far above average"). We treated this variable as continuous; entering each value as a separate dummy variable did not change the main result. Counter-balancing this weakness, the GSS also had father's occupational status (as measured by a prestige index). The measure of occupational status was computed as a z-score of the original survey responses.

The results presented below focus on the mother's education as the primary measure of her human capital. Other characteristics of the mother, such as her labor force status during the youth's childhood were included in some regressions for robustness checks.

The respondent's income measure in the General Social Survey is categorical. Respondents marked one of approximately twenty categories ($10-12,000, for example). The precise number of categories depended on the year. The maximum category changed over time to approximately track inflation.

### *Results*

Baseline control variables in the equation predicting sons' income included age, age squared, a dummy variable for whether the respondent lived in the south as a youth (ages 14 for the NLSX and 16 for the GSS), and an indicator variable equal to one if the respondent was African American. Results were similar when the sample was restricted to whites. The baseline model also included dummy variables for missing responses to key variables such as maternal or paternal education. Missing values paternal education were most likely in families where the biological father is absent; thus, these dummies partly pick up the effect of family structure.

Coefficients on several of the baseline variables shifted over time (Tables 2a and 2b). For example, in the NLSX, being black and from the South mattered less in the 1980s and early 1990s than in the 1970s. Interestingly, and in contrast to the NLSX results, in the GSS the coefficient

on being black becomes increasingly negative (from -13.9% to -26.2%) and statistically significant.

## Family background and income

Table 2 presents the basic results of the paper. These models augment the baseline model with mother's and father's education, family income, and father's occupational status (in the GSS).

Table 2a presents the results on respondent's income from the National Longitudinal Surveys. In the late 1970s, including limited basic family background in the regression increased the $R^2$ by 2.3 percentage points compared with demographic controls (the change from column 1 to column 2). In the late 1980s and early 1990s, by contrast, including limited family background in the regression increased the $R^2$ by 5.4 percentage points (the change from column 3 to column 4). The increase in the rise in $R^2$ was statistically significant at the one- percent level. Given that the standard deviation of log income rose 13 log points (from 0.80 to 0.93), in absolute terms this increase in the importance of family background was somewhat larger than the doubling of importance represented by the rise in $R^2$. These results support hypothesis 0: the importance of having parents with advantaged characteristics increased from the 1970s to the 1980s and early 1990s

Results are similar for the GSS (Table 2b, col. 1-4). In the late 1970s, including limited family background in the regression increased the $R^2$ by 1.2 percentage points compared with demographic controls (the change from column 1 to column 2). In the late 1980s and early 1990s, by contrast, including limited family background in the regression increased the $R^2$ by 2.4 percentage points (the change from column 3 to column 4). Given that the standard deviation of log income rose 5 log points (from .74 to .79), the absolute importance of family background rose proportionately more than the increment to $R^2$. In spite of the large increase in coefficient values, the increment to $R^2$ was not significantly higher in the later than earlier period.

The coefficients on components of family background shifted in similar directions in both datasets. In both cases the coefficient on family income rose and gained statistical significance in the later period. Also in both cases the sum of the coefficients on mother's and father's education remained about constant. Moreover, in both datasets father's education was increasingly

important, offset by a decline in the importance of mother's education. For the GSS dataset, the coefficient on father's occupational prestige was insignificant in both time periods.

The decline in the importance of maternal education is inconsistent with the hypothesis of increased importance of genetic endowment (hypothesis 1), which predicted an equal rise for both parents' characteristics. It is also inconsistent with the hypothesis of increased investments in the children's social and cognitive skills at home (hypothesis 2a), which predicted the largest rise for maternal education.

## (Over-)correcting for measurement error

As described above, if parental education predicted family income (as it does), but did not have a direct effect on son's income, it would be an appropriate instrument. As is evident in Table 2, even when controlling for family income, a father's education has a strong direct effect on his son's income. Thus, the father's education is not an appropriate instrument (unless all of this effect is due to father's education picking up mismeasured permanent family income). Nevertheless, using father's education as an instrument can give an upper bound on the true effect of income, as the instrumental variable estimator will capture both the true effect of parental income and any additional effects correlated with parental education (Solon 1992: 400).

The instrumental variable results are presented in Table 4. The first-stage estimates had very high F statistics, suggesting that weak first stages were not a problem. Results are available on request.

As expected, the instrumental variable estimates of the coefficient on family income were roughly twice the OLS estimates. These OLS regressions include the baseline controls as in Table 2, but not maternal and paternal education or occupational prestige. For example, in the NLSYM the OLS coefficient on family income in predicting a youth's income was .14 in the early period, while the IV estimate was .45.

The main question of this paper is how the coefficient on family background changed over time. The NLSX the instrumental variable estimator of the coefficient on log (family income) rose slightly from .45 in the early period to .50 in the later period (change not significant).

The effect of family income in the GSS rose by a larger and statistically significant amount. The instrumental variable estimator of the coefficient was .103 in the early period and .304 in the later period.

Thus, for both OLS and IV estimates the role of family background increased in importance. The rise was statistically significant for the bundle of family background (Table 2) only for the NLSX, while the rise was statistically significant for the IV estimate (Table 4) only for the GSS.

## Family background and education

An important possibility is that the increased importance of family background in predicting income is due to increased importance of family background in predicting education. In fact, our results do not support this hypothesis.

Table 3 presents regressions that predict years of education with family background. In the late 1970s, including limited family background in the NLSX regression increased the $R^2$ by 16.6 percentage points (the change from column 1 to column 2 in table 3a). In the late 1980s and early 1990s, including limited family background in the regression increased the $R^2$ by a virtually identical 16.7 percentage points (the change from column 3 to column 4). The standard deviation of son's education declined during this period from 2.7 to 2.2 years, so in absolute terms, the effect of family background declined during this period.

Table 3b replicates these results for the GSS. In the late 1970s, including limited detailed family background in the regression increased the $R^2$ by 15.2 percentage points. In the late 1980s and early 1990s, including family background in the regression increased the $R^2$ by 16.0 percentage points. As in the NLSX, the standard deviation of sons' education declined during this period from 2.72 to 2.50 years.

In both datasets the coefficient on family income rose while the coefficient on mother's education declined. Given the collinearity of the family background measures and the inconsistent results on the change in father's education (falling in the NLSX and rising in the GSS), not too much importance should be given to any single coefficient. Nevertheless, the rising importance of family income is consistent with an increasing financial burden of attending college (Ellwood and Kane, 1999).

**Demographic controls:** As with income, in the NLSX, being Black and from the South became less of a disadvantage, with the coefficient on being Black actually becoming positive once family background was introduced in the later time period. The relatively high education of black youth conditional on their parents' characteristics result has been reported elsewhere with the NLSY (e.g., Herrnstein and Murray, 1995), and with other data sets, (e.g., Levine and Painter [1999] using the NELS); somewhat surprisingly, we do not find this result with the GSS (Table 3b).

## The Instrumental Variable Estimator & Sons' Education

The instrumental variable estimator uses parental education and (in the GSS) fathers' occupational prestige as instruments for family income. The relationship between estimated family income and sons' education weakened (Table 5). In the NLSX, the coefficient on estimated log(family income) declined from 4.57 in the earlier period to 2.65 in the later period (change significant at the 1 percent level). In the GSS, the coefficient on the instrumental variable estimator of subjective family income class declined from 3.04 in the earlier period to 2.77 in the later period (change n.s.).

## Family background and income, conditioning on education

Education is an important factor in understanding changes in intergenerational transmission of inequality because education is correlated both with parents' characteristics and with income. Furthermore, the returns to education have increased substantially from the 1970s and to the 1990s, and this increase accounts for a large proportion of the increase in overall income inequality. Thus, even if family background has a constant relation to a respondent's education, it will have an increasingly strong relation with respondent income by virtue of the rising returns to education (hypothesis 5a). If we condition on education, we can find the portion of the increasing returns to family background that is neither not due to rising returns to education nor to changes in the relationship between family background and education.

These results are presented in Table 6. In the NLSX (Table 6a), with only demographic controls, the coefficient on respondent's education rose 6.0 percentage points, almost doubling, from the late 1970s to the late 1980s and early 1990s (from 6.9% wage increase per year of education to 12.9% per year). This increase was diminished somewhat to 4.6 percentage points

when controls for family background were included; the return to education rose from 6.3 to 10.9% per year.

In the late 1970s, including family background in the NLSX regression model that already had both the demographic baseline and the respondent's own education increased the $R^2$ by 0.7 percentage points (the change from column 1 to column 2, Table 6a). In the late 1980s and early 1990s, by contrast, including family background in the regression increased the $R^2$ by 1.8 percentage points (columns 3 and 4). An F-test indicates that the rise in $R^2$ was statistically significant. Nevertheless, family background's incremental $R^2$ of 1.1 percentage points when controlling for respondent education is far lower than the 5.4 percentage point rise reported in Table 2. These results support hypothesis 5b.

Results are qualitatively similar for the GSS (Table 6b). In the GSS with only demographic controls, the coefficient on respondent's education rose 3.6 percentage points, more than doubling, from the 1970s to the 1980s (from 2.9% wage increase per year of education to 6.5% per year). This increase diminished somewhat to 3.1 percentage points when controls for limited family background were included (2.5 to 5.6%). When respondent's education wass included in the regression, limited family background added only 0.1% more to $R^2$ in 1980s and early 1990s than in the 1970s (not significant). In the late 1970s, including limited family background in the regression increased the $R^2$ by 0.8 percentage points. Similarly, in the late 1980s and early 1990s, including family background in the regression increased the $R^2$ by 0.9 percentage points (columns 3 and 4, change in coefficients is not significant). This rise was also smaller than the 2.4 percentage point increase when family background was added without controlling for respondent education (as reported in Table 3), although neither value was statistically significant.

Thus, a small proportion of the increase in returns to education were actually increases in returns to family characteristics. Consistent with hypothesis 5b, increases in returns to family characteristics were largely due to a fairly constant relation between family background on average and education coupled with rising returns to schooling.

### Interacting family income and son's education

In the early period in both datasets the interaction of family income and son's education entered negatively, although the coefficient was only statistically significant in the NLSX. (Results available on request.) The negative interaction implies that a year education was *more* valuable to youth from low-income families, in contrast to the hypothesis that prosperous families purchased years of education that were more valuable in the labor market. Such a result is consistent with a model where education is a necessary requirement for disadvantaged youth to succeed, while advantaged youth can succeed even with lower education.

The coefficients on the interactions in the later period were similar in magnitude to and not statistically significantly different than those in the earlier period. Thus, there is no evidence that a year of education for sons in rich families relative to poor ones mattered more in the later period than in the earlier period. These results contradict hypothesis 5c of a widening gap in school quality (as valued by the labor market) between more and less advantaged families.

### Following in Footsteps

Hypothesis 4 posited that the rising returns to family background were due to the rising benefits of following in a prosperous father's footsteps and the rising costs of following in a less-prosperous father's footsteps. In fact, results were unchanged when we reran the regressions dropping observations of sons who shared a detailed (3-digit) or broad (2-digit) occupation with their father.

### Robustness checks

The regressions were re-run with modified specifications check the robustness of the results. (Results available on request.) We tried alternative values for respondents' with top-coded incomes and we dropped such respondents. We relaxed the assumption that family income has the same effect on the decision to complete high school as to start college, and analyzed each step in the education process (dropout from high school, start college, complete college) with a separate logit equation. We entered nonlinear combinations of several of the variables such as family income squared. Results were quite similar in alternative specifications.

**Richer measures of family background:** The measures of family background analyzed above leave out many potentially important factors. We augmented the standard specification

with a richer set of characteristics that past studies have found help predict youth outcomes such as religion, family structure, whether the family had a library card, and so forth. The measures were collectively both statistically and economically significant in predicting sons' incomes.

After adding the limited basic family background variables analyzed above, the more detailed family background measures did not increase in importance. In the late 1970s, including detailed family background in the NLSX regression increased the $R^2$ by 0.9 percentage points compared to only having limited family background. In the late 1980s and early 1990s, adding detailed family background to the regression again increased the $R^2$ by 0.9 percentage points. Results were parallel in the GSS. Detailed family background added 2.9 percent to the $R^2$ of the regressions for in Table 2 for the early period, but only 2.7% in the later periods.

As in the models with income, detailed family background adds to the $R^2$ in the models of education, but the incremental effects of adding this information have not increased over time. In the NLSX, the incremental $R^2$ of detailed family background over limited family background fell from 4.3% to 1.9%. In the GSS, the incremental $R^2$ was almost constant, declining slightly from 4.6% to 4.1%.

### *Discussion and Conclusion*

It has always been a wise idea to choose prosperous and well-educated parents. This most important choice became increasingly important as inequality rose in the 1980s and early 1990s, as represented in the left pair of columns in Figures 1 and 2.

The rising importance of an advantaged family is consistent with almost all theories of the intergenerational transmission of inequality. At the same time, we provided some evidence against most of the channels of intergenerational transmission. Returns to mother's education declined, which provides indirect evidence against the channel of genetically transmitted ability (H1) and the channel of transmission of human capital within the home (H2a). Unlike some past research, we did not find the increased inequality was due to a stronger relation between parental characteristics and years of schooling (H2b). We also found no support for a stronger relation between parental characteristics and higher quality of schooling (H2c). Our results shed no light on the channel of parental implicit and explicit transmission of valuable social networks and social capital (channel 3).

These results do indicate that much of the higher correlation between family background and young men's income is due to the relatively constant relation between family background and education, coupled with strongly rising returns to education. (H5). This result is also summarized in figures 1 and 2, where the rise in importance of family background is greatly muted when controlling for sons' education.

The rise in the importance of family background in predicting young men's income does not have direct policy consequences. To the extent the inequality reflects inefficient under-investments in schooling, perhaps due to parental liquidity constraints, these results suggest that policies to improve disadvantaged children's access to education and other investments can have increasingly large payoffs. To the extent the inequality reflects efficient lower investments in children with lower ability or motivation, the rising returns to ability (and plausibly also motivation) in the 1990s compared with the 1970s sharpen policy-makers' dilemma about the equity-efficiency trade-off. Most Americans disapprove of very large inequality of opportunity; thus, the rising importance of having chosen the right parents may suggest political support for policies to improve the opportunity of children from relatively disadvantaged families.

## Additional research

The current research emphasized the income of young men. Future research should examine young women as well, which would permit an examination of changes in the relationship between family background and young women's educational attainment, assortive mating (Kremer, 1997), and labor force participation.

The current research examines sons' income. Future research should examine each component: earnings vs. nonlabor income, employment vs. unemployment, hours if employed, and wages during those hours (Peters 1992). Finally, the transmission of poverty and wealth have not been symmetric (Gaviria, 1998). It would also be interesting to look for changes in the asymmetry.

**Table 1A: NLSX Summary Statistics**

| Variable | Mean | Standard Deviation | Mean | Standard Deviation |
|---|---|---|---|---|
| | Early (NLSB, 1976) | | Late (NLSY, 1989) | |
| Log respondent's income | 8.48 | 0.80 | 8.26 | 0.93 |
| R's age in 1976 or 1989 | 26.86 | 2.28 | 27.52 | 2.12 |
| R's age squared | 726.65 | 125.82 | 761.82 | 118.29 |
| R is black | 0.26 | 0.44 | 0.27 | 0.45 |
| R's region age 14 | 0.43 | 0.50 | 0.37 | 0.48 |
| R's years of education | 13.23 | 2.70 | 12.57 | 2.21 |
| Mothers education is missing | 0.09 | 0.29 | 0.06 | 0.23 |
| Fathers education is missing' | 0.21 | 0.41 | 0.13 | 0.34 |
| Log of family income 1966 or 1979 | 8.79 | 0.82 | 9.49 | 0.85 |
| Mother's education | 10.40 | 3.11 | 10.92 | 3.00 |
| Father's education | 10.43 | 3.44 | 10.94 | 3.54 |
| Rural | 0.41 | 0.49 | 0.22 | 0.42 |

**Table 1B:GSS Summary Statistics**

| Variable | Mean | Standard Deviation | Mean | Standard Deviation |
|---|---|---|---|---|
| | GSS Early, 1970s | | GSS late, 1980s and 1990s | |
| Log of R's real income (1986 $) | 9.82 | 0.74 | 9.69 | 0.79 |
| R's age | 27.88 | 2.59 | 28.18 | 2.54 |
| R's age squared | 784.25 | 144.73 | 800.48 | 142.94 |
| R is black | 0.10 | 0.30 | 0.13 | 0.34 |
| R lived in South at 16 | 0.32 | 0.47 | 0.31 | 0.46 |
| R's highest grade completed | 13.43 | 2.67 | 13.60 | 2.50 |
| Mothers education is missing | 0.06 | 0.24 | 0.07 | 0.26 |
| Fathers education is missing' | 0.15 | 0.35 | 0.21 | 0.41 |
| Missing father's occ. prestige | 0.11 | 0.32 | 0.15 | 0.36 |
| Family relative income at 16 | 2.88 | 0.78 | 3.01 | 0.80 |
| Mother's education | 11.06 | 3.04 | 12.03 | 2.72 |
| Father's education | 10.90 | 3.70 | 12.18 | 3.19 |
| Father self-employed | 0.18 | 0.39 | 0.19 | 0.39 |
| Father's occupational prestige | -0.06 | 0.89 | 0.03 | 0.92 |

Father's occupational prestige is standardized with mean 0 and standard deviation of 1.
Family relative income at 16 is coded 1 to 5.

**Table 2A: NLSX. Dependent variable = Respondent's Income**

| | Early (NLSB 1976) | | Late (NLSY 1989) | |
|---|---|---|---|---|
| | *Column 1* | *Column 2* | *Column 3* | *Column 4* |
| (Constant) | 4.189 | 2.808 | 4.242 | 2.512 |
| | *2.276* | *2.261* | *2.758* | *2.682* |
| Age | 0.257 | 0.269 | 0.242 | 0.209 |
| | *0.166* | *0.164* | *0.199* | *0.193* |
| Age Squared | -0.003 | -0.004 | -0.003 | -0.003 |
| | *0.003* | *0.003* | *0.004* | *0.003* |
| Black | -0.356 ** | -0.244 ** | -0.307 ** | -0.222 ** |
| | *0.045* | *0.047* | *0.039* | *0.039* |
| South | -0.162 ** | -0.102 ** | -0.082 * | -0.021 |
| | *0.037* | *0.038* | *0.035* | *0.035* |
| Log Family Income | | 0.111 ** | | 0.196 ** |
| | | *0.026* | | *0.022* |
| Mother's Education | | 0.029 ** | | 0.008 |
| | | *0.007* | | *0.007* |
| Father's Education | | -0.003 | | 0.025 ** |
| | | *0.006* | | *0.006* |
| $R^2$ | 0.108 | 0.131 | 0.072 | 0.126 |
| Increment to $R^2$ from family background variables | | 0.023 | | 0.054 |
| F-test on family background variables | | 18.430 ** | | 61.229 ** |
| Rise in increment in $R^2$ from addition of family background variables | | | | 0.031 |
| Observations | 2099 | 2099 | 2967 | 2967 |
| F statistic | 42.378 ** | 35.110 ** | 38.068 ** | 47.449 ** |
| Chow-Test: (col. 1 vs. col. 3, col. 2 vs. col. 4) | | | 22.923 ** | 28.648 ** |

Standard errors are in italics.

**Table 2B: GSS. Dependent Variable = Respondent's Income**

| | Early | | Late | |
|---|---|---|---|---|
| | *Column 1* | *Column 2* | *Column 3* | *Column 4* |
| (Constant) | 4.266 ** | 4.028 ** | 2.556 ** | 1.347 ** |
| | *3.407* | *3.409* | *3.325* | *3.303* |
| Age | 0.329 ** | 0.314 ** | 0.448 ** | 0.485 ** |
| | *0.245* | *0.245* | *0.238* | *0.236* |
| Age Squared | -0.005 ** | -0.004 ** | -0.007 ** | -0.007 ** |
| | *0.004* | *0.004* | *0.004* | *0.004* |
| Black | -0.139 ** | -0.129 ** | -0.262 ** | -0.224 ** |
| | *0.092* | *0.093* | *0.075* | *0.075* |
| South | -0.132 ** | -0.105 ** | -0.136 ** | -0.115 ** |
| | *0.057* | *0.059* | *0.054* | *0.053* |
| Log Family Income | | 0.051 ** | | 0.105 ** |
| | | *0.039* | | *0.034* |
| Mother's Education | | 0.020 ** | | 0.011 ** |
| | | *0.011* | | *0.010* |
| Father's Education | | 0.002 ** | | 0.017 ** |
| | | *0.010* | | *0.010* |
| Self-Employed Father | | 0.017 ** | | 0.009 ** |
| | | *0.070* | | *0.063* |
| Prestige of Father's Occ. | | -0.062 ** | | -0.014 ** |
| | | *0.037* | | *0.031* |
| $R^2$ | 0.095 | 0.107 | 0.112 | 0.136 |
| Increment to $R^2$ from family background variables | | 0.012 | | 0.024 |
| F-test on family background variables | | 1.946 | | 5.233 ** |
| Rise in increment in $R^2$ from addition of family background variables | | | | 0.012 |
| Observations | 739 | 739 | 957 | 957 |
| F statistic | 8.529 ** | 6.205 ** | 13.26 ** | 10.581 ** |
| Chow Test of changes over time (col. 1 vs. col. 3, col. 2 vs. col. 4) | | | 2.010 * | 2.359 ** |

Standard errors are in italics.
Regression also includes controls for respondents missing parental characteristics.

**Table 3A: NLSX. Dependent Variable = Respondent's Education**

| | Early (NLSB 1976) | | Late (NLSY 1989) | |
|---|---|---|---|---|
| | *Column 1* | *Column 2* | *Column 3* | *Column 4* |
| (Constant) | -2.347 ** | -11.368 ** | 25.219 ** | 19.733 ** |
| | *7.580* | *6.862* | *6.584* | *5.987* |
| Age | 1.083 ** | 1.207 ** | -0.989 ** | -1.072 ** |
| | *0.553* | *0.498* | *0.475* | *0.431* |
| Age Squared | -0.017 ** | -0.020 ** | 0.020 ** | 0.021 ** |
| | *0.010* | *0.009* | *0.009* | *0.008* |
| Black | -1.229 ** | -0.314 ** | -0.023 ** | 0.189 ** |
| | *0.148* | *0.142* | *0.093* | *0.087* |
| South | -0.751 ** | -0.267 ** | -0.527 ** | -0.258 ** |
| | *0.125* | *0.115* | *0.085* | *0.078* |
| Log Family Income | | 0.376 ** | | 0.432 ** |
| | | *0.080* | | *0.049* |
| Mother's Education | | 0.201 ** | | 0.098 ** |
| | | *0.021* | | *0.015* |
| Father's Education | | 0.175 ** | | 0.145 ** |
| | | *0.019* | | *0.013* |
| $R^2$ | 0.129 | 0.295 | 0.057 | 0.224 |
| Increment to $R^2$ from family background variables | | 0.166 | | 0.167 |
| F-test on family background variables | | 163.959 ** | | 212.122 ** |
| Rise in increment in $R^2$ from addition of family background variables | | | | 0.001 |
| Observations | 2099 | 2099 | 2967 | 2967 |
| F statistic | 51.434 ** | 97.083 ** | 29.767 ** | 94.380 ** |
| Chow Test of changes over time (col. 1 vs. col. 3, col. 2 vs. col. 4) | | | 33.751 ** | 43.700 ** |

Standard errors are in italics.

**Table 3b: GSS. Dependent Variable = Respondent's Education**

| | Early | | Late | |
|---|---|---|---|---|
| | *Column 1* | *Column 2* | *Column 3* | *Column 4* |

| | | | | |
|---|---|---|---|---|
| (Constant) | -20.829 ** | -18.109 ** | 21.469 ** | 13.962 ** |
| | *12.068* | *11.056* | *10.712* | *9.804* |
| Age | 2.515 ** | 1.953 ** | -0.569 ** | -0.380 ** |
| | *0.868* | *0.796* | *0.766* | *0.700* |
| Age Squared | -0.045 ** | -0.034 ** | 0.011 ** | 0.007 ** |
| | *0.016* | *0.014* | *0.014* | *0.012* |
| Black | -0.826 ** | -0.419 ** | -0.062 ** | 0.234 ** |
| | *0.327* | *0.302* | *0.243* | *0.223* |
| South | -0.934 ** | -0.405 ** | -0.675 ** | -0.462 ** |
| | *0.203* | *0.192* | *0.173* | *0.159* |
| Family Income | | 0.124 ** | | 0.204 ** |
| | | *0.125* | | *0.101* |
| Mother's Education | | 0.229 ** | | 0.159 ** |
| | | *0.034* | | *0.030* |
| Father's Education | | 0.106 ** | | 0.164 ** |
| | | *0.033* | | *0.029* |
| Self-Employed Father | | 0.417 | | 0.091 ** |
| | | *0.228* | | *0.188* |
| Prestige of Father's Occ. | | 0.158 ** | | 0.238 ** |
| | | *0.119* | | *0.092* |
| $R^2$ | 0.116 | 0.268 | 0.082 | 0.242 |
| Increment to $R^2$ from family background variables | | 0.152 | | 0.160 |
| F-test on family background variables | | 30.068 ** | | 39.768 ** |
| Rise in increment in $R^2$ from addition of family background variables | | | | 0.008 |
| Observations | 739 | 739 | 957 | 957 |
| F statistic | 10.594 ** | 18.958 ** | 9.442 ** | 21.524 |
| Chow Test of changes over time (col. 1 vs. col. 3, col. 2 vs. col. 4) | | | 2.342 ** | 1.794 * |

Standard errors are in italics.
Regression also includes controls for respondents missing parental characteristics.

## Table 4: OLS & IV Estimates of the Effects of Family Income on Respondent Income

**Dependent Variable = Respondent's Income**
**Independent Variable =**
**Log(Family Income) for NLSX**
**Relative family income class (1-5) for GSS**

| | | OLS | | IV | |
|---|---|---|---|---|---|
| | | B | SE | B | SE |
| **NLSX** | Early | 0.137 ** | 0.024 | 0.453 ** | 0.079 |
| | Late | 0.263 ** | 0.020 | 0.499 ** | 0.054 |
| **GSS** | Early | 0.069 * | 0.034 | 0.103 | 0.080 |
| | Late | 0.158 ** | 0.030 | 0.304 ** | 0.068 |

Notes: This table presents only the coefficient on family income. All regressions also included controls for respondent age and its square, region at age 14 or 16, and race. First-stage regressions used maternal and paternal education and (in the GSS) father's occupational prestige as instruments. Results from the first-stage regressions available on request.

## Table 5: OLS & IV Estimates of the Effects of Family Income on Respondent Education

**Dependent Variable = Respondent's Education**

**Independent Variable =**
**Log(Family Income) for NLSX**
**Relative family income class (1-5) for GSS**

| | | OLS | | IV | |
|---|---|---|---|---|---|
| | | B | SE | B | SE |
| **NLSX** | EARLY | 0.969 ** | 0.077 | 4.570 ** | 0.354 |
| | LATE | 0.830 ** | 0.047 | 2.646 ** | 0.152 |
| **GSS** | EARLY | 0.752 ** | 0.122 | 3.038 ** | 0.345 |
| | LATE | 0.772 ** | 0.098 | 2.765 ** | 0.260 |

See notes from previous table.

**Table 6A: NLSX: Income controlling for respondent education.**
**Dependent Variable = Respondent's Income**

| | **Early (NLSB 1976)** | | **Late (NLSY 1989)** | |
|---|---|---|---|---|
| | *Column 1* | *Column 2* | *Column 3* | *Column 4* |
| (Constant) | 4.351 * | 3.527 | 0.977 | 0.364 |
| | *2.216* | *2.221* | *2.630* | *2.607* |
| Age | 0.187 | 0.192 | 0.370 | 0.326 |
| | *0.162* | *0.161* | *0.189* | *0.187* |
| Age Squared | -0.002 | -0.002 | -0.006 | -0.005 |
| | *0.003* | *0.003* | *0.004* | *0.003* |
| Black | -0.271 ** | -0.224 ** | -0.304 ** | -0.242 ** |
| | *0.044* | *0.046* | *0.037* | *0.038* |
| South | -0.110 ** | -0.085 * | -0.014 | -0.008 |
| | *0.037* | *0.037* | *0.034* | *0.034* |
| Respondent's Education | 0.069 ** | 0.063 ** | 0.129 ** | 0.109 ** |
| | *0.006* | *0.007* | *0.007* | *0.008* |
| Log Family Income | | 0.087 ** | | 0.149 ** |
| | | *0.026* | | *0.022* |
| Mother's Education | | 0.016 * | | 0.002 |
| | | *0.007* | | *0.007* |
| Father's Education | | -0.014 * | | 0.009 |
| | | *0.006* | | *0.006* |
| $R^2$ | 0.156 | 0.163 | 0.160 | 0.178 |
| Increment to $R^2$ from family background variables | | 0.007 | | 0.018 |
| F-test on family background variables | | 5.821 ** | | 21.577 ** |
| Rise in increment in $R^2$ from addition of family background variables | | | | 0.011 |
| Observations | 2099 | 2099 | 2967 | 2967 |
| F statistic | 55.088 ** | 40.765 ** | 80.709 ** | 63.919 ** |
| Chow Test of changes over time (col. 1 vs. col. 3, col. 2 vs. col. 4) | | | 17.218 ** | 18.589 ** |

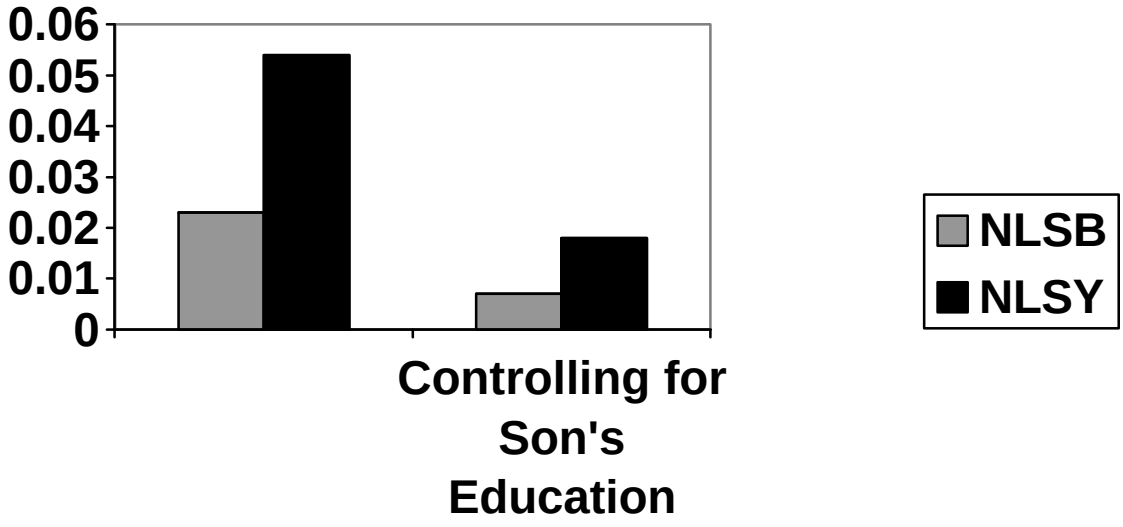
Standard errors are in italics.

**Table 6B: GSS. Income controlling for respondent education**
**Dependent Variable = Respondent's Education**

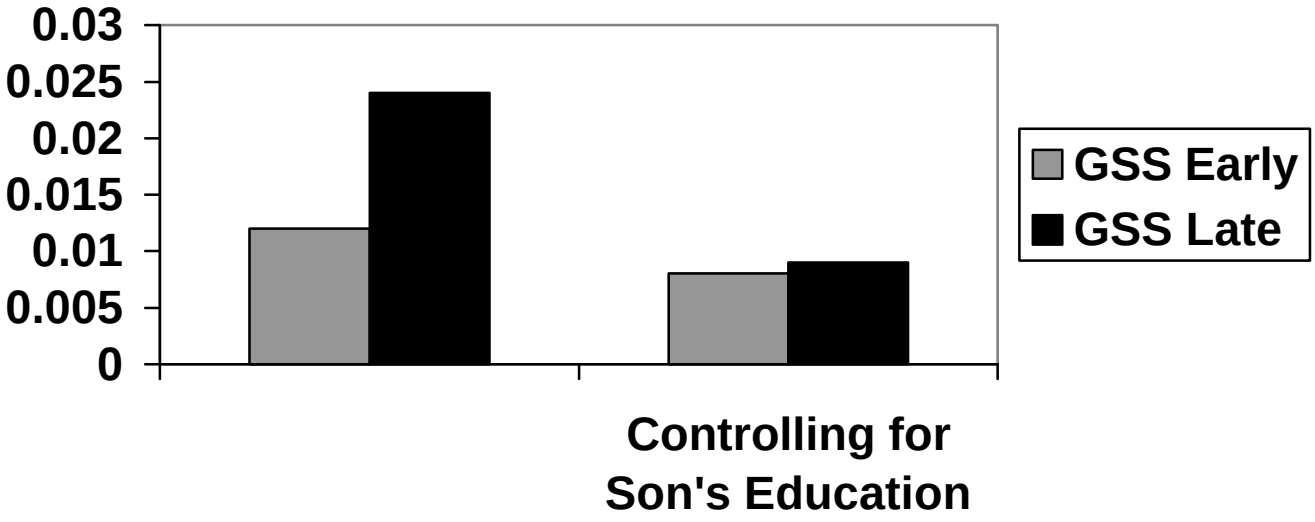
| | Early | | | Late | | |
|---|---|---|---|---|---|---|
| | *Column 1* | | *Column 2* | *Column 3* | | *Column 4* | |
| (Constant) | 4.864 | | 4.483 | 1.650 | | 0.559 | |
| | *3.399* | | *3.406* | *3.260* | | *3.262* | |
| Age | 0.256 | | 0.265 | 0.485 | * | 0.507 | * |
| | *0.245* | | *0.246* | *0.233* | | *0.233* | |
| Age Squared | -0.003 | | -0.003 | -0.007 | | -0.008 | * |
| | *0.004* | | *0.004* | *0.004* | | *0.004* | |
| Black | -0.115 | | -0.119 | -0.258 | ** | -0.237 | ** |
| | *0.092* | | *0.093* | *0.074* | | *0.074* | |
| South | -0.105 | | -0.095 | -0.092 | | -0.089 | |
| | *0.058* | | *0.059* | *0.053* | | *0.053* | |
| Respondent's Education | 0.029 | ** | 0.025 | * | 0.065 | ** | 0.056 | ** |
| | *0.010* | | *0.011* | *0.010* | | *0.011* | |
| Family Relative Income (1-5) | | | 0.048 | | | 0.094 | ** |
| | | | *0.039* | | | *0.034* | |
| Mother's Education | | | 0.015 | | | 0.002 | |
| | 9.734 | | *0.011* | | | *0.010* | |
| Father's Education | | | -0.001 | | | 0.007 | |
| | | | *0.010* | | | *0.010* | |
| Self-Employed Father | | | 0.006 | | | 0.004 | |
| | | | *0.070* | | | *0.063* | |
| Prestige of Father's Occ. | | | -0.065 | | | -0.027 | |
| | | | *0.037* | | | *0.031* | |
| $R^2$ | 0.105 | | 0.113 | 0.151 | | 0.160 | |
| Increment to $R^2$ from family background variables | | | 0.008 | | | 0.009 | |
| F-test on family background variables | | | 1.304 | | | 2.016 | |
| Rise in increment in $R^2$ from addition of family background variables | | | | | | 0.001 | |
| Observations | 739 | | 739 | 957 | | 957 | |
| F statistic | 8.506 | ** | 6.145 | ** | 16.776 | ** | 11.957 | ** |
| Chow Test of changes over time (col. 1 vs. col. 3, col. 2 vs. col. 4) | | | | 2.900 | ** | 2.465 | ** |

Standard errors are in italics. Regression also includes controls for respondents missing parental characteristics.

## Fig. 1: Increment to NLSX Income R2 from Family Background




## Fig. 2: Increment to GSS Income R2 from Family Background



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