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Cohort Changes in the Transition from School to Work: What Changed and What Consequences did it have for Wages?*

Marigee Bacolod University of California, Irvine

V. Joseph Hotz University of California, Los Angeles

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Abstract

This study examines the changes in the school-to-work transition in the United States over the latter part of the twentieth century and their consequences for the wages of young adults. In particular, we document the various types of work and schooling experiences acquired by youth who came to adulthood in the U.S. during the late 1960s, 1970s, and through the 1980s. We pay particular attention to how the differences across cohorts in these transitions vary by gender and race/ethnicity and how these differences affected their subsequent wage attainment. Evidence is evaluated using data from National Longitudinal Surveys of Young Women, Young Men, and Youth 1979.

In general, we find that indicators of educational attainment, working while in school and non-school related work increased across cohorts for almost all racial/ethnic and gender groups. This was especially true for young women. Furthermore, various indicators of personal and family backgrounds changed in ways consistent with an improvement across cohorts in the preparation of young men and women for their attainment of schooling and work experience and their success in the labor market. The one exception to this general picture of improvement across cohorts was Hispanic men, who experienced a notable decline in educational attainment, the acquisition of full time work early in their adult lives and in a variety of personal and family background characteristics.

With respect to hourly wage rates, we find that wages over the ages 16 through 27 declined across cohorts. However, the rate of growth of wages with age, particularly over adult ages, increased across cohorts for all racial/ethnic and gender groups, except black and Hispanic men. To assess the relative importance that changes in the school, work, military and other experiences had on wages across generations, we employ the decomposition proposed by Juhn, Murphy and Pierce (1993) to decompose the across-cohort wage changes in observable determinants, in their associated prices and in unobservable determinants, using a standard regression specification for the determinants of life cycle wages. We find that the dominant factor explaining the declines in wages across cohorts is attributable to changes in the prices of observable characteristics and to changes in unobservable determinants. At constant skill prices, changes in the skill composition across youth cohorts would have increased their wages, most especially for Hispanic women, followed by black women, white women, black men, and then white men. In striking contrast, Hispanic males' wages would still have declined across cohorts purely accounting for compositional changes. We interpret this result as coming from the changing skill composition of immigrants. Our results also highlight the need for accounting for the endogeneity and selectivity of early skill acquisition.

Marigee Bacolod Department of Economics University of California, Irvine 3151 Social Science Plaza Irvine, CA 92697-5100 Tel: 949-824-1990

Fax: 949-824-2182

Email: mbacolod@uci.edu

V. Joseph Hotz Department of Economics University of California, Los Angeles 405 Hilgard Avenue Los Angeles, CA 90095-1477

Tel: 310-794-6617 Fax: 310-825-9528

Email: hotz@econ.ucla.edu

1. Introduction

In this paper, we examine the changes in the school-to-work transition in the United States over the latter half of the twentieth century and their consequences for the wages of young adults. In particular, we analyze the differences in the early schooling, work and related experiences of young men and women from ages 13 through 27 for two different sets of birth cohorts—one set of high school age during the second half of the 1960s while the second set were that age during the late 1970s and early 1980s. In our examination, we pay particular attention to the differences in this transition and subsequent wage attainment by gender and race/ethnicity.

While separated by little more than ten years, these two sets of birth cohorts experienced notably different labor markets conditions and circumstances as each transitioned from school to work. Beginning in the 1980s, the U.S. saw several important changes in the structure of its labor markets. Most notable was the large increase in wage inequality in the 1980s associated with the widening of the wage structure in several dimensions. Wage differentials by education (especially between college graduates and those with less education) occupation, age and work experience all increased. Wage dispersion also increased within demographic and skill groups. These changes in the U.S. labor market gave rise to increased inequality in household income and consumption. These changes in the 1980s were preceded by a narrowing of the educational wage differentials that had no noticeable effect on wage, or income, inequality that had occurred in the late 1960s and 1970s.

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¹ See, for example, Bound and Johnson (1992), Katz and Murphy (1992), Levy and Murnane (1992) and Buchinsky (1994). Katz and Autor (1999) provide a careful documentation of what changed and survey the literature that has emerged to explain these changes.

² See Cutler and Katz (1992).

³ See Katz and Murphy (1992) and Katz and Autor (1999) for more on what happened with respect to educational and experience differentials and wage inequality over the last forty years of the twentieth century in the U.S.

A vast literature has emerged which has tried to explain this increased inequality in terms of changes in the supply and demand for skills in the U.S. labor market and in labor market institutions (e.g., unions) and regulations (e.g., minimum wage) over this period. The consensus from this body of work seems to be that an increased demand for more-skilled workers—likely spawned by skill-biased technological change—and a slowdown of the growth in the relative supply of college workers accounted for the sharp rise in the college wage premium and the increase in the within education/experience group wage inequality of the 1980s.⁴ Over this same period, studies have found that the erosion of unions and the minimum wage to inflation failed to protect the wages of less-skilled workers, exacerbating the skill differentials in wages.⁵

Starting in the 1970s and 1980s, two other important changes occurred in the composition of the U.S. labor force. One was the increasing role of women in the U.S. labor force and the relative improvement in their wages. From 1965 to 1985, women's labor force participation rates went from 38.7 to 44.1 and women went from 34.9% to 44.1% of the civilian labor force. While these changes were part of a long-run trend that played out over all of the twentieth century, the rates of increases in both women's participation rates and their share of the labor force over the period 1965-1985 were unprecedented, especially over the latter half of the twentieth century. With respect to women's earnings, the ratio of women's to men's weekly wage earnings was 0.562 in 1969; by 1989, this same ratio had improved to 0.682,6 with the improvement in gender differentials in wages concentrated in the post-1979 period after almost 20 years of little or no change.

Finally, starting in the 1970s the U.S. experienced a new wave of immigration, largely

⁴ See Bound and Johnson (1992) and Katz and Murphy (1992).

⁵ See for instance, DiNardo, Fortin and Lemieux (1996), Lee (1999).

⁶ See Blau (1998).

from Mexico but also from other Latin American and Caribbean countries.⁷ As of 1970, only 5.2% of the U.S. population was foreign born; by 1990, this percentage had almost doubled to 10%. Over this same period, the U.S. labor force went from 5.9% to 9.9% foreign-born. As has been well documented,⁸ this wave of immigrants to the U.S. was less skilled than the native-born population or the immigrants of the 1950s and 1960s. As evidence of this skill difference, the newest immigrants in 1970 earned 17% less than natives; by 1990, this differential had reached 32%.⁹

These changes to the U.S. labor market clearly altered the context in which our two sets of cohorts from the NLS undertook their transitions from school-to-work. As we will establish below, we do find important differences in the transitions across these cohorts. It is tempting to assess the causal role that these labor market changes had on the school to work transition during this period. For example, it is plausible to ask whether the rise in the returns to skills—be they in the form of higher education or work experience—caused the cohorts becoming adults in the 1980s to spend more time in school and acquire more work experience as teens and young adults than did earlier cohorts. Determining these causal roles of the structural changes that occurred in the U.S. labor market over the last 30 years is beyond the scope of this paper. However, we do speculate about the possible role they may have had in accounting for the across-cohort differences in the school-to-work transitions and labor earnings we present below.

Clearly, our paper is not the first to examine the trends in the schooling and labor market experiences of young adults over the last part of the twentieth century. Indeed, papers such as

⁷ See, for example, Smith and Edmonston (1997), Figures 2.3 and 2.4.

⁸ See Borjas (2000).

⁹ See Borias (2000).

¹⁰ Heckman, Lochner and Taber (1998) estimate a dynamic general equilibrium model in which the human capital investment decisions of youth respond to the relative returns to these investments.

those by Smith (2001), have addressed many of these outcomes we examine here. While most of these papers focus on trends in schooling and labor market experiences of young males, we also include an examination of young women's experiences as well as by race/ethnicity.

In addition, while some of the previous work on experiences of young adults typically is based on data from repeated cross-sectional data sources, we conduct our examination of the changes in these experiences using longitudinal data on two sets of birth cohorts. In particular, we examine data from the National Longitudinal Surveys of Young Men (NLS-YM) and Young Women (NLS-YW), which began in 1966 and 1968, respectively, as well as data from the National Longitudinal Survey of Youth (NLSY79), which began in 1979. From these data, we are able to construct reasonably comparable longitudinal histories for schooling, work, military and other activities as well as measures of hourly wages from age 13 through 27 for whites, blacks and Hispanics for birth cohorts who were ages 13-16 at the start of each of these surveys. This comparability of data on histories and on background characteristics, including data from achievement and aptitude tests for these groups, enables us to conduct a very detailed comparison of the differences in the transitions to adulthood the members of these cohorts experienced and what consequences they had for an important indicator of labor market success, namely the wage rates they earned over these early ages.

In the remainder of this paper, we describe our data sources with particular attention to ensuring the comparability of work and schooling histories and background characteristics. We proceed with a portrayal of youths' transitions from school to work across cohorts in Section 3, followed by a discussion of differences in their characteristics in Section 4. To gauge the consequences of youths' early work experiences and human capital accumulation, in Section 5 we examine their wage attainment during the school-to-work transition. We discuss and apply a de-

composition framework in Section 6 to assess the relative impact of composition effects, price effects, and unobservable factors on youth's wage attainment. Finally, Section 7 concludes.

2. Data

Our data come from three longitudinal surveys: the National Longitudinal Surveys of Young Men (NLS-YM) and Young Women (NLS-YW) that began surveying youth in the mid to late 1960s and the NLSY79 that began interviewing young men and women in 1979.

The National Longitudinal Surveys of Young Men (NLS-YM) and Young Women (NLS-YW) are two of the NLS Original Cohorts, nationally representative surveys conducted by the U.S. Bureau of the Census Demographic Surveys Division that began in the mid-1960s and were followed over time. The NLS-YM respondents, young men aged 14 to 24 as of April 1, 1966, were initially interviewed in 1966, and participated in 12 follow-up surveys until 1981. 11 Of the initial 5,225 young male respondents, 3,695 (70.72%) were still participating in the surveys 10 years later. The NLS-YW began in 1968 and follows a cohort of young women aged 14 to 24 as of December 31, 1967. This cohort completed 19 interviews between 1968 and 1999. 12 As of ten years after the initial survey, 3,902 respondents (75.63%) of the original 5,159 women were still participating in the surveys. Until the mid-1980s, the Census Bureau had a policy of excluding from continued interviewing respondents in either of these surveys who refused to be interviewed or were non-interviews for any reason for two consecutive years. To account for this attrition as well as the overrepresentation of blacks in the initial samples, we make use of the recalculated sampling weights provided by the Surveys with each subsequent interview. Furthermore, since the focus of the analyses in this study is the early careers of these youths, the prob-

¹¹ More specifically, follow-up interviews were conducted annually up to 1971, and the subsequent interviews were in 1973, 1975, 1976, 1978, 1980, and 1981.

¹² Follow-up interviews were conducted annually up to 1973, and subsequently in 1975, 1977, 1978, 1980, 1982, 1983, 1985, 1988, 1991, 1993, 1995, 1997, and 1999.

lem with attrition is minimized.¹³

Our data for youth that entered adulthood during the 1980s come from the NLSY79, which follows a sample of young men and women aged 14 to 21 as of December 31, 1978. NLSY79 respondents were initially interviewed in 1979 and interviewed annually in subsequent years. In contrast to the Original Cohorts, the NLSY79 exhibits a low attrition rate of just over 10% of the original sample by 1990. Three subsamples comprise the NLSY79: a cross-sectional nationally-representative sample; supplemental samples designed to oversample Hispanics, blacks, and economically disadvantaged youths; and a military sample. The respondents in this study include all these samples except the military oversamples. Including these oversamples adds to our potential for drawing reliable inferences for the black and Hispanic subgroups.

Longitudinal interviews in the NLS-YM, NLS-YW, and NLSY79 collected detailed information on the respondent's schooling, work, and military experiences, including start and end dates, hours worked and wage rates in various jobs held. While the types and extent of information across these surveys are not uniform, we made an effort to maintain comparable definitions of our variables of interest. For instance, Hispanics in the NLSY79 are directly identified while in the NLS-YM and NLS-YW there is no such direct information. To identify Hispanics in the NLS-YM and NLS-YW, we used respondents' responses to parent's and grandparent's birth-place. The NLS-YM and NLS-YW respondents were classified as Hispanic if they report at least one parent or grandparents' birthplace to be a Latin American country. For comparability, we used the same definition to code NLSY79 respondents as Hispanic origin. To ensure we have a

¹³ Analyses by Rhoton (1984) of selected characteristics of respondents in the 10th year samples in each of these cohorts indicate that attrition was not so selective, and that the reweighting scheme allowed the samples to remain representative. A later analysis by Zagorsky and Rhoton (1998) finds that respondents with lower income and educational attainment as well as blacks attrit at higher rates.

¹⁴ Not including the military oversamples effectively excludes only one observation in the relevant age sample we examine. Our sample selection criteria are discussed further below and tabulated in the Data Appendix.

representative sample using this definition, after applying weights we compared our analysis samples with data from various U.S. Censuses. Hispanics comprise 4.5% of the U.S. population in the 1970 Census, while Hispanics as defined above are 4.59% of our NLS-YM and NLS-YW samples and 4.22% of our NLSY79 analysis sample.

We also examined the extent to which the dimensions of the school-to-work transition and wages for the youth that we analyze and compare across cohorts are affected by how a respondent's ethnicity, namely whether or not they are classified as being a Hispanic, is defined. By and large, our results are not very sensitive to how Hispanics are defined for the NLSY79 data, although the gaps between Hispanics and Whites in various measures of human capital accumulation tend to be understated using our parent/grandparent place of birth method of classifying Hispanics versus the self- and interview-identified classification provided in the NLSY79 data. As a result, the cross-cohort differences we present below, if anything, *understate* the changes across cohort in the various measures of human capital accumulation for Hispanic youth. ¹⁵

While we do not find particular sensitivity in the method we use to determine whether individual respondents are Hispanic, we do have reason to believe that the composition of Hispanics changed across cohorts in some notable ways. First, consistent with the increased rate of immigration into the U.S. that started in the 1970s, a much higher fraction of Hispanic respondents were foreign-born in the NLSY79 (42.9% of men and 38.0% of women) relative to Hispanic respondents in the NLS-YM (7.3%) and NLS-YW (2.5%). Furthermore, we suspect that there was

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¹⁵ See the Data Appendix for more discussion of the various analyses we performed regarding the sensitivity of our classification scheme of Hispanics. A relatively large literature in sociology deals with the difficulties in identifying Hispanics in survey data. For instance, some surveys base Hispanic classification on screener observation, or Hispanic-sounding last name, or ancestral place of origin, or respondent self-reports. There are clearly issues with each of these different methods. The strength of our classification scheme is that it allows us to be consistent across cohorts. This then allows us to do the best possible given the data and be able to say something about this group given the large changes in immigration and immigrant quality over the period under study.

a marked change across the cohorts in the country or region of ancestry among Hispanics. The immigration wave that began in the 1970s and 1980s was disproportionately from Mexico. This same change appears to have played out across the cohorts we analyze. Among the Hispanic respondents in the NLSY79 that were foreign-born, 56.7% of men and 57.1% of women were born in Mexico. We suspect that this represents a substantial increase in the fraction of Hispanics that were from Mexico relative to the NLS-YM and NLS-YW cohorts, although we cannot verify this fact because information on the particular country for foreign-born respondents is not available for either of these original NLS cohorts. We call attention to these changes in the Hispanic subgroup since both—higher proportions of immigrants and immigrants from Mexico—appear to account for some of the across-cohort differences in the character of the school-to-work transition for Hispanics that we document below.

We also attempted to develop comparable measures of a respondent's ability, or skill, as measured by aptitude/achievement tests across the three NLS surveys. In the case of the NLS-YM and NLS-YW respondents, a special school survey was mailed directly to each school that they attended and the schools were asked to record test scores from the individual respondents' transcripts for such assessment instrument as the Otis/Beta/Gamma, California Test of Mental Maturity, Lorge-Thorndike Intelligence and SAT. An IQ test score was created from these data and is available for over 3,300 of young men and 3,300 of young women respondents. ¹⁶ In the case of the NLSY79, respondents were administered the Armed Forces Qualifying Test (AFQT). In an effort to make these measures comparable as possible, we converted the IQ test scores of the NLS-YM and NLS-YW respondents to percentile scores, making this conversion before se-

¹⁶ See the Codebook Supplement Appendices to these two surveys for a discussion of how these scores were created.

lecting our analysis sample.¹⁷ Percentile scores for AFQT test results of the NLSY79 respondents were available in the public release version of these data.¹⁸

In what follows, we restrict our analysis to those respondents who were between the ages of 14 and 17 in the baseline interview year—that is, to respondents who were 13 to 16 in 1965 in the NLS-YM, 13 to 16 in 1967 in the NLS-YW, and 13 to 16 in 1978 in the NLSY79. We then followed each of these respondents year-by-year until they reached age 28 or attrited from the survey. This restriction was made to ensure that we collected prospective information and as complete information as possible on all early employment experiences for these youth. While an attempt to gather retrospective information on activities was made in the baseline interviews across these surveys, this data is inevitably incomplete for the older cohorts. (See the Data Appendix for the number of observations in our analysis sample given these sample selection criteria.)

One of the goals of our study is to characterize youth's accumulation of work, schooling and military experiences across these cohorts. Towards this end, we constructed a year-by-year classification of each respondent's primary activity at each age, from 13 to 28. A more detailed discussion of this construction can be found in the Data Appendix. Using information from the schooling attendance and work history portions and other items in each annual survey, we classi-

¹⁷ We did this by first computing the percentiles of the IQ score distribution among Young Men, and then categorizing male respondent's non-missing raw scores into these percentiles. We then performed the same exercise for the Young Women with non-missing scores separately. While the conversion method of the component tests for the IQ score seems to be psychometrically sound, a substantial number of the youth in our sample actually have missing test scores. This is because our sample includes the youngest men and women who by 1968 had not yet taken tests such as the SAT and other tests usually taken towards the end of high school.

¹⁸ In their study of black-white differences in ability, Neal and Johnson (1996) find that schooling is a significant contributor to the AFQT score for the NLSY79 respondents. Accordingly, in their analysis they use a regression-adjusted version of the AFQT in their assessments. In what follows, we present results based on unadjusted IQ/AFQT percentile scores (see Table 3). While not reported here, we also redid all of the analyses presented below that involved IQ/AFQT scores, using regression-adjusted IQ/AFQT test scores comparable to those in Neal and Johnson. None of the conclusions drawn with respect to differences across cohorts was sensitive to which version of the IQ/AFQT scores we used.

fied respondents into one of the following six, mutually exclusive, activity categories:

- (1) School Only;
- (2) School and Part-Time Work;¹⁹
- (3) Part-Time Work (and no School);
- (4) Full-Time Work;
- (5) Enlisted in Military; and
- (6) Other (Non-School, Non-Work) Activities.²⁰

In assigning each person-age an activity, we first determined if this person was enlisted in the military during the calendar year at each age; if so, we classified him as engaged in activity (5). We then examined schooling attendance, months, weeks, and hours worked in the calendar year at each age. Work histories in the NLS-YM and NLS-YW are not available in as detailed and comprehensive a form as those provided in the NLSY79. For instance, the NLSY79 reports hours worked week-by-week over the calendar year. While we could construct a similar week-by-week work history in the NLS-YM and NLS-YW using the dates of jobs held, to minimize measurement error we create monthly work histories to generate annualized measures. We determined whether or not a youth in the NLS-YM, NLS-YW, and NLSY79 worked in that month, and if so, his or her average hours worked and hourly wages earned in that month.

Full-time employment (activity 4) was assigned to a youth who, at that age: (i) was not engaged in school and worked at least 35 hours per week on average, and (ii) worked in each of the 11 months in that calendar year. A youth was classified in part-time employment (activity 3)

¹⁹ This label may not be completely accurate in that some forms of working while in school can be full-time work. We discuss some efforts at separately identifying this in the Data Appendix.

²⁰ Even though the NLS-YM and NLS-YW were not always conducted on an annual basis (see footnotes above), we can derive respondents' activity for the intervening year using responses to "intervening year" questions as well as start and end dates of schooling, work, and military activities.

if, at that age, he or she: (i) was not enrolled in school and worked less than 35 hours per week on average, and/or (ii) worked in any of the 11 months in that calendar year.

Youth who reported attending school during the year were then assigned to activity (1) or (2), depending on whether they reported doing any work during the year. Finally, a respondent not assigned to any one of the first five activities was assigned to activity (6).

In constructing our data this way, we utilize the richness available in these three longitudinal surveys to characterize a youth's various activities and the nature of his or her school-to-work transition. Our design of measuring a youth's actual experience at each age allows us to illustrate the timing as well as the extent of accumulated schooling, work, military and other experiences at each age. Comparable definitions also allow us to contrast the nature of the school to work transition and more generally youth activities across cohorts.

Previous studies of the process of labor market entry for youth—the school to work transition—focused either only on males and/or work experiences after the respondent had left school (e.g., Wolpin 1992 and Light and Ureta 1995).²¹ As noted in the Introduction, an extensive literature documents and attempts to explain differential labor market outcomes in employment and wages by race/ethnicity and gender. However, almost all studies of gender and race/ethnicity begin their analysis for respondents aged 25 (e.g., studies surveyed in Altonji and Blank 1999). As we will discuss further below, a substantial share of young men and women across race/ethnicity groups accumulate significant amounts of work experience before age 25, whether the experience was while in or out of school. Failing to account for early experiences in explaining labor market outcomes is actually nontrivial. For instance, Light (2001) finds that failing to control for in-school work experience overstates the return to schooling in wage regres-

²¹ Hotz et al. (2002) is among studies that account for *all* of male youths' work experiences in assessing the role of early work experience on subsequent labor market outcomes using the NLSY-79. Other studies focus on work while in high school (e.g. Ruhm, 1997) or work while in college (e.g. Ehrenberg and Sherman, 1987).

sions for men in the NLSY79.

Furthermore, our use of more complete measures of actual (as opposed to potential) experience is likely to be important for women. Potential experience, which is what a large number of studies using Census data end up measuring, is likely to overstate actual experience for women because of the amount of time they spend out of the work force. Filer (1993) shows that the amount that potential experience overstates actual experience systematically varies with characteristics such as race and education, and this would lead to biased estimates of coefficients in female wage equations.²²

Our strategy of classifying youths' various activities as of each age then allows us to not only document the extent and diversity of actual experiences youth accumulate, but also how these vary by race/ethnicity and gender and across cohorts. Given the mix of changes and persistence in racial and gender gaps in labor market outcomes over time, it is important to examine differences in the acquisition of early work experiences of females and minorities across these cohorts.²³

3. Patterns of Transition from School to Work Across Cohorts

In this section, we examine the distributions of schooling, work, military and other activities by age for the two sets of cohorts and how these distributions differed by gender, race and ethnicity. The distributions by age of the six activities noted in the previous section are presented in Table 1. Examining any of the Panels for a particular gender and birth cohort, one finds the typical pattern of a progression from adolescents engaged almost exclusively in going to school

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²² He uses data from the NLS Young Women, Mature Women and Youth 1979.

²³ Altonji and Blank (1999) note that: although the black/white wage gap narrowed in the 1960s and early 1970s, this gap has stagnated; the black/white female wage gap has risen in the past 15 years; the Hispanic/white wage gap has also risen for both males and females over this period; and the gender wage gap narrowed beginning in the late 1970s.

to an increasing mixing of work-related activities. For example, among young men in the 1966 NLS-YM cohorts (Panel A of Table 1), 80% of whites, 85% of blacks and 87% of Hispanics were engaged exclusively in attending school at age 13, with much smaller percentages found to combine some part-time work and attending school.²⁴

As the respondents age, increasing percentages of them combine school and part-time work and/or stop attending school, begin to work on a full-time or part-time basis or, finally, enter the military. By the time the typical respondent reaches age 27, the vast majority of young adults are no longer attending school, either full-time or in combination with part-time work. However, what their primary activity is at age 27 differs noticeably by gender. Among young men, regardless of their cohort or race/ethnicity, the majority were engaged in full-time work by age 27. In contrast, the activities of young women at age 27 were much more varied. In the earlier birth cohorts, the vast majority of young women were engaged in the "other" category and most of these women were engaged in full-time childrearing and household activities. Among the more recent cohorts of women, the majority of women were working, either on a part-time or full-time basis. This across-cohort pattern is indicative of the long run trend in the U.S. of increasing numbers of women participating in the labor force.

In Table 2, we present the cumulative schooling, work, military and other experiences for young men and women and how these patterns vary across cohorts. The table presents both the fraction of the sample that had that experience by age 27, as well as the mean number of years of various schooling, work, military, and non-work, non-school experiences by age 27.

We start with examining how the schooling experiences in the transition from school to

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²⁴ As noted above, our scheme for classifying activities is structured so that respondents at each age are assigned to a mutually exclusive activity during the calendar year they are that age. We note that the "Attending School & Working Part-Time" activity category in Table 1 includes respondents who work during the school year and those that attend school during the academic year and then work during the summer.

work varied across the cohorts we analyze. Acquiring more education through schooling and the completion of high school and college degrees is generally thought to be the most effective way of increasing one's human capital. The two Panels—for young men and young women, respectively—depict several different indicators of educational attainment and schooling by age 27. We first consider the across-cohort patterns of educational attainment for young men. With respect to high school and college graduation rates and the fraction who attended college, we find that for all men, all three of these measures of educational attainment declined by 4%, 18% and 26%, respectively, across our two cohorts. With respect to young white men, high school and college graduation rates declined by 4% and 12% respectively and college attendance declined by 23%. Among black men, high school graduation actually increased by 10% across the cohorts we examine, although both college graduation and college attendance rates declined (by 16% and 26%, respectively). The declines in these same three indicators of educational attainment were markedly greater for Hispanic men, however. High school and college graduation rates declined by 17% and 53%, respectively, and college attendance fell by 47%. With respect to the highest grade completed by age 27, while white men show a small decline and black men post hardly any change, educational attainment among Hispanic men declined by 1.65 grades/years. The decline for Hispanic men is a decline of 12% relative to the early cohorts drawn from the NLS-YM data. Finally, we note that in contrast to most of the other indicators, the number of years that young men attended school between the ages of 13 and 27 increased slightly across cohorts by 4.4% and 7.5%, for whites and blacks, respectively and declined by 2.8% among young Hispanic men. In short, there was deterioration in educational attainment among young men, especially Hispanics, between young men entering adulthood during the late 1960s and those who entered adulthood in the early 1980s.

The more marked deterioration in educational attainment among Hispanic men could be due to the increase in fraction of Hispanics that are foreign-born that we have already noted. As is well documented, recent Hispanic immigrants (disproportionately from Mexico) tend to have lower levels of educational attainment than natives and this is especially true for the Hispanic immigrants that came to the U.S. starting in the early 1970s. 25 While this influx of less-educated immigrants accounts for some of the deterioration in educational attainment across our cohorts, we note that it does not fully account for it. In particular, we do not find evidence that the same across-cohort deterioration occurs among Hispanic women, even though we see no difference by gender in the fraction foreign-born across cohorts. In particular, the more recent cohorts of Hispanic women actually have 1.27 more years of education than young Hispanic women in the earlier cohorts. Similar improvements occur with respect to high school and college graduation rates. This contrast suggests that this deterioration in the educational attainment of young Hispanic men across the cohorts we analyze occurred among both the foreign- and native-born. This finding is consistent with other studies of Hispanics (Smith, 2001 and Duncan, Hotz and Trejo, 2004) which find that the educational attainment of Hispanic men did not keep pace with that of their white (and black) counterparts over the last 30 years, while Hispanic women did show some relative improvement over the same period.

The contrast between the across-cohort progress in educational attainment between young men and young women could not be starker. Examining the indicators of educational attainment for young women in Table 2, the most striking overall pattern is the improvement of women across the two birth cohorts we examine. High school graduation rates increased by 7.6% among all women and the rate of college attendance went up by 10.8%. Among all women, the highest

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²⁵ See Borjas (1985).

grade completed by age 27 went up a relatively modest 1.8%, and the years spent in school between the ages 13 through 27 increased 0.59 years across cohorts, which constitutes an 8% increase over the women in the 1968 NLS-YM cohorts. Among women, improvements in educational attainment across cohorts were modest for whites but sizeable for blacks and Hispanics, most especially for the latter group. Among Hispanic women, high school and college graduation rates increased across cohorts by 36% and 467%, respectively, while college attendance rates went up 88%. The highest grade completed by Hispanic women went up 1.27 grades, which is an 11% increase over those for women in the 1968 NLS-YM cohorts. Black women experienced slightly smaller increases in high school graduation and college attendance rates, having experienced a 0.63 grade increase in their highest grade completed by age 27 and experienced a 13.4% increase in the number of years in which they attended school between the ages of 13 and 27. However, college graduation rates for black women declined across cohorts by 5.3%. In short, minority women showed substantial improvement in almost all indicators of educational attainment across these two sets of birth cohorts.

Another important change across the birth cohorts we analyze was the increase in the incidence and amount of working while in school by young men and women. Working while in school, especially while in high school or earlier grades, has been associated with both positive and negative consequences. Working while in grade school and high school is claimed by some to increase a youth's sense of responsibility, self-esteem and independence and to lead to higher earnings and less unemployment later in life. Other research finds that intensive amounts of work while in school are associated with higher rates of dropping out of school and various deviant behaviors. Working for pay while in school generates income that can be used to help support

²⁶ See National Research Council and Institute of Medicine (1998).

one's family, although most evidence suggests that such work is used to support a student's personal consumption and, for students working while in college, to help finance one's education.

As shown in the second panel of Table 2, young women experienced sizeable increases in both the incidence and number of years of working while in school prior to age 27. The fraction of all young women working while in school increased by 7 percentage points (a gain of 8%) and 1.5 years (a gain of 57.1%) across the two cohorts. Among women, there was a 9% increase in working while in high school and a 30% increase in working while attending college. On average, women in the 1979 NLS-Y cohorts worked 0.51 and 0.84 additional years during high school and college, respectively, than did women in the 1968 NLS-YW cohorts. The largest increases in years spent working while in high school were experienced by black and white women, followed by Hispanic women. In contrast, Hispanic women experienced the largest increases in years spent working at the college level (on average increasing by 2.56 years among those who attended college) followed by black and white women, respectively.

Among young men, the fraction working while in school actually declined slightly across cohorts (from 0.97 to 0.94),²⁷ although the total number of years of working while in school between the ages of 13 and 27 increased by 0.21 years (a gain of 5%). As shown in Table 2, both the incidence and number of years that young men spent working while in high school and college increased across the cohorts we examine. In contrast to young women, the largest increases in years working while in high school are experienced by white and Hispanic young men, followed by black young men, in that order. Of those who attended college, young black men also experienced the largest increases in working while in college. However, the gains by race and ethnicity in years and incidence of this form of work were less for men than for women.

²⁷ While not shown in Table 2, there was a slight reduction in working while in school at early ages (ages 13 through 16) for both men and women and this decline accounts for the overall fall in the incidence of working while in school for men.

We next consider the across-cohort changes in the incidence and accumulated years of non-school work by age 27. As noted in the previous section, we characterize these types of work experiences by whether a youth/young adult in a given year worked part-time (and did not attend school) or full time during that year. Such work, especially full time work, is thought to be a defining end point to the school-to-work transition among youth. Among all men, both the incidence and number of years in part-time (non-school) work by age 27 declined as the incidence and number of years in full-time work increased across cohorts. More precisely, the fraction of young men who had spent at least one year working part time by age 27 declined by 8.9% while the fraction who had worked full time by age 27 increased by 10.9%. Looking across racial and ethnic groups among men, one finds that white men experienced the greatest gains and largest reductions in the incidence and years of full time and part-time work, respectively. In contrast, most of the across-cohort gains for black and Hispanic men, if any, in years of non-school work experience acquired by age 27 were in the form of part-time work, with black men experiencing reductions in the number of years of full time work experience acquired prior to age 27.

In contrast, young women tended to experience across-cohort gains in full time work that were larger than those experienced by young men. Among all women, the fraction having had a year of full time work by age 27 increased from 0.44 to 0.80 (for an 80.6% increase) and an increase of 2.1 years in full time work (for a 196% increase) across the cohorts we examine. At the same time, women experienced a smaller increase (6.7%) in the fraction that had a year of part-time (non-school related) work over these cohorts, and experienced an increase of 0.71 years (for a 40.6% increase) in the number of years of such work prior to age 27. White women experienced the largest absolute and percentage increase in full-time work across cohorts compared to either black or Hispanic women, although both of these latter groups experienced larger in-

creases relative to their male counterparts.

Table 2 also displays how the cohorts differed with respect to military service. As noted in Section 2, the NLS-YW did not gather information on the military experience of young women in this set of birth cohorts so we confine our across-cohort analysis of military service to men. Both the fraction of young men who entered the military and the number of years they spent in the military declined across the birth cohorts we analyze. Furthermore, this decline occurred for all racial and ethnic groups, with the declines in both incidence and years spent in the military by age 27 greatest among Hispanic men and least among young black men. We note that across-cohort reduction is likely to reflect two important changes in the structure of the military and military activity that occurred over the late 1960s through the early 1980s. In particular, the men in the early cohorts in our NLS-YM data reached the age of 18 during the tail end of the Vietnam War and many of them were subject to the military draft. In contrast, the young men in the NLS-Y cohorts were not subject to a draft and, by this time, the U.S. military had gone to an all-volunteer force. These changes would account for the much, if not all, of the reduction in military service that we observe in our data.

Finally, we examine the across-cohort trends in the accumulation of non-school, non-work experience for men and women. As it apparent from Table 2, the incidence of ever spending time as well as the number of years spent in this "other" set of activities declined markedly for both men and women. Among all men, there was a 56.4% decrease in the fraction of men who ever spent a year in these other activities prior to age 27, while the corresponding reduction in years spent in these activities was 71.9%. This "other" category presumably includes unemployment spells. A relatively large literature has also examined the various factors to account for changes over time in the relative unemployment of young black versus white men. Apart from

individual and family characteristics as well as economic factors that may account for male youth unemployment, this literature has highlighted criminal activity as another non-schooling, non-work youth activity.²⁸

Meanwhile, among women, the absolute levels of reductions in incidence and especially years spent in "other" activities was much greater than for men. Across the cohorts we examine, all women spent an average of 3.5 fewer years in this set of other activities and the fraction engaged in them declined from 0.95 to 0.42. While not exclusively, the primary activities included in this other activity category for women is childbearing, childrearing and home production. Taken together with their increases in work and schooling experience and declines in fertility (not shown here), the reductions in the incidence and accumulated time spent in the latter activities by young women reflects the transformation of women in the U.S. from home to work careers over the latter quarter of the twentieth century that was noted in the Introduction.

The across-cohort changes in the structure of the school-to-work and youth-to-adulthood transitions documented in Table 2 represent a dramatic set of changes, especially for women and minorities. What consequences these changes have in terms of indicators of labor market success and/or economic well-being by gender, race and ethnicity is the subject of Sections 5 and 6 below. Therein, we examine what happened to the levels and growth in wages across cohorts and what role these changes in accumulated experiences relative to other temporal changes in market conditions had on the changes in the wages of young adults over time.

4. Differences in Personal and Family Background Characteristics across Cohorts

In this section, we briefly examine the changes across cohorts in the personal and family

²⁸ Bound and Freeman (1992) and Grogger (1992) find that the black-white male youth employment differential can be attributed to whether a youth has a criminal record. Grogger also highlights how a criminal record can lead to persistence in youth non-employment.

background characteristics of our samples. As discussed in Section 2, we focus on characteristics that are reasonably comparable across the three different surveys from which we draw data. These characteristics are thought to reflect differences in or indicators of differences in the quality of a youth's upbringing and have been found to be correlated in past studies with the chances of life course success in various dimensions of life, including the transition from school to work, labor market success and economic well-being. Thus, how they change across cohorts may help us to understand the changes we observe for this transition and the wage patterns we present in the next section.

In Table 3, we present descriptive statistics by gender, race and ethnicity for a set of personal and family background characteristics for the two sets of cohorts included in the three National Longitudinal Surveys we analyze in this paper. We begin by analyzing the differences across cohorts in the percentile scores for aptitude and intelligence tests available in the three surveys. The mean percentile scores, their sample standard deviations and indicators of the fraction of each group missing such scores are recorded in Table 3. For both men and women and for all racial and ethnic subgroups, we find that the percentile scores decline across cohorts. In our view, one must be cautious in taking this difference as a clear indicator that the quality of young men and women declined across these birth cohorts. Recall from Section 2 that different tests are used across the cohorts²⁹ and that they were normed in different ways.³⁰ Furthermore, as the incidence of missing scores displayed in Table 3 makes clear, we are missing IQ/AFQT raw scores for these tests for a much larger fraction of the respondents in the early cohorts compared to the

²⁹ A composite set of tests obtained from a survey of respondent high schools was used for the NLS-YM and NLS-YM respondents and the Armed Forces Qualifying Test (AFQT) was used for the male and female respondents in the 1979 NLS-Y.

³⁰ The AFQT tests were normed and provided in the 1979 NLS-Y public release. As described in Section 2, we normed the scores for the NLS-YM and NLS-YW data.

later cohorts, a point noted in Section 2. For all of these reasons, one needs to be cautious in the inferences drawn for the across-cohort comparisons of these IQ/AFQT test scores.

In an attempt to mitigate some of these problems, we analyze the distributions of tests scores for the various gender and racial/ethnic groups relative to different cohort-specific "standards." The idea is not to make level comparisons but to compare how each group's relative positions at various points of the IQ/AFQT distributions changed across cohorts. The distributions of a set of "standardized" IQ/AFQT percentile scores are presented in Figures 1A through 1D. In Figures 1A and 1B, we subtract the scores at the 10th, 30th, 50th, 70th, and 90th percentiles for each particular racial/ethnic, gender and birth-cohort group from the corresponding scores for all members of a particular gender and birth-cohort group. This provides us with one measure of how the *relative* positions of each racial/ethnic and gender group changed across cohorts. In Figures 1C and 1D, we display the results of another way of characterizing the across-cohort changes in relative positions of racial/ethnic and gender groups by comparing the same percentile scores for racial/ethnic, gender and birth-cohort groups with the cohort-specific percentile scores for white men.

The alternative ways of standardizing the IQ/AFQT scores presented in Figures 1A through 1D yield very similar conclusions with respect to how the relative "quality" of the various groups changed across cohorts. In particular, among white men and women, we find little change in their IQ/AFQT distributions across the two cohorts we analyze. In contrast, the IQ/AFQT distributions for both black men and women tend to improve across the cohorts, although the representation of blacks of either gender in the upper parts of the IQ/AFQT distributions does decline across the cohorts, especially among black women. Finally, among Hispanics,

³¹ We note that the alternative standardizations presented in Figures 1A through 1D are still subject to the potential problem that the differences in the incidence of missing scores across cohorts biases the across-cohort comparisons.

the cohort changes differ dramatically by gender. Among Hispanic women, by either method of standardization, their IQ/AFQT distributions unambiguously improve across cohorts (see Figures 1B and 1D). In contrast, the IQ/AFQT distributions of Hispanic men, again by either method of standardization, unambiguously worsen across cohorts (see Figures 1A and 1C). The latter finding of the apparent decline in the aptitude of young Hispanic men across cohorts is consistent with the decline in educational attainment and the acquisition of full time work experience discussed in the previous section.

A further indication that there was a differential decline in the preparation and/or quality of Hispanic men across cohorts relative to other racial, ethnic and gender groups can be seen in the across-cohort changes in the educational attainment of mothers and fathers presented in Table 3. Note that the highest grade completed by mothers and fathers improves across cohorts for all groups but Hispanic men. Indeed, it is somewhat curious that this holds for Hispanic women. One might expect that the across-cohort change in the educational attainment of parents would be similar for Hispanic men and women. The actual disparity is, however, not indicative of a gender bias in the scheme we used to classify respondents in the NLS-YM and NLSY79 to the Hispanic category. We believe these across-cohort differences in parental education by gender among Hispanics are in part attributable to gender differences in the incidence of missing information on parental education across cohorts. In particular, we note that while the incidence of missing information on parental education declined across cohorts for Hispanic women (as it did for all other racial groups), Hispanic men in the later cohorts were more likely to have missing information on parental education compared to those in the early cohorts.

³² We investigated whether our origin-based Hispanic classification was creating a gender bias. Our efforts towards this end are detailed further in the Appendix. In particular, we compared the NLSY79 survey definition of Hispanics with our classification and how the use of either impacts a variety of our variables. There appears to be no gender bias in classification in that the differences across Hispanic definitions do not vary differentially by gender.

While the gender differences in cross-cohort changes in parental education among Hispanics can in part be attributed to differential missing information, there is evidence to suggest both the decline in family background and test scores for Hispanic men is real. Given that immigration itself is non-neutral by gender—that is, migration, both legal and illegal, is primarily a male phenomenon—the gender difference in declines in personal and family background characteristics are consistent with changes in overall patterns of Hispanic immigration.³³

In summary, it does appear that while certain groups, especially black men and women and Hispanic women, appear to have come from higher quality backgrounds in the later birth cohorts we analyze, the same cannot be said for Hispanic men. For the latter group, all of the indicators we examine indicate an overall decline across cohorts in their personal and family background characteristics.

5. Wage Attainment over the School-to-Work Transition

The nature of the school to work transition and accumulation of early work experiences by race/ethnicity and gender varied substantially across cohorts. In this section, we address the potential impact these differences might have had on youth's labor market outcomes. One way to measure the success of youths' school to work transitions is by examining their wages.

Table 4 presents mean hourly wage rates of youth as of age 16 and onwards.³⁴ All wages are deflated to be in 1982-84 dollars using the CPI. In general, mean wages rise with age within each cohort. This is what we would expect, as youth accumulate more schooling and work experience. One must also keep in mind in examining these wages that the sample over which wages are observed could be affected by the selectivity of who is working at each age. How this

See for histance Dean, Edinonston, and Lasser (1990)

³³ See for instance Bean, Edmonston, and Passel (1990).

³⁴ We begin our wage analysis at age 16 because the few wage observations at earlier ages create a lot of noise.

affects our interpretation of what we find in the data will be discussed in the next section.

With respect to the wages of youth and young adults across the cohorts we analyze, there are three notable changes. First, the average wage rates at ages 16 to 27 generally declined across cohorts for all racial/ethnic and gender groups.³⁵ This decline in wages is larger for men than women and is notably greatest for Hispanic men.³⁶ Among youth of the early cohorts, Hispanic young males earned more than white male youth at age 22 and onwards. In contrast, white male youth of the later cohorts had higher wage levels than Hispanic male youth in their 20s.

Annual wage growth rates between ages 16 to 27 also declined across cohorts. Among men, the average annual wage growth over the ages 16 to 27 for males was 7% for the earlier cohorts and 5.1% for later cohorts.³⁷ Among women, average annual wage growth was 6.5% for the earlier cohorts and 4.6% for later cohorts. Hispanic men experienced the greatest decline in wage growth. In contrast, Hispanic women average annual wage growth actually rose from 3.7% to 5%.

Finally, we find that between ages 24 and 27—the oldest ages that we analyze—wage growth did not change across cohorts, and for some groups, actually increased across cohorts.³⁸ This is noteworthy since wage observations for these ages are less prone to selective biases such as those from differential work while in school at the earlier ages. Wage growth among the early male cohorts between ages 24 and 27 was 4.4% and 4.1% among more recent male youth co-

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³⁵ The across-cohort declines in wage levels over all ages (16 to 27) are statistically significant at the 1% level for all race/ethnicity and gender groups.

³⁶ Bound and Johnson (1992) also document, using data from the Current Population Survey (CPS) that the real wages of younger workers, especially those with less education, declined during the 1980s relative to earlier cohorts of young workers.

³⁷ The across-cohort declines in wage growth between ages 16 to 27 are statistically significant at the 1% level for all race/ethnicity and gender groups, except Hispanic women (noted further below).

³⁸ This result is robust regardless of where we put the older age cut-off (e.g., if we calculate wage growth rates for ages 25 and 27 instead).

horts. Wage growth rate is lower by only 0.3 percentage points than in earlier male youth cohorts at these more adult ages.³⁹ White male youth's wage growth at this age range did not change across cohorts, and declined only among blacks and Hispanics. Meanwhile, the wage growth rates of young women between ages 24 and 27 actually improved across cohorts. At these more adult ages, the wages of women in the early cohorts were stagnating or declining (for black and Hispanic women). Among all women of the early cohort, wages between ages 24 and 27 grew at an annual rate of 1.4%; this growth rate doubled to 3% among the later cohorts (a 1.6 percentage point increase).⁴⁰

These three stylized facts taken together suggest a significant slowing down in the gap in wage levels across youth cohorts as they age. At adult ages of these cohorts, cross-cohort changes in wage growth rates either outright improved (all women) or did not change (white men) or slightly declined (black and Hispanic men). These patterns suggest that while youth of the later cohorts started working at significantly lower wage levels, by the time they reached adulthood, the later cohort were experiencing even faster wage growth.

Can the differences across cohorts in patterns of schooling and early work experience accumulation documented above potentially account for some of these cross-cohort wage differences? In particular, the pattern of faster wage growth at adult ages suggests that the economic gain to working while young increased across cohorts. It also may indicate, however, that cohorts of the 1980s are different in substantive ways from the earlier youth cohort. The descriptive statistics further suggest that the composition of inherent skill and family background traits among youth of the 1980s is substantively different from the earlier cohorts. More importantly, these differences may lead them to make different decisions about the types of activities they en-

³⁹ This across-cohort decline in wage growth between ages 24 to 27 is not statistically different from zero.

⁴⁰ This across-cohort improvement in wage growth is statistically significant at the 1% level.

gage in while young. The latter might indicate the role of composition effects rather than a true rise in the returns to early labor market experience in explaining these cross-cohort wage differences. In the next section, we discuss and apply a framework that attempts to decompose the change in these wage outcomes across cohorts.

6. Factors Influencing Wages across Cohorts: Juhn-Murphy-Pierce Decompositions

The characterizations just presented suggest that young men and women may be responding to changing incentives in the labor market (an increase in return to experience). It may also be that the composition of the two cohorts of youth has changed dramatically, as suggested by differences in their observable personal and family background characteristics documented above. These cross-cohort differences in the environment youth grew up in, as well as differences in their observable skills and abilities, may lead youth of different cohorts to pursue different types and amounts of activities. In this section, we attempt to decompose wage changes across cohorts into components that are due to observable dimensions or composition effects, their associated prices, and unobservable dimensions (e.g., unobserved skill). We apply the framework of Juhn, Murphy, and Pierce (1993) developed for decomposing changes in wage inequality to decompose the role of composition effects, price effects, and unobservables in observed wages of youth.⁴¹

The framework follows from a simple wage equation:

$$Y_{iac} = X_{iac} \beta_c + u_{iac} \,, \tag{1}$$

where Y_{iac} is the log hourly wage for youth i of cohort c at age a. We also restrict the regressions to when youth are ages 16 to 27, as earlier wages appear to be too noisy. X_{iac} is a vector of this youth's human capital variables as of age a: completed years of schooling, cumulative number of

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⁴¹ The advantage of this framework over a standard variance decomposition is its full distributional accounting.

years worked while in high school and in college, years worked in part-time and full-time employment out of school, years in the military and years in non-work non-schooling related activities. In addition, X_{iac} includes the age-invariant characteristics such as ability score percentile, parents' completed schooling, and family structure at age 14. Finally, u_{iac} is the component of wages accounted for by the unobservables and is a function of youth i's percentile in the residual distribution (θ):

$$u_{iac} = F_c^{-1}(\theta_{iac} \mid X_{iac}).$$

Thus, changes in the outcome of the school to work transition across cohorts as measured by their wages come from three sources: changes across cohorts in the distribution of individual characteristics (X's), changes in the prices associated with these characteristics (β 's), and changes in the distribution of the residuals (u's).

In practice, we estimate (1) and form the following:

$$Y_{iac}^1 = X_{iac} \overline{\beta} + \overline{u}(\theta_{iac})$$

$$Y_{iac}^2 = X_{iac}\beta_c + \overline{u}(\theta_{iac})$$

$$Y_{iac}^3 = X_{iac}\beta_c + u_{iac},$$

where $\overline{\beta}$ is a vector of the average prices for each X across cohorts and $\overline{u}(\theta_{iac})$ is the average cumulative distribution. That is, we obtain estimates of β_c and the residuals by estimating (1). We then form $\overline{\beta}$ and $\overline{u}(\theta_{iac})$ for each percentile of the residuals. We use these values to form Y^1 and Y^2 .

Changes in wages across cohorts due to changes in Y^1 are then due to changes in the distribution of X. Changes in $(Y^2 - Y^1)$ are due to changes in the prices associated with $X(\beta^*s)$, while changes in $(Y^3 - Y^2)$ are due to changes in the residual (u^*s) .

Table 5 reports our results. As discussed above, overall wage levels declined across cohorts at all ages for all race/ethnicity and gender groups. This is summarized in the column "Overall Change in Wages." Examining the column "Changes due to X," we see that, with the exception of Hispanic men, wages would have risen across cohorts if the prices of their attributes and unobservables had stayed the same. Accounting purely for the change in human capital variables—as measured by increased educational attainment and work experiences discussed earlier, as well as ability—and holding the prices of these skills and unobservable distribution fixed, the wages of more recent cohorts would have been even higher than earlier cohorts (except for Hispanic men). This is especially true for minority women, followed by white women, black men, and then white men. Given the dramatic increases across cohorts in women's educational attainment and work experiences, as well as their increasing representation at the upper end of the ability distribution, this result makes sense.

In comparison to the other groups, young men of Hispanic origin would still have seen their wages decline if we held skill prices and unobservables fixed and purely account for compositional shifts. The column "Changes due to X" reports a negative differential for this group, in striking contrast to the other groups. Overall wages for Hispanic males would still have declined purely accounting for compositional effects. This may be due to the more recent cohorts of male immigrants becoming less skilled, as documented in the previous section. It is, however, difficult to pin this down entirely using our rather small sample of foreign-born Hispanic males.

The finding that young workers of the 1980s are doing worse than young workers of the 1970s in their age-specific wage levels is primarily due to changes in the prices of observed at-

⁴² Even when we do not control for ability in the regressions, these decomposition results hold. That is, overall wage changes are not primarily due to composition effects for these groups. The signs do not change, although the magnitude of the components in "Changes due to X's" do decline, while "Changes due to u's" (the unexplained residual) becomes more negative, as one expects. We report results including ability as a regressor to account fully for compositional effects.

tributes and/or changes in the unobservables. Among white and black men, the cross-cohort wage declines are due equally to changes in the prices of observed attributes and to changes in the unobservables. For Hispanic men, the cross-cohort decline is primarily due to changes in prices of observed attributes.

Among white and black women, the wage declines across cohorts are primarily due to changes in the unobservables. This result suggests that wage levels would have risen across cohorts in these groups had they been fully able to take advantage of the temporal increase in returns to skills in the labor market. Similar to Hispanic men, the wage declines across cohorts of Hispanic women are primarily due to changes in the prices of observed attributes.

An examination of Appendix Table A-1 (the regressions from estimating (1)) reveals that within cohort, higher educational attainment is positively associated with wages. Various types of early work experiences are also positively associated with wages at diminishing rates. Across cohorts, there is an increase in the point estimates of the reduced-form relationships between ability measures and wages, education and wages, work while in school and wages, as well as full time work and wages. ⁴⁴ These increased relationships between skill measures and wages are consistent with stylized facts in the labor economics literature. As discussed in the Introduction and in earlier sections of the paper, over this period there has been a well-documented increase in returns to skill—in terms of observed education and experience as well as unobserved skills.

It is also interesting to note white males' potential return to military experience. While among white males of the early cohort higher wages are associated with more years in the mili-

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⁴³ This is not to say that the gender gap would have improved across cohorts due to increasing returns to skills, only that across cohorts of women, wages would have risen purely accounting for changing skill prices and holding the distributions of observables and unobservables fixed.

⁴⁴ We do not infer these to be "true" or causal returns to experience, schooling, or ability due to reasons discussed further below. We also calculated "marginal effects," the change in log wage associated with a one-year change in each of these schooling and early experience variables, and find them to have generally risen across cohorts. These calculations are available from the authors.

tary, this is not the case among youth of the later cohort. This is consistent with an earlier finding in the literature, that the return to military experience has declined particularly for young white men in the 1980s (Kilburn 1993).

These results highlight the importance of understanding the change in the nature of the school to work transition across cohorts—youth now accumulate more schooling, more work experience while in school, and reach full-time work later. Apparently, changes in the outcome of this transition, as measured by their wages, are due primarily to increased market returns to these work experiences and skills and to cross-cohort changes in the unobservable distribution. Wage levels across cohorts would not have declined if we held these skill prices and unobservables fixed and accounted only for the change in the skill composition of these youth. The take-away message from this exercise appears to be that young workers with more skill, more schooling, and early work experience are the ones who gained the most with structural changes in the labor market over this period.

The relevance of this conclusion to other research topics is quite important. For instance, studies of increased wage inequality of the U.S. labor force finds increasing returns to schooling and to work experience particularly in the 1980s (e.g., Bound and Johnson 1992; Juhn, Murphy, and Pierce 1993). Most of these studies measure only post-schooling work experience or potential experience. Could it be that the youth in our data are acquiring more schooling and early work experience in response to the rise in these returns? Did the actual returns to early work experience change across cohorts? Accounting for the compositional shifts we found in this study and unobservable heterogeneity across these cohorts will be crucial in estimating any cross-cohort comparisons of the return to early work experience.

A more refined analysis clearly is needed given the potential selectivity of these early ac-

tivity decisions. Youth of the later cohorts may be choosing schooling and work decisions in response to changing economic conditions. The wage advantages of those who work while young may simply be the result of unaccounted-for skill differences. It is also possible that the increased work-related wage advantages across cohorts simply reflect cohort differences in sorting by unobserved skill or family background across activities. The significance of changes in the unobservable distribution in accounting for cross-cohort wage declines certainly indicates this is possible. This is because individuals who are more motivated, inherently more productive, or have better family background are also more likely to engage in potential human capital improving investments, such as working while in school, or have higher labor force attachment. Thus, we would observe the wages of those who work while young to be greater than those who did not work. However, their wages are not higher because they accumulated a greater amount of work experience. Moreover, if the returns to inherent skills changed over time, we would expect youth to acquire different types and amounts of early work experience depending on their level of inherent skill.⁴⁵

Finally, if we interpret the ability measures in our data as measures of individual skill prior to labor market entry or pre-market skills, our regressions would suggest that the returns to these pre-market skills have risen across cohorts.⁴⁶ Given the skill upgrading for all groups except Hispanic males documented above and to the extent that the returns to these pre-market fac-

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⁴⁵ As an illustration of the consequences that failure to account for these forms of selection and endogeneity bias can have, we note a recent study by Hotz, Xu, Tienda, and Ahituv (2002). This paper re-examines a finding in the economics literature (Meyer and Wise, 1982; Ruhm, 1997) that working while in high school appears to have a sizable and persistent positive effect on the earnings of young adults. Hotz, et al. (2002) find that the effects of working while in high school (or college) on wages of young adults become small and statistically insignificant once one employs statistical methods that account for the potential endogeneity of all forms of accumulated work and schooling experiences. Moreover, Hotz et al. (2002) show that once one accounts for such biases using data on young men form the NLSY79 data, years of schooling have a much higher return than any form of work experience, especially work experience acquired while in school, and that there are no differences in rates of return to school and work experience across the same racial and ethnic groups analyzed in this paper.

⁴⁶ There is some justification for this assumption. See Neal and Johnson (1996) who analyze the AFQT and conclude that it is a measure of pre-market skills.

tors have actually risen across cohorts, we would expect youth to have responded accordingly. The next natural step would be to account for this selective sorting and unobserved heterogeneity in estimating the return to early work experience.

7. Summary and Conclusion

This paper analyzes the various types of work and schooling experiences acquired by youth who came to adulthood in the U.S. during the late 1960s, 1970s, and through the 1980s. Data using three sets of National Longitudinal Surveys paint the following picture. In general, we find that indicators of educational attainment, working while in school and non-school related work increased across cohorts for almost all racial/ethnic and gender groups. This was especially true for young women. Furthermore, various indicators of personal and family backgrounds changed in ways consistent with an improvement across cohorts in the preparation of young men and women for their attainment of schooling and work experience and their success in the labor market. The one exception to this general picture of improvement across cohorts was Hispanic men, who experienced a notable decline in educational attainment, the acquisition of full time work early in their adult lives and in a variety of personal and family background characteristics.

Furthermore, the group that acquired the most experience and schooling across cohorts—in particular, young women—experienced the greatest gains in terms of wages. Our decomposition of the decline across cohorts in wage levels by age shows that the dominant source of wage changes within each race/ethnicity and gender group are changes in unobservables and in the prices associated with work experiences, education, and ability. At constant skill prices, changes in the skill composition across youth cohorts would have increased their wages, most especially for Hispanic women, followed by black women, white women, black men, and then white men. In striking contrast, Hispanic males' wages would still have declined across cohorts purely ac-

counting for compositional changes. We interpret this result as coming from the changing skill composition of immigrants.

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Data Appendix

A. Sample Exclusion Criteria

The criteria we use to select our samples are summarized by the following table:

TABLE A-2. Sample Selection Criteria

		,	Survey	
	NLS-YM	NLS-YW	NLSY79, Men	NLSY79, Women
Total Number of Respondents	5,225	5,159	6,403	6,283
Age 14-17 as of baseline interview year	2,653	2,029	2,846	2,736
Sample exclusion criteria:				
Missing birth dates, or dates cannot be				
reconciled with reported age in baseline	-11	-4	-6	-3
Missing information at initial age (age 13)	-6	-14	-6	-5
Military oversample			-1	
Total in our sample:	2,636	2,011	2,833	2,728

We first excluded respondents age 18 and older as of the baseline interview year (1966 in the NLSYM; 1968 in the NLSYW; 1979 in the NLSY79). We further excluded respondents with missing birth date information, or whose reported birthdates cannot be reconciled with their reported age as of the baseline interview year. Finally, we excluded individuals with insufficient or missing information at the baseline interview year from which to infer their activities and schooling at age 13, the age of initialization for our panels.

As discussed more fully in the text of the paper, these restrictions were made to ensure that we collected prospective information and as complete information as possible on all early employment experiences for these youth cohorts.

B. Construction of Activity Variables

From information commonly available across surveys, we determined if, for each calendar month, respondents were in the military, attending school, and/or working. We began by constructing four activity matrices: one matrix to keep track of military enlistment, another to indicate schooling, the third to indicate work, and the fourth with information on hours worked. The size of each of these matrices are total number of respondents by total number of calendar months.⁴⁷

In the military matrix, for each individual respondent row, a column associated with the start date of military enlistment was coded as "1." All subsequent columns were coded as "1" up to the column associated with the end date of military enlistment. All other elements were coded to

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⁴⁷ In the NLS-YM, the first column indicates activity on January 1955 and the last column December 1981. In the NLS-YW, monthly information is recorded from January 1957 to December 1983. In the NLSY79, monthly information is recorded from January 1968 to December 1992. The dates have a wider span than indicated by our age-specific sample restriction because we initially wanted to collect information without making the age restriction.

"0"; however, if the respondent attrited from the survey the entry for all subsequent columns would be "-1." We performed the same procedure in constructing the schooling and work matrices, based on dates of schooling attendance and dates of work on jobs held.

If a respondent worked in that calendar month, the corresponding element in the hours matrix was then filled with the respondent's weekly hours worked. This variable was calculated as the total hours worked across jobs per month divided by weeks worked in that month.

Based on these monthly activity matrices, we next classified respondents into mutually exclusive activity categories at each calendar year. First, we determined if the respondent was enlisted in the military during any of the 12 months in the calendar year, that is, if any of the columns corresponding to January to December of year X equals 1. If so, we classified him or her as engaged in the military (activity 5 in the text of the paper).

Among those not classified in activity 5, if the respondent worked and attended school during any month in the calendar year, we classified this person as in "school and part-time work" (activity 2 in the text of the paper). In addition, if the month of last school enrollment is less than or equal to the work month start date in the same calendar year, we classified this person as "school then work" (activity 1.5). We initially maintained this sub-classification in an attempt to treat summer work differently from work while in school. However, a closer examination of the data revealed insignificant differences in the patterns across both classifications of "school and work." This, coupled with the small numbers in the activity 1.5 category, led us to collapse the sub-classification into just "school and part-time work."

We next determined full-time employment among person-years not already classified in activities 5 and 2. From the entries in the hours matrix, we constructed the average weekly hours worked during the year by taking the average of hours entries across the 12 months of each year. If a respondent worked at least an average of 35 hours per week and worked for at least 11 months of the calendar year, we classified this person as working full-time (activity 4 in the text of the paper). Otherwise, if the person worked during any of the months of the calendar year, and is not classified in activities 5, 2, or 4, the person-year is classified in "part time work" (activity 3 in the text of the paper).

Among person-year observations still unclassified, if the schooling matrix reports schooling attendance during any month of the calendar year, we classify the person as engaged in "school only" (activity 1 in the text of the paper). Finally, person-year observations still remaining unclassified but who have not attrited from the survey were assigned to the "other" category (activity 6 in the paper).

C. Wage Data

Hourly wages are drawn from the job history portion of the surveys. Respondents report the rate of pay and the time unit of that rate at each job they are currently working at or where they last worked. We first take the maximum hourly wage across jobs, if the respondent has more than one, during that month. We then take the average of these hourly wage rates across months worked to form an annual hourly wage rate.

Individuals who worked in that year but with missing annual wage information were assigned an imputed hourly wage according to their age and race. We use the CPI to deflate all wages to 1982-84 dollars.

In constructing our annualized measure of hourly wages, we also referred to the NLS documentation and Appendices detailing the construction of survey-provided "keyed" wage variables for each separate survey. We paid particular attention to how the survey calculated a variable reporting respondents' wages in the past calendar year. In some cases, extremely low wage observations (less than 25 cents per hour) were replaced to missing and extremely high wage observations (greater than \$50 an hour) were replaced to missing. The top-code values and bottom wage restrictions varied across surveys and survey year; we follow the guidelines as outlined in each survey and survey year. Except for a couple of wage observations hand-edited by the survey administrators, our procedure mimics the survey's construction of past-calendar-year wage variables. We have the added advantage of being able to construct annual wages for intervening calendar years when the NLS-YM and NLS-YW were not surveyed (4 years in the NLS-YM and 4 years in the NLS-YW).

D. Constructing the Person-Age Panels

The data resulting from the efforts in Sections B and C above is arrayed as person-year observations. We next assigned each person-year observation an age. We define age to be each person's age as of January 1st of the calendar year. Since the construction of this variable is consistent across years and surveys, the date at which to calculate age within the year is somewhat arbitrary. This age variable is also not directly used in our analyses other than as a way to index observations in the panel.

Time-invariant variables such as family background characteristics and ability measures were then merged to the person-age panels.

E. Sensitivity Analysis of Hispanic Classification: Representativeness and Gender Bias

Given the differential patterns for Hispanic males discussed in the text, we turned to other data sources to investigate if our Hispanic classification generates a representative Hispanic sample. Table A-3 below uses data from the decennial Census (IPUMS). Our method of classifying Hispanics by parental (or grandparents') country of origin indicates that we are picking up about the same proportion of Hispanics as there are in the 1970 Census for both the NLS Original Cohorts and the NLSY-79. The Hispanic proportions in the 1980 Census suggest that we are likely undercounting Hispanics in the later 1979 cohort. Given that the NLSY79 was fielded (and thus the Hispanic samples created) before the 1980 Census, this under-representation might make sense.

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⁴⁸ We did not use this constructed variable in our analysis because it is not available for intervening calendar years when the NLS-YM and NLS-YW were not surveyed (4 years for each).

TABLE A-3. Race classification in CPS versus our definition in NLSs

	Fraction	Hispanics in P	opulation, fro	m Census	Fra	action Hispan	ics in the NL	Ss,		
	1970	IPUMS	1980	IPUMS	using our race definition					
					Males, 1966 YM	Females, 1968 YW	Males, 1979 NLSY	Females, NLSY 79		
Age	Male	Female	Male	Female	Cohort	Cohort	Cohort	Cohort		
14	0.0533	0.0566	0.0788	0.0784	0.0556	0.0425	0.0519	0.046		
15	0.0541	0.0527	0.0775	0.0793	0.0604	0.0357	0.0377	0.0358		
16	0.0526	0.0538	0.0781	0.0755	0.0662	0.0231	0.035	0.042		
17	0.0528	0.0517	0.0757	0.0777	0.0539	0.0262	0.045	0.0463		
Total	0.0542	0.0564	0.0783	0.0772	0.0592	0.0318	0.0419	0.0422		

On the other hand, the under-count of Hispanics in the NLSY79 is suggested by a comparison of our definition of Hispanics to the NLSY79 survey definition. The NLSY79 Hispanic classification is from the NLSY79 variable "Sample Identification Code," which is the basis for weighting NLSY79 data. Hispanic classification is based on screener's observation, those who self-identified as Hispanics, or if they didn't identify themselves Hispanic, those who identified themselves by ethnic origin including Filipino or Portuguese, those whose householder or householder's spouse reported speaking Spanish at home as a child, and those whose family surname is listed on the Census list of Spanish surnames. (p 251, NLSY79 User's Guide 2001)

TABLE A-4. NLSY79 race classification versus our definition

	О	ur race defii	nition	
SAMPLE CODE, NLSY79*	white	black	hispanic	Total
Cross Male White	1155	0	7	1162
Cross Male Wh. Poor	95	0	0	95
Cross Male Black	0	176	1	177
Cross Male Hispanic	56	0	53	109
Cross Female White	1118	0	6	1124
Cross Female Wh. Poor	76	0	1	77
Cross Female Black	0	190	3	193
Cross Female Hispanic	56	0	60	116
Sup Male Wh. Poor	319	0	4	323
Sup Male Black	0	583	7	590
Sup Male Hispanic	177	0	200	377
Sup Fem Wh Poor	315	0	3	318
Sup Female Black	0	505	19	524
Sup Female Hispanic	177	0	199	376
Total	3554	1454	563	5561

^{*} The sample identification code provided by the NLSY79.

Our ancestral classification for the most part picks up Hispanics as defined by the survey, but does tend to undercount Hispanics and classify them as whites. The numbers in Table A-4 do not suggest a gender bias, however, as the numbers fail to indicate that we are undercounting Hispanics and over-counting whites differentially by gender.

[&]quot;Cross" refers to cross-section sample; "Sup" to supplemental samples.

We further investigated the consequences of this undercount for Hispanics and over-count for whites on youth's school to work transition and their activities. In particular, we estimated the slope or growth rate of the activity-age profiles under each Hispanic classification scheme in the NLSY79. That is, we regressed cumulative years of each activity (for all 6 activity categories) on age under our Hispanic classification scheme versus the survey's. This exercise showed that our method of classifying Hispanics tends to *understate* the Hispanic-white gap in human capital accumulation in the NLSY79. Again, there is no differential change across classifications by gender.

The implications of the likely undercount of Hispanics in the NLSY79 for cross-cohort changes in Hispanic "quality" are thus likely to be underestimated as well. One way to gauge the potential implications of our method would be to use our definition to categorize Hispanics in the 1966 Young Men and 1968 Young Women cohorts while using the Hispanic identifiers provided by the survey in the NLSY79 for the 1979 cohort. Across most all measures of activities, the cross-cohort changes for Hispanic youth are indeed understated when using our definition for both cohorts. Across Hispanic male youth cohorts, with the use of the NLSY79 race definition for the 1979 cohort: highest grade completed would have declined more, work while in school would have increased less, part-time work increase more, non-work non-schooling activities would have declined less. The gains in human capital accumulation across cohorts of Hispanic women would also have been less. This is also true with personal and family background variables in that percentile scores on the IQ/AFQT would have declined more across cohorts of Hispanic male youth (and less for white males), although this difference in percentile scores cannot be interpreted as a decline per se. Finally, wages would also decline more across cohorts of both Hispanic male and female youth.

In a further attempt to understand what is giving rise to the difference in the across-cohort change in parental educational attainment across Hispanic men and women, we turn to Hispanics in the March CPSs. A subset of CPS households can be matched to attach parents' records to youth and generate the parental background variables of interest. ⁴⁹ This check showed that for both male and female Hispanic youth, parents' years of schooling on average are increasing over time in the CPS. As noted in the paper, the parents of Hispanic female youth in the NLSs also display this increase. For Hispanic male youth across the NLSYM and NLSY-79, however, parents' years of schooling are declining.

Based on the figures in Tables A-3 and A-4 discussed above, we think a likely interpretation for the Hispanic gender disparity is partly due to the gender difference in the incidence of missing information in parental background across cohorts, a point we raise in the paper. Hispanic male youth in the NLSY79 tend to have more missing information on parental education relative to the early cohort, while the incidence of missing declined for Hispanic female youth.

⁴⁹ We begin by selecting youth aged 14 to 25 not living in group quarters. Parents' characteristics are not directly available for these youth, but some of the households from which these youth come from can be identified in the CPS. Using the household ID, we merge the records of each youth's mother's and/or father's years of schooling completed. Our match rate was greater for the mother records (1971:96%, 1977:92%, 1978:91%, 1980:90%) than for father records (1971:78%, 1977:76%, 1978:75%, 1979:75%, 1980:74%).

Figure 1A: Deviation of Men's Cohort-Specific IQ/AFQT Distns. from Distns. For All Men

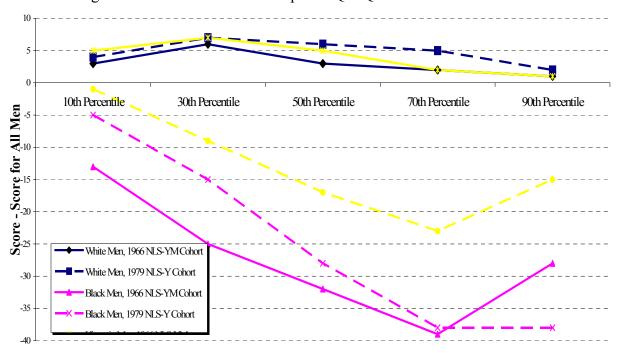


Figure 1B: Deviation of Women's Cohort-Specific IQ/AFQT Distns. from Distns. For All Women

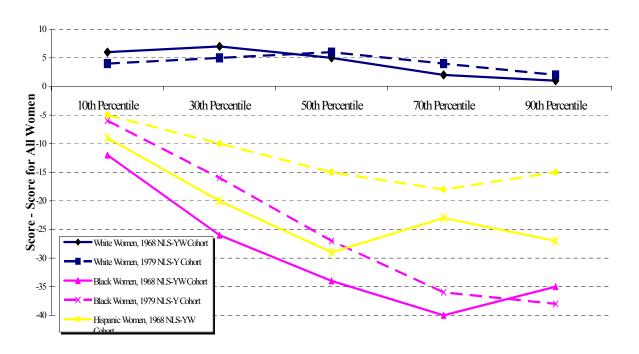


Figure 1C: Deviation of Minority Men's Cohort-Specific IQ/AFQT Distns. From Distns. for White Men

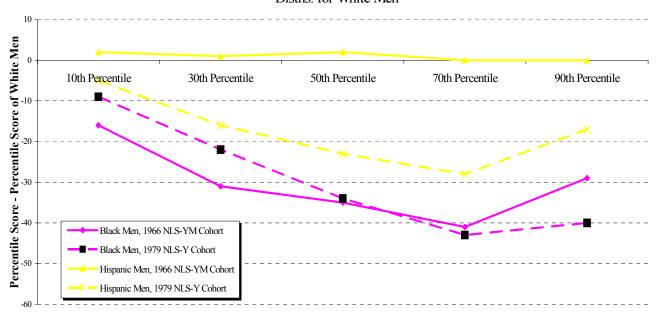


Figure 1D: Deviation of Women's Cohort-Specific IQ/AFQT Distns. from Distns. for White

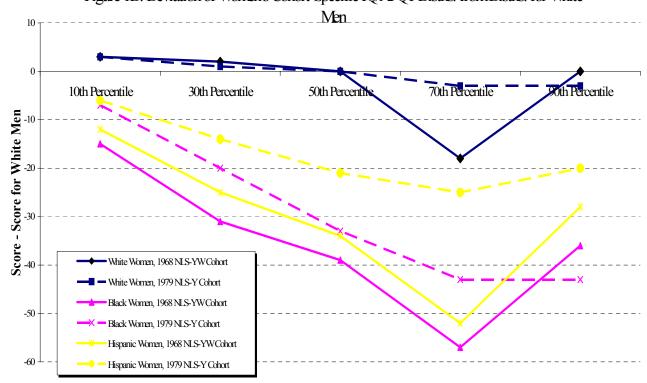


Table 1: Distribution of Activities, Ages 13-27
Panel A: Young Men, 1966 NLS-YM 1966 Cohorts

Age	Only Attending School	Attending School & Working Part-Time	Working Part Time (Not In School)	Working Fulltime	Military	Other	No. of Obs.
Whites							
13	79.6%	16.2%	0.4%	0.0%	0.3%	3.6%	1,690
14	66.2%	29.3%	0.6%	0.1%	0.3%	3.6%	1,690
15	56.1%	39.0%	1.4%	0.1%	0.3%	3.2%	1,683
16	46.1%	48.2%	2.0%	0.2%	0.4%	3.1%	1,669
17	35.4%	55.3%	3.0%	0.7%	1.9%	3.7%	1,641
18	27.0%	48.7%	7.5%	4.5%	5.9%	6.4%	1,600
19	16.4%	35.2%	13.1%	13.2%	13.0%	9.2%	1,556
20	7.4%	24.8%	15.7%	20.3%	17.3%	14.5%	1,522
21	5.9%	21.9%	19.3%	23.8%	17.1%	11.9%	1,504
22	4.3%	16.7%	19.9%	29.1%	13.2%	16.8%	1,477
23	3.3%	13.9%	19.5%	37.0%	10.1%	16.3%	1,453
24	3.4%	13.1%	20.2%	44.0%	6.0%	13.3%	1,429
25	2.4%	11.3%	20.8%	49.5%	4.1%	11.9%	1,378
26	1.6%	12.9%	23.5%	50.3%	2.6%	9.1%	1,341
27	1.4%	7.8%	23.7%	53.0%	1.5%	12.6%	1,307
Blacks							,
13	85.3%	11.5%	0.3%	0.0%	0.2%	2.9%	823
14	71.3%	25.2%	0.3%	0.0%	0.2%	3.0%	822
15	60.9%	35.2%	0.9%	0.0%	0.2%	2.8%	822
16	48.5%	44.3%	2.2%	0.2%	0.4%	4.5%	816
17	41.1%	45.7%	4.0%	1.8%	1.4%	6.0%	789
18	28.3%	38.5%	11.4%	6.4%	4.5%	10.9%	767
19	14.3%	28.0%	22.2%	11.4%	12.2%	11.9%	722
20	5.9%	18.6%	21.5%	21.1%	17.1%	15.7%	678
21	4.3%	12.2%	24.0%	25.7%	18.1%	15.8%	643
22	2.8%	5.1%	23.2%	32.1%	15.0%	21.8%	602
23	3.3%	7.2%	22.3%	35.7%	10.8%	20.7%	582
24	3.2%	10.1%	21.3%	40.5%	6.3%	18.6%	562
25	1.5%	8.1%	18.9%	47.8%	4.8%	19.0%	539
26	1.7%	6.8%	22.4%	49.4%	3.9%	15.8%	511
27	2.3%	6.9%	22.0%	48.5%	3.0%	17.3%	485
Hispanics					2177		
13	86.8%	9.2%	0.0%	0.0%	0.0%	4.0%	123
14	76.4%	19.6%	0.0%	0.0%	0.0%	4.0%	123
15	60.6%	35.4%	0.0%	0.0%	0.0%	4.0%	122
16	42.5%	51.5%	2.2%	0.0%	0.0%	3.8%	121
17	36.0%	54.5%	3.0%	1.0%	2.2%	3.5%	118
18	27.8%	55.5%	7.4%	2.8%	2.8%	3.7%	117
19	17.2%	44.7%	9.3%	8.5%	12.2%	8.1%	117
20	1.2%	32.4%	19.6%	16.2%	17.2%	13.4%	116
21	7.8%	23.1%	13.6%	31.1%	10.6%	13.8%	114
22	7.6%	13.9%	24.5%	31.0%	7.4%	15.5%	112
23	3.7%	20.0%	18.6%	37.8%	4.8%	15.1%	111
24	4.1%	16.4%	22.6%	43.9%	2.3%	10.7%	106
25	0.0%	15.1%	17.0%	49.7%	4.3%	13.9%	103
26	4.3%	10.7%	18.7%	59.5%	2.5%	4.3%	98
27	3.3%	12.2%	22.0%	55.6%	1.3%	5.7%	96

Table 1: (Cont.)
Panel B: Young Men, 1979 NLS-Y Cohorts

Age	Only Attending School	Attending School & Working Part-Time	Working Part Time (Not In School)	Working Fulltime	Military	Other	No. of Obs.
Whites							
13	98.3%	1.4%	0.0%	0.1%	0.0%	0.3%	1,802
14	91.3%	8.1%	0.2%	0.1%	0.0%	0.3%	1,802
15	66.7%	32.3%	0.6%	0.0%	0.0%	0.4%	1,801
16	35.4%	60.7%	1.8%	0.4%	0.6%	1.1%	1,797
17	19.4%	69.7%	4.0%	2.2%	3.2%	1.6%	1,796
18	11.4%	61.6%	9.9%	7.0%	7.7%	2.4%	1,790
19	6.5%	42.7%	19.0%	18.6%	10.0%	3.2%	1,784
20	4.5%	36.9%	17.9%	26.0%	10.4%	4.4%	1,781
21	5.5%	30.3%	16.0%	34.1%	10.2%	3.8%	1,778
22	4.7%	23.9%	17.7%	40.1%	9.6%	3.9%	1,766
23	3.0%	17.7%	18.2%	50.2%	7.4%	3.5%	1,752
24	1.8%	14.7%	15.0%	58.8%	6.4%	3.4%	1,743
25	1.5%	13.6%	14.4%	62.1%	6.2%	2.3%	1,726
26	0.9%	11.8%	13.0%	66.9%	4.6%	2.8%	1,672
27	1.0%	10.6%	13.2%	68.1%	4.4%	2.7%	1,561
Blacks							,
13	98.7%	1.3%	0.0%	0.0%	0.0%	0.0%	759
14	91.0%	8.9%	0.1%	0.0%	0.0%	0.0%	759
15	72.8%	26.4%	0.1%	0.1%	0.0%	0.7%	759
16	48.8%	48.1%	1.2%	0.1%	0.1%	1.7%	759
17	33.8%	56.3%	3.1%	0.9%	3.5%	2.3%	759
18	20.6%	50.2%	8.9%	3.7%	11.3%	5.2%	759
19	14.0%	32.4%	16.8%	12.3%	13.8%	10.6%	756
20	9.0%	23.3%	25.9%	19.6%	12.6%	9.7%	754
21	6.3%	17.3%	26.1%	27.0%	12.5%	10.8%	751
22	6.1%	13.5%	24.7%	33.9%	12.8%	9.0%	747
23	3.8%	11.7%	23.9%	39.1%	9.6%	11.9%	744
24	1.6%	9.2%	26.4%	44.7%	8.9%	9.1%	733
25	1.6%	8.1%	23.6%	48.9%	7.4%	10.3%	729
26	1.3%	6.3%	25.8%	51.9%	6.2%	8.4%	720
27	1.9%	6.0%	21.9%	54.7%	5.4%	10.1%	713
Hispanics							
13	97.2%	1.8%	0.0%	0.0%	0.0%	0.9%	272
14	89.9%	8.6%	0.6%	0.0%	0.0%	0.9%	272
15	65.6%	31.9%	0.6%	0.4%	0.0%	1.6%	272
16	35.8%	59.2%	4.0%	0.5%	0.0%	0.5%	271
17	21.6%	65.8%	6.7%	2.4%	1.0%	2.5%	271
18	18.3%	54.3%	10.3%	7.9%	5.4%	3.7%	271
19	9.6%	41.5%	20.1%	15.8%	6.2%	6.7%	268
20	8.8%	32.3%	21.7%	25.2%	7.1%	4.9%	267
21	7.7%	24.1%	21.0%	36.1%	6.1%	5.0%	267
22	6.9%	23.4%	22.9%	38.5%	4.3%	4.1%	267
23	7.9%	14.7%	19.8%	47.0%	7.0%	3.6%	265
24	3.1%	15.2%	23.0%	51.3%	5.4%	2.0%	263
25	1.5%	11.4%	23.2%	57.1%	5.2%	1.5%	259
26	1.2%	11.6%	23.0%	58.3%	3.8%	2.1%	259
27	2.1%	12.7%	18.3%	58.9%	3.3%	4.8%	257

Table 1: (Cont.)
Panel C: Young Women, 1968 NLS-YW Cohorts

Age	Only Attending School	Attending School & Working Part-Time	Working Part Time (Not In School)	Working Fulltime	Military	Other	No. of Obs.
Whites							
13	96.1%	3.5%	0.0%	0.0%	n.a.	0.4%	1,329
14	93.1%	6.6%	0.0%	0.0%	n.a.	0.3%	1,329
15	84.7%	14.1%	0.0%	0.0%	n.a.	1.2%	1,329
16	61.7%	33.9%	1.9%	0.1%	n.a.	2.5%	1,323
17	40.9%	52.5%	2.9%	0.5%	n.a.	3.2%	1,308
18	21.8%	53.1%	10.5%	4.8%	n.a.	9.9%	1,288
19	12.7%	36.2%	21.5%	9.7%	n.a.	19.9%	1,251
20	15.7%	21.1%	17.5%	12.0%	n.a.	33.7%	1,224
21	16.7%	10.0%	18.1%	11.4%	n.a.	43.7%	1,197
22	11.3%	8.0%	16.4%	11.6%	n.a.	52.7%	1,161
23	6.7%	3.3%	16.5%	14.9%	n.a.	58.6%	1,135
24	5.6%	3.8%	17.5%	12.8%	n.a.	60.2%	1,117
25	5.1%	3.2%	16.4%	9.4%	n.a.	66.0%	1,095
26	3.2%	3.0%	14.7%	8.0%	n.a.	71.1%	1,080
27	5.0%	2.0%	13.5%	7.3%	n.a.	72.2%	1,054
Blacks				, , , ,			
13	98.0%	1.1%	0.0%	0.0%	n.a.	0.9%	633
14	94.5%	3.6%	0.0%	0.0%	n.a.	1.9%	633
15	87.3%	9.6%	0.1%	0.1%	n.a.	2.9%	633
16	66.1%	22.9%	4.4%	0.3%	n.a.	6.3%	631
17	43.3%	40.7%	6.5%	0.8%	n.a.	8.6%	623
18	25.4%	40.4%	16.2%	2.9%	n.a.	15.1%	613
19	19.9%	23.4%	21.4%	8.0%	n.a.	27.2%	600
20	16.3%	12.3%	21.3%	10.7%	n.a.	39.5%	587
21	12.2%	9.2%	16.7%	10.2%	n.a.	51.7%	571
22	11.8%	5.3%	15.0%	10.8%	n.a.	57.1%	559
23	4.3%	4.1%	18.4%	11.7%	n.a.	61.5%	540
24	8.9%	3.3%	14.5%	10.1%	n.a.	63.1%	528
25	6.6%	3.3%	13.7%	6.6%	n.a.	69.8%	511
26	4.6%	2.5%	13.4%	5.3%	n.a.	74.2%	498
27	4.7%	0.8%	13.8%	5.7%	n.a.	75.0%	485
Hispanics	1.770	0.070	13.070	3.770	11.4.	75.070	102
13	100.0%	0.0%	0.0%	0.0%	n.a.	0.0%	49
14	100.0%	0.0%	0.0%	0.0%	n.a.	0.0%	49
15	81.3%	18.7%	0.0%	0.0%	n.a.	0.0%	49
16	54.7%	39.5%	2.7%	0.0%	n.a.	3.0%	49
17	29.9%	54.4%	7.6%	0.0%	n.a.	8.1%	48
18	15.8%	42.8%	14.8%	7.5%	n.a.	19.1%	48
19	13.5%	27.9%	17.7%	7.2%	n.a.	33.8%	48
20	13.9%	8.2%	22.7%	12.9%	n.a.	42.3%	47
21	4.5%	3.9%	19.6%	11.3%	n.a.	60.8%	46
22	9.6%	2.2%	12.3%	10.2%	n.a.	65.7%	46
23	10.8%	7.1%	19.8%	11.4%	n.a.	50.8%	44
24	2.1%	4.2%	24.2%	8.9%	n.a.	60.6%	44
25	5.3%	2.1%	25.9%	9.5%	n.a.	57.2%	41
26	2.2%	7.1%	23.3%	15.5%	n.a.	52.0%	39
20 27	2.6%	4.5%	17.6%	7.9%	n.a.	67.3%	39

Table 1: (Cont.)
Panel D: Young Women, 1979 NLS-Y Cohorts

Age	Only Attending School	Attending School & Working Part-Time	Working Part Time (Not In School)	Working Fulltime	Military	Other	No. of Obs.
Whites							
13	98.9%	0.6%	0.0%	0.1%	0.0%	0.4%	1,742
14	92.8%	6.7%	0.0%	0.0%	0.0%	0.5%	1,742
15	71.2%	27.2%	0.4%	0.0%	0.0%	1.2%	1,741
16	40.7%	55.1%	1.8%	0.3%	0.0%	2.1%	1,740
17	25.0%	65.5%	5.0%	0.8%	0.0%	3.7%	1,736
18	13.2%	61.2%	13.2%	6.3%	0.3%	5.9%	1,735
19	8.2%	43.0%	22.6%	16.0%	0.8%	9.5%	1,729
20	6.7%	34.8%	23.0%	23.0%	1.1%	11.4%	1,722
21	5.7%	31.7%	23.5%	27.2%	0.8%	11.1%	1,712
22	3.7%	24.0%	26.8%	32.8%	0.9%	11.8%	1,707
23	2.5%	17.5%	28.2%	39.0%	1.1%	11.5%	1,695
24	2.0%	13.6%	26.3%	45.2%	0.9%	12.0%	1,683
25	1.5%	13.8%	26.9%	45.0%	0.8%	11.9%	1,673
26	1.3%	12.8%	27.6%	45.6%	0.8%	11.8%	1,627
27	1.4%	11.5%	25.7%	46.8%	0.7%	13.9%	1,524
<u>Blacks</u>	1,0	11.070	_0.,,0	10.070	0.7,0	10.570	1,02.
13	99.1%	0.5%	0.0%	0.0%	0.0%	0.4%	695
14	94.0%	5.7%	0.0%	0.0%	0.0%	0.4%	695
15	79.3%	19.9%	0.0%	0.0%	0.0%	0.8%	695
16	63.0%	34.3%	0.6%	0.1%	0.0%	1.9%	694
17	48.9%	43.6%	2.4%	0.4%	0.5%	4.2%	693
18	35.7%	44.0%	6.7%	1.7%	1.7%	10.3%	690
19	20.9%	34.1%	16.8%	5.2%	1.7%	21.4%	688
20	11.2%	29.9%	22.3%	10.1%	1.7%	24.7%	688
21	8.4%	24.7%	24.6%	16.8%	2.3%	23.2%	687
22	6.7%	18.2%	26.3%	21.6%	1.9%	25.3%	686
23	4.4%	15.7%	28.7%	27.0%	1.5%	22.8%	681
24	3.3%	12.2%	24.0%	35.9%	1.5%	23.0%	677
25	3.1%	10.9%	26.5%	38.3%	0.7%	20.6%	673
26	2.0%	10.5%	24.8%	41.5%	0.8%	20.2%	664
27	1.5%	9.9%	25.3%	43.0%	0.7%	19.6%	656
<u>Hispanics</u>							
13	98.8%	0.7%	0.0%	0.0%	0.0%	0.5%	291
14	93.5%	5.8%	0.0%	0.4%	0.0%	0.3%	291
15	77.0%	21.6%	0.6%	0.2%	0.0%	0.6%	291
16	58.0%	36.7%	3.8%	0.2%	0.0%	1.2%	291
17	31.7%	56.1%	5.5%	1.9%	0.0%	4.8%	291
18	17.6%	58.5%	9.1%	5.6%	1.3%	8.0%	291
19	13.1%	46.7%	18.5%	10.9%	1.8%	9.0%	290
20	9.4%	39.0%	23.6%	15.4%	1.8%	10.8%	289
21	7.0%	32.0%	20.8%	23.9%	1.3%	15.0%	288
22	5.4%	25.4%	24.3%	29.2%	1.5%	14.1%	288
23	3.7%	13.8%	25.1%	38.5%	0.9%	17.9%	287
24	3.9%	16.1%	25.5%	37.6%	2.3%	14.7%	283
25	1.6%	10.9%	24.7%	44.9%	1.2%	16.8%	281
26	3.8%	11.6%	24.3%	42.9%	1.5%	16.0%	280
27	4.4%	10.4%	21.1%	48.6%	1.0%	14.5%	275

Table 2: Schooling, Work, Military and Other Activity Experiences

Panel A: Young Men

	Whites				Blacks			Hispanic	s	All Groups			
	1966	1979		1966	1979		1966	1979		1966	1979		
Characteristics	NLS-YM	NLS-Y	Diff.1	NLS-YM	NLS-Y	Diff.1	NLS-YM	NLS-Y	Diff.1	NLS-YM	NLS-Y	Diff.1	
	Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		
Fraction Ever Having Experienced by Age 27:													
Graduated from High School	0.905	0.867	-0.04	0.75	0.827	0.08	0.933	0.773	-0.16	0.891	0.857	-0.03	
			-4.2%			10.3%			-17.1%			-3.8%	
Attended College	0.58	0.447	-0.13	0.413	0.307	-0.11	0.699	0.367	-0.33	0.57	0.423	-0.15	
			-22.9%			-25.7%			-47.5%			-25.8%	
Graduated from College	0.287	0.251	-0.04	0.124	0.104	-0.02	0.359	0.168	-0.19	0.275	0.226	-0.05	
_			-12.5%			-16.1%			-53.2%			-17.8%	
Worked, Any type of Employment	0.998	0.994	0.00	1.00	0.988	-0.01	1.00	1.00	0.00	0.998	0.993	-0.01	
			-0.4%			-1.2%			0.0%			-0.5%	
Worked while in School	0.97	0.949	-0.02	0.939	0.894	-0.04	0.967	0.962	-0.01	0.967	0.942	-0.03	
			-2.2%			-4.8%			-0.5%			-2.6%	
Worked while in High School	0.873	0.906	0.03	0.813	0.823	0.01	0.863	0.909	0.05	0.866	0.894	0.03	
			3.8%			1.2%			5.3%			3.2%	
Worked while in College, given attended College	0.874	0.871	0.00	0.724	0.794	0.07	0.857	0.943	0.09	0.861	0.866	0.01	
			-0.3%			9.7%			10.0%			0.6%	
Worked Part-Time (& Not in School)	0.719	0.639	-0.08	0.754	0.755	0.00	0.73	0.728	0.00	0.723	0.659	-0.06	
			-11.1%			0.1%			-0.3%			-8.9%	
Worked Full Time	0.798	0.897	0.10	0.756	0.813	0.06	0.834	0.858	0.02	0.796	0.883	0.09	
			12.4%			7.5%			2.9%			10.9%	
In Military	0.329	0.177	-0.15	0.344	0.217	-0.13	0.312	0.119	-0.19	0.329	0.18	-0.15	
			-46.2%			-36.9%			-61.9%			-45.3%	
Other Non-School, Non-Work Activity	0.591	0.22	-0.37	0.627	0.444	-0.18	0.555	0.36	-0.20	0.593	0.258	-0.34	
			-62.8%			-29.2%			-35.1%			-56.5%	

¹The entries for a particular variable are as follows: the first row gives the raw difference between 1979 and 1968 and the second row entry gives the percentage changes from 1966 to 1979.

Table 2: (Cont.)
Panel A: Young Men (Cont.)

	Whites				Blacks			Hispanics		A	All Group	S
	1966	1979		1966	1979		1966	1979		1966	1979	
Characteristics	NLS-YM	NLS-Y	Diff.1	NLS-YM	NLS-Y	Diff.1	NLS-YM	NLS-Y	Diff.1	NLS-YM	NLS-Y	Diff.1
	Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		Coh.	Coh.	
Number of Years of Experience by Age 27:												
Years Attended School since Age 13	7.511	7.843	0.33	6.784	7.292	0.51	7.986	7.761	-0.23	7.467	7.761	0.29
			4.4%			7.5%			-2.8%			3.9%
Highest Grade Completed	13.668	13.202	-0.47	12.501	12.445	-0.06	14.251	12.602	-1.65	13.586	13.069	-0.52
			-3.4%			-0.4%			-11.6%			-3.8%
Work, Any type of Employment	9.153	10.216	1.06	8.407	8.773	0.37	9.289	10.136	0.85	9.085	10.007	0.92
			11.6%			4.4%			9.1%			10.1%
Work while in School	4.012	4.308	0.30	3.1	3.17	0.07	4.151	4.023	-0.13	3.928	4.134	0.21
			7.4%			2.3%			-3.1%			5.2%
Work while in High School	2.158	2.573	0.42	1.827	2.036	0.21	2.042	2.404	0.36	2.117	2.489	0.37
			19.2%			11.4%			17.7%			17.6%
Work while in College (All respondents)	1.372	1.373	0.00	0.678	0.71	0.03	1.825	1.11	-0.72	1.33	1.267	-0.06
			0.1%			4.7%			-39.2%			-4.7%
Work while in College, given attended College	2.368	3.075	0.71	1.642	2.313	0.67	2.61	3.019	0.41	2.333	2.994	0.66
			29.9%			40.9%			15.7%			28.3%
Work Part-Time (& Not in School)	1.778	1.616	-0.16	1.88	2.299	0.42	1.576	2.151	0.58	1.776	1.736	-0.04
			-9.1%			22.3%			36.5%			-2.3%
Work Full Time	3.362	4.292	0.93	3.427	3.304	-0.12	3.562	3.962	0.40	3.381	4.137	0.76
			27.7%			-3.6%			11.2%			22.4%
Military Service	1.011	0.803	-0.21	1.144	1.003	-0.14	0.743	0.552	-0.19	1.007	0.821	-0.19
			-20.6%			-12.3%			-25.7%			-18.5%
Other Non-School, Non-Work Activity	1.338	0.447	-0.89	1.764	1.102	-0.66	1.133	0.574	-0.56	1.368	0.546	-0.82
			-66.6%			-37.5%			-49.3%			-60.1%

¹The entries for a particular variable are as follows: the first row gives the raw difference between 1979 and 1968 and the second row entry gives the percentage changes from 1966 to 1979.

Table 2: (Cont.)
Panel B: Young Women

		Whites			Blacks]	Hispanics		A	All Groups	
Characteristics	1968 NLS-YW Coh.	1979 NLS-Y Coh.	Diff.1									
Fraction Ever Having Experienced by Age 27:												
Graduated from High School	0.859	0.905	0.05 5.4%	0.706	0.86	0.15 21.8%	0.614	0.835	0.22 36.0%	0.832	0.895	0.06 7.6%
Attended College	0.428	0.46	0.03 7.5%	0.311	0.403	0.09 29.6%	0.233	0.438	0.21 88.0%	0.407	0.451	0.04 10.8%
Graduated from College	0.247	0.257	0.01 4.0%	0.133	0.126	-0.01 -5.3%	0.027	0.153	0.13 466.7%	0.226	0.235	0.01 4.0%
Worked, Any type of Employment	0.959	0.997	0.04 4.0%	0.937	0.965	0.03 3.0%	0.971	0.991	0.02 2.1%	0.957	0.992	0.04 3.7%
Worked while in School	0.868	0.937	0.07 7.9%	0.756	0.831	0.08 9.9%	0.864	0.918	0.05 6.3%	0.854	0.922	0.07 8.0%
Worked while in High School	0.831	0.905	0.07 8.9%	0.697	0.778	0.08 11.6%	0.781	0.865	0.08 10.8%	0.813	0.886	0.07 9.0%
Worked while in College, given attended College	0.708	0.902	0.19 27.4%	0.542	0.818	0.28 50.9%	0.422	0.892	0.47 111.4%	0.686	0.892	0.21 30.0%
Worked Part-Time (& Not in School)	0.742	0.796	0.05 7.3%	0.743	0.776	0.03 4.4%	0.756	0.791	0.04 4.6%	0.743	0.793	0.05 6.7%
Worked Full Time	0.448	0.819	0.37 82.8%	0.397	0.702	0.31 76.8%	0.503	0.8	0.30 59.0%	0.444	0.802	0.36 80.6%
In Military	n.a.	0.021	n.a.	n.a.	0.038	70.070	0	0.039	37.070	n.a.	0.025	30.070
Other Non-School, Non-Work Activity	0.947	0.385	-0.56 -59.3%	0.977	0.581	-0.40 -40.5%	1	0.467	-0.53 -53.3%	0.952	0.415	-0.54 -56.4%

¹The entries for a particular variable are as follows: the first row gives the raw difference between 1979 and 1968 and the second row entry gives the percentage changes from 1968 to 1979.

Table 2: (Cont.)
Panel B: Young Women (Cont.)

	Whites				Blacks		-	Hispanic	S	I	All Group	s
	1968	1979		1968	1979		1968	1979		1968	1979	
Characteristics	NLS-YW	NLS-Y	Diff.1	NLS-YW	NLS-Y	Diff.1	NLS-YW	NLS-Y	Diff.1	NLS-YW	NLS-Y	Diff.1
	Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		Coh.	Coh.	
Number of Years of Experience by Age 27:												
Years Attended School since Age 13	7.416	7.92	0.51	6.956	7.89	0.93	6.68	8.02	1.34	7.334	7.92	0.59
			6.8%			13.4%			20.1%			8.0%
Highest Grade Completed	13.149	13.29	0.15	12.156	12.79	0.63	11.456	12.73	1.27	12.969	13.20	0.23
			1.1%			5.2%			11.1%			1.8%
Work, Any type of Employment	5.493	9.98	4.49	4.648	7.82	3.17	5.281	9.06	3.77	5.381	9.65	4.27
			81.8%			68.3%			71.5%			79.3%
Work while in School	2.673	4.19	1.52	1.924	3.11	1.19	2.146	3.78	1.63	2.562	4.03	1.46
			56.8%			61.6%			76.0%			57.1%
Work while in High School	1.985	2.53	0.54	1.462	1.90	0.44	1.931	2.20	0.27	1.918	2.43	0.51
			27.4%			29.8%			14.0%			26.6%
Work while in College (All respondents)	0.574	1.42	0.85	0.315	1.01	0.69	0.098	1.31	1.21	0.526	1.36	0.84
			148.1%			219.0%			1231.6%			158.9%
Work while in College, given attended College	1.343	3.10	1.76	1.012	2.49	1.48	0.422	2.98	2.56	1.294	3.02	1.73
			130.7%			146.1%			606.6%			133.3%
Work Part-Time (& Not in School)	1.734	2.51	0.77	1.815	2.31	0.49	2.099	2.27	0.17	1.756	2.47	0.71
			44.6%			27.1%			7.9%			40.6%
Work Full Time	1.087	3.29	2.20	0.909	2.40	1.50	1.036	3.01	1.98	1.064	3.15	2.09
			202.3%			164.5%			190.7%			196.4%
Military Service	n.a.	0.08		n.a.	0.14		n.a.	0.15		n.a.	0.09	
Other Non-School, Non-Work Activity	4.763	1.20	-3.56	5.32	2.26	-3.06	5.186	1.55	-3.64	4.847	1.36	-3.49
Onici Non-School, Non-work Activity	4.703	1.20	-3.30 -74.7%	3.34	2.20	-57.6%	3.100	1.33	-3.04 -70.1%	4.04/	1.50	-3.49 -71.9%

The entries for a particular variable are as follows: the first row gives the raw difference between 1979 and 1968 and the second row entry gives the percentage changes from 1968 to 1979.

Table 3: Descriptive Statistics on Personal and Family Background Characteristics

Panel A: Young Men

		Whites			Blacks			Hispanics		A	All Groups	S
	1966	1979		1966	1979		1966	1979		1966	1979	4
Characteristics	NLS-YM	NLS-Y	Diff.1	NLS-YM	NLS-Y	Diff.1	NLS-YM	NLS-Y	Diff.1	NLS-YM	NLS-Y	Diff.1
	Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		Coh.	Coh.	
Young Men												
IQ/AFQT Percentile Score	57.54	49.03	-8.50	27.09	20.36	-6.73	58.00	31.72	-26.28	54.99	44.26	-10.73
	(26.90)	(28.43)	-14.8%	(21.74)	(19.68)	-24.8%	(25.88)	(25.76)	-45.3%	(27.75)	(29.12)	-19.5%
Missing IQ/AFQT Percentile Score	0.31	0.05	-0.26	0.57	0.04	-0.53	0.28	0.06	-0.22	0.34	0.04	-0.30
			-85.4%			-93.5%			-79.7%			-87.0%
Father's Highest Grade Completed	10.98	12.28	1.30	7.80	10.59	2.80	10.24	9.52	-0.72	10.64	11.97	1.33
	(3.49)	(3.37)	11.9%	(3.70)	(3.13)	35.9%	(2.84)	(5.43)	-7.0%	(3.59)	(3.53)	12.5%
Missing Father's Highest Grade Completed	0.11	0.08	-0.03	0.40	0.26	-0.15	0.09	0.17	0.08	0.15	0.11	-0.04
			-30.6%			-36.3%			82.6%			-27.9%
Mother's Highest Grade Completed	11.05	11.86	0.81	9.00	11.10	2.11	10.46	8.69	-1.77	10.78	11.63	0.85
	(2.80)	(2.53)	7.4%	(2.99)	(2.46)	23.4%	(2.45)	(4.89)	-16.9%	(2.88)	(2.73)	7.9%
Missing Mother's Highest Grade Completed	0.06	0.05	-0.01	0.19	0.09	-0.10	0.05	0.11	0.07	0.07	0.06	-0.02
			-14.3%			-51.9%			148.9%			-20.8%
Living with Mother at Age 14	0.95	0.94	-0.01	0.86	0.90	0.04	0.96	0.94	-0.02	0.94	0.93	-0.01
	(0.21)	(0.24)	-1.5%	(0.35)	(0.30)	4.5%	(0.20)	(0.24)	-1.8%	(0.24)	(0.25)	-0.9%
Number of Persons	1690	1802		823	759		123	272		2636	2833	

NOTES: Standard deviations in parentheses.

¹The entries for a particular variable are as follows: the first row gives the raw difference between 1979 and 1966 and the second row entry gives the percentage changes from 1966 to 1979.

Table 3: (Cont.) Panel B: Young Women

		Whites			Blacks		-	Hispanics		A	All Groups	S
Characteristics	1968 NLS-YW	1979 NLS-Y	Diff.1									
	Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		Coh.	Coh.	
IQ/AFQT Percentile Score	58.48	48.59	-9.89	26.15	20.98	-5.17	34.08	32.57	-1.52	55.02	44.12	-10.91
	(26.34)	(26.09)	-16.9%	(22.49)	(18.33)	-19.8%	(23.20)	(24.33)	-4.4%	(27.70)	(26.93)	-19.8%
Missing IQ/AFQT Percentile Score	0.40	0.05	-0.35	0.62	0.03	-0.60	0.51	0.03	-0.48	0.43	0.04	-0.39
			-88.6%			-95.8%			-94.7%			-90.2%
Father's Highest Grade Completed	11.45	12.19	0.74	8.12	10.33	2.22	7.34	9.41	2.07	11.03	11.86	0.83
	(3.29)	(3.31)	6.4%	(3.59)	(3.45)	27.3%	(5.01)	(4.88)	28.2%	(3.56)	(3.49)	7.6%
Missing Father's Highest Grade Completed	0.13	0.08	-0.06	0.42	0.26	-0.16	0.30	0.13	-0.17	0.18	0.11	-0.07
			-41.0%			-38.8%			-57.1%			-40.3%
Mother's Highest Grade Completed	11.38	11.86	0.48	9.26	10.89	1.63	7.15	8.36	1.21	10.99	11.58	0.59
	(2.61)	(2.47)	4.2%	(2.85)	(2.57)	17.6%	(3.97)	(4.11)	17.0%	(2.86)	(2.68)	5.4%
Missing Mother's Highest Grade Completed	0.06	0.04	-0.02	0.15	0.07	-0.08	0.06	0.04	-0.02	0.07	0.04	-0.03
			-31.6%			-54.5%			-37.5%			-36.8%
Living with Mother at Age 14	0.95	0.96	0.00	0.88	0.90	0.02	1.00	0.96	-0.04	0.95	0.95	0.00
	(0.21)	(0.21)	0.2%	(0.32)	(0.30)	2.4%	(0.00)	(0.20)	-4.0%	(0.23)	(0.22)	0.3%
Number of Persons	1329	1742		633	695		49	291		2011	2728	

NOTES: Standard deviations in parentheses.

¹The entries for a particular variable are as follows: the first row gives the raw difference between 1979 and 1968 and the second row entry gives the percentage changes from 1968 to 1979.

Table 4: Hourly Wage Rates by Age (16-27), Gender and Cohort

Panel A: Young Men

		Whites		Blacks				Hispanics		All Groups			
	1966	1979		1966	1979		1966	1979		1966	1979		
Age	NLS-YM	NLS-Y	Diff.	NLS-YM	NLS-Y	Diff.	NLS-YM	NLS-Y	Diff.	NLS-YM	NLS-Y	Diff.	
	Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		
16	\$4.64	\$4.01	-\$0.64	\$4.71	\$4.06	-\$0.65	\$4.62	\$4.13	-\$0.49	\$4.65	\$4.02	-\$0.63	
17	\$5.48	\$4.28	-\$1.20	\$5.44	\$4.15	-\$1.29	\$5.44	\$3.94	-\$1.50	\$5.47	\$4.25	-\$1.22	
18	\$6.07	\$4.48	-\$1.59	\$6.26	\$4.16	-\$2.09	\$6.19	\$4.75	-\$1.44	\$6.10	\$4.45	-\$1.65	
19	\$6.89	\$4.80	-\$2.08	\$6.67	\$4.23	-\$2.44	\$6.52	\$4.94	-\$1.58	\$6.83	\$4.74	-\$2.09	
20	\$7.68	\$4.87	-\$2.81	\$7.12	\$4.40	-\$2.72	\$7.74	\$4.80	-\$2.94	\$7.62	\$4.81	-\$2.80	
21	\$8.50	\$5.29	-\$3.21	\$7.74	\$4.64	-\$3.10	\$9.43	\$5.03	-\$4.40	\$8.47	\$5.20	-\$3.27	
22	\$9.30	\$5.62	-\$3.68	\$8.20	\$4.85	-\$3.35	\$10.08	\$5.59	-\$4.49	\$9.23	\$5.52	-\$3.70	
23	\$9.81	\$5.82	-\$3.99	\$8.41	\$5.21	-\$3.20	\$10.49	\$5.80	-\$4.69	\$9.69	\$5.74	-\$3.95	
24	\$10.11	\$6.32	-\$3.79	\$8.52	\$5.32	-\$3.21	\$10.81	\$6.45	-\$4.36	\$9.97	\$6.19	-\$3.77	
25	\$10.49	\$6.56	-\$3.93	\$8.53	\$5.78	-\$2.75	\$11.26	\$7.01	-\$4.25	\$10.30	\$6.48	-\$3.82	
26	\$10.88	\$6.98	-\$3.90	\$9.05	\$5.61	-\$3.44	\$11.52	\$7.01	-\$4.52	\$10.70	\$6.80	-\$3.90	
27	\$11.46	\$7.26	-\$4.21	\$9.44	\$5.63	-\$3.82	\$11.96	\$6.81	-\$5.15	\$11.25	\$7.03	-\$4.22	
Ave. Wage Rate, Ages 16-27	\$8.81	\$5.61	-\$3.20	\$7.73	\$4.92	-\$2.81	\$9.26	\$5.62	-\$3.64	\$8.71	\$5.52	-\$3.18	
Ann. % Growth, Ages 16-27	7.2%	5.3%	-1.9%	4.9%	3.6%	-1.2%	8.1%	5.3%	-2.8%	7.0%	5.1%	-1.9%	
Ann. % Growth, Ages 24-27	4.6%	4.6%	0.0%	3.2%	1.4%	-1.8%	3.2%	2.1%	-1.1%	4.4%	4.1%	-0.3%	
% Diff. for Foreign Born							-7.28%	-4.32%	2.96%	6.94%	0.13%	-6.81%	
% Diff in Foreign Born Ann.													
Growth Rate							-0.05%	0.08%	0.13%	1.01%	0.53%	-0.47%	

Table 4: (Cont.)

Panel B: Young Women

	Whites				Blacks			Hispanics		All Groups			
	1968	1979		1968	1979		1968	1979		1968	1979		
Age	NLS-YW	NLS-Y	Diff.	NLS-YW	NLS-Y	Diff.	NLS-YW	NLS-Y	Diff.	NLS-YW	NLS-Y	Diff.	
	Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		Coh.	Coh.		
16	\$3.84	\$3.60	-\$0.24	\$3.68	\$4.35	\$0.67	\$4.59	\$4.06	-\$0.53	\$3.85	\$3.68	-\$0.17	
17	\$4.33	\$3.79	-\$0.54	\$4.26	\$3.93	-\$0.32	\$3.99	\$3.80	-\$0.19	\$4.31	\$3.80	-\$0.50	
18	\$4.75	\$3.87	-\$0.88	\$4.89	\$3.71	-\$1.18	\$5.45	\$3.92	-\$1.54	\$4.79	\$3.85	-\$0.93	
19	\$5.51	\$4.00	-\$1.52	\$4.98	\$3.94	-\$1.03	\$5.02	\$4.00	-\$1.01	\$5.44	\$3.99	-\$1.45	
20	\$6.09	\$4.13	-\$1.96	\$5.42	\$3.97	-\$1.45	\$5.57	\$4.18	-\$1.39	\$6.00	\$4.11	-\$1.88	
21	\$6.58	\$4.32	-\$2.26	\$6.00	\$4.00	-\$2.00	\$6.26	\$4.25	-\$2.01	\$6.50	\$4.28	-\$2.22	
22	\$7.16	\$4.64	-\$2.52	\$6.32	\$4.19	-\$2.13	\$6.27	\$4.57	-\$1.71	\$7.04	\$4.59	-\$2.45	
23	\$7.43	\$5.22	-\$2.21	\$6.35	\$4.36	-\$1.99	\$5.47	\$5.19	-\$0.29	\$7.21	\$5.12	-\$2.10	
24	\$7.50	\$5.50	-\$2.00	\$6.82	\$4.54	-\$2.27	\$7.94	\$5.28	-\$2.65	\$7.44	\$5.38	-\$2.07	
25	\$7.55	\$5.79	-\$1.75	\$5.87	\$4.57	-\$1.30	\$5.92	\$5.54	-\$0.39	\$7.29	\$5.63	-\$1.66	
26	\$7.88	\$5.91	-\$1.97	\$5.96	\$4.82	-\$1.13	\$5.63	\$6.01	\$0.38	\$7.54	\$5.78	-\$1.76	
27	\$8.49	\$6.10	-\$2.38	\$6.03	\$4.88	-\$1.15	\$5.79	\$6.53	\$0.74	\$8.08	\$5.96	-\$2.11	
Ave. Wage Rate, Ages 16-27	\$6.05	\$4.80	-\$1.26	\$5.41	\$4.32	-\$1.09	\$5.54	\$4.84	-\$0.70	\$5.96	\$4.74	-\$1.22	
Ann. % Growth, Ages 16-27	6.9%	4.9%	-1.95%	4.4%	2.4%	-2.01%	3.7%	5.0%	1.30%	6.5%	4.6%	-1.83%	
Ann. % Growth, Ages 24-27	2.3%	2.9%	0.65%	-2.5%	2.9%	5.43%	-2.1%	6.9%	9.08%	1.4%	3.0%	1.59%	
% Diff. for Foreign Born							-0.7%	-1.9%	-1.17%	1.5%	2.0%	0.47%	
% Diff in Foreign Born Ann.													
Growth Rate							1.13%	0.31%	1.38%	-1.07%	1.02%	-0.11%	

 Table 5: Results of Variance Decomposition Using Juhn-Murphy-Pierce Framework

Group	Overall Change in Wages (Y79-Orig)	Change due to X	Change due to ß	Change due to u
White Males	-0.3951	0.0080	-0.1757	-0.2275
Black Males	-0.3897	0.0237	-0.1940	-0.2192
Hispanic Males	-0.4561	-0.0367	-1.4902	1.0707
White Females	-0.1451	0.0884	1.2007	-1.4342
Black Females	-0.1390	0.1080	0.6217	-0.8687
Hispanic Females	-0.0671	0.2040	-0.7466	0.4756

Table A-1: Regressions of Log of Hourly Wage at Each Age used to Calculate Wage Decomposition Results

	WHIT	E MEN	BLAC	K MEN	HISPAN	NIC MEN	WHITE	WOMEN	BLACK	WOMEN	HISPANI	C WOMEN
NLS Sample from:	YM	Y-79	YM	Y-79	YM	Y-79	YW	Y-79	YW	Y-79	YW	Y-79
Highest Grade Completed as of Age t	0.03132	-0.00644	0.03553	-0.02643	-0.07977	0.01158	0.12920**	-0.06617***	-0.01467	-0.11478***	-0.03423	0.00773
	[0.02115]	[0.01612]	[0.02334]	[0.03551]	[0.07623]	[0.03831]	[0.05045]	[0.02149]	[0.05758]	[0.03192]	[0.19012]	[0.03135]
Highest Grade Completed Sqd	-0.00021	0.00088	0.00019	0.00207	0.00323	0.00059	-0.00216	_	0.00359	0.00446***	0.00331	-0.00037
	[0.00089]	[0.00066]	[0.00128]	[0.00149]	[0.00306]	[0.00167]	[0.00210]	[0.00091]	[0.00276]	[0.00124]	[0.00937]	[0.00137]
No. of Years in School Only by Age t	0.04749***	0.04705***	0.03206	0.00063	0.06397*	0.06684**	0.10030***	0.00397	0.06157	0.02053	-0.06287	0.05280*
	[0.01118]	[0.01117]	[0.02361]	[0.01480]	[0.03385]	[0.03381]	[0.02503]	[0.01157]	[0.04556]	[0.02656]	[0.17351]	[0.03110]
No. of Years in School Only by Age t Sqd	-0.00202	-0.00248*	-0.00106	0.00059	0.00078	-0.0073	-0.00703**	0.00241	-0.00318	-0.00095	-0.00214	-0.00301
	[0.00150]	[0.00135]	[0.00299]	[0.00152]	[0.00464]	[0.00516]	[0.00282]	[0.00148]	[0.00514]	[0.00270]	[0.02088]	[0.00349]
No. of Years in Work & School by Age t	0.04785***	0.02345***	0.02916	0.01059	0.04844	0.04361**	0.03341*	0.03076***	0.03773	0.01961**	-0.06907	0.02905*
	[0.01111]	[0.00763]	[0.02000]	[0.00974]	[0.03156]	[0.01702]	[0.01954]	[0.00714]	[0.06353]	[0.00909]	[0.06110]	[0.01646]
No. of Years in Work & School by Age t Sqd	-0.00119	0.0012	-0.00152	0.00086	0.00279	-0.00398**	0.00237	0.00044	-0.01108	0.00063	0.00878	0.00139
	[0.00127]	[0.00085]	[0.00245]	[0.00124]	[0.00386]	[0.00193]	[0.00252]	[0.00084]	[0.01659]	[0.00112]	[0.00843]	[0.00188]
No. of Years in Work & College by Age t	-0.01434	0.00687	-0.00716	0.01404	0.05005	0.00693	-0.06299*	-0.00566	-0.09557	0.02455*	0.04727	0.02326
	[0.01710]	[0.00983]	[0.03729]	[0.01722]	[0.05069]	[0.02556]	[0.03329]	[0.01076]	[0.10415]	[0.01369]	[0.16136]	[0.02065]
No. of Years in Work & College by Age t Sqd	0.00496	0.00098	0.00076	-0.00057	-0.01352	0.01030*	0.01093	0.00285	0.03391	-0.00259		-0.00108
	[0.00351]	[0.00162]	[0.00660]	[0.00318]	[0.01138]	[0.00543]	[0.00876]	[0.00188]	[0.04746]	[0.00219]		[0.00356]
No. of Years in Work Part-Time Only by Age t	0.04847***	0.02642***	0.05304***	0.03511***	0.16536***	0.05575***	0.02849	0.04802***	-0.01074	0.02479***	0.10117	0.05250***
	[0.01035]	[0.00718]	[0.01922]	[0.00973]	[0.03144]	[0.01563]	[0.01918]	[0.00710]	[0.03612]	[0.00819]	[0.06782]	[0.01486]
No. of Years in Work Part-Time Only by Age t Sqd	0.00068	0.00069	-0.00900**	-0.00328*	-0.03356***	-0.00598**	-0.00216	-0.00316**	0.00371	-0.00205	-0.0165	-0.00497*
	[0.00192]	[0.00156]	[0.00372]	[0.00175]	[0.00656]	[0.00292]	[0.00383]	[0.00144]	[0.00618]	[0.00160]	[0.01195]	[0.00278]
No. of Years in Work Full-Time by Age t	0.16845***	0.08659***	0.10892***	0.06493***	0.14609***	0.08787***	0.13055***	0.08119***	0.14877***	0.05787***	0.19204***	0.07153***
	[0.00758]	[0.00459]	[0.01177]	[0.00649]	[0.02216]	[0.00868]	[0.01518]	[0.00483]	[0.03361]	[0.00680]	[0.05932]	[0.01044]
No. of Years in Work Full-Time by Age t Sqd	-0.01180***	-0.00375***	-0.00731***	-0.00302***	-0.00994***	-0.00297***	-0.00738***	-0.00347***	-0.01628***	-0.00312***	-0.01854**	0.00024
	[0.00105]	[0.00060]	[0.00169]	[0.00086]	[0.00305]	[0.00105]	[0.00259]	[0.00066]	[0.00537]	[0.00102]	[0.00904]	[0.00164]
No. of Years in Military by Age t	0.08953***	0.03543***	0.05962***	0.03426*	0.17949***	0.02649	n.a.	0.04694**	n.a.	0.06313	n.a.	0.07544
	[0.01787]	[0.01221]	[0.01894]	[0.01788]	[0.05112]	[0.02802]		[0.02364]		[0.04008]		[0.06716]
No. of Years in Military by Age t Sqd	-0.00578	-0.0022	-0.0043	-0.00317	-0.02443*	0.00226	n.a.	-0.00613	n.a.	-0.00896	n.a.	-0.00614
	[0.00362]	[0.00201]	[0.00274]	[0.00419]	[0.01322]	[0.00479]		[0.00555]		[0.00919]		[0.00897]
No. of Years in Other Activities by Age t	0.03393***	0.03103**	-0.00073	0.02300*	0.05969	0.05514**	0.02492	-0.0057	0.03101	0.00764	0.13836*	0.02979*
	[0.01311]	[0.01422]	[0.02449]	[0.01358]	[0.03953]	[0.02772]	[0.02090]	[0.00911]	[0.03212]	[0.01016]	[0.08086]	[0.01679]
No. of Years in Other Activities by Age t Sqd	-0.00124	-0.00387	0.00561	0.00116	0.00734	-0.01178	0.00014	0.00400***	-0.00099	-0.00026	-0.02291*	-0.00086
	[0.00258]	[0.00362]	[0.00484]	[0.00282]	[0.00725]	[0.00714]	[0.00331]	[0.00152]	[0.00440]	[0.00176]	[0.01343]	[0.00207]

Table A-1: (continued)

	WHITE MEN		BLACK MEN		HISPANIC MEN		WHITE WOMEN		BLACK WOMEN		HISPANIC WOME	
NLS Sample from:	YM	Y-79	YM	Y-79	YM	Y-79	YW	Y-79	YW	Y-79	YW	Y-79
Age = 14 at start of Survey	-0.03441	-0.02278*	-0.01802	-0.06546***	-0.03687	0.02815	-0.00803	-0.02116**	-0.10209	-0.01224	0.00301	0.012
	[0.02432]	[0.01230]	[0.03231]	[0.02047]	[0.06036]	[0.02679]	[0.03661]	[0.01064]	[0.08104]	[0.01739]	[0.16154]	[0.02592]
Age = 15 at start of Survey	-0.00559	-0.00652	0.03787	-0.03240**	-0.04599	0.03292	-0.04637*	-0.01481	-0.01115	-0.01322	0.04504	0.00992
	[0.01967]	[0.01113]	[0.03395]	[0.01556]	[0.05030]	[0.02587]	[0.02773]	[0.01051]	[0.03990]	[0.01739]	[0.09424]	[0.02478]
Age = 16 at start of Survey	-0.03629*	-0.00419	0.00021	-0.01846	-0.13664***	0.03233	0.01145	-0.00438	-0.0289	-0.01088	-0.02297	0.0251
	[0.01906]	[0.01094]	[0.02591]	[0.01608]	[0.04458]	[0.02932]	[0.02643]	[0.01033]	[0.05058]	[0.01648]	[0.14559]	[0.02002]
Foreign Born	0.05145	0.00647	n.a.	0.15031***	0.01323	-0.02484	0.00059	0.02719	0.09688	0.03467	0.34954***	-0.01985
	[0.05069]	[0.02471]		[0.04714]	[0.07571]	[0.01933]	[0.08815]	[0.01940]	[0.07351]	[0.05703]	[0.12765]	[0.01903]
IQ/AFQT Score, Standardized (Missing = 0)	0.00048	-0.00008	0.00165	-0.00007	-0.00237***	0.00045	0.00166***	0.00034*	0.00125	0.00077**	-0.00046	0.00045
	[0.00032]	[0.00018]	[0.00107]	[0.00034]	[0.00085]	[0.00044]	[0.00050]	[0.00018]	[0.00117]	[0.00034]	[0.00203]	[0.00056]
Missing Indicator for IQ/AFQT Score	0.03213	0.0279	0.04587	-0.03365	-0.16993**	-0.05077	0.11797***	0.04622**	-0.0166	0.02797	-0.09388	-0.00983
	[0.02809]	[0.02376]	[0.03643]	[0.02617]	[0.07287]	[0.04635]	[0.03828]	[0.02097]	[0.05105]	[0.04830]	[0.10340]	[0.08420]
Mother's Education (Missing = 0)	0.00443	-0.0015	0.00383	0.00643**	0.01276	0.00273	-0.00862*	0.00444**	0.01064	0.00391	0.01529	0.00298
	[0.00303]	[0.00181]	[0.00446]	[0.00254]	[0.00916]	[0.00272]	[0.00468]	[0.00200]	[0.00662]	[0.00242]	[0.01604]	[0.00281]
Missing Indicator for Mother's Education	0.11690**	-0.01859	0.05761	0.06642**	-0.12955	0.07640*	-0.10964	0.07417**	0.07722	0.02769	0.20394	0.05909
	[0.04670]	[0.02917]	[0.04962]	[0.03151]	[0.14817]	[0.04089]	[0.08051]	[0.03577]	[0.08711]	[0.03649]	[0.15351]	[0.05219]
Father's Education (Missing = 0)	-0.00206	0.00231	0.00127	0.00015	-0.00147	-0.00147	0.00206	0.00234	0.00038	0.00475**	0.00941	-0.00433
	[0.00266]	[0.00143]	[0.00477]	[0.00269]	[0.00946]	[0.00263]	[0.00382]	[0.00144]	[0.00576]	[0.00242]	[0.00898]	[0.00266]
Missing Indicator for Father's Education	0.01076	0.03004	-0.00357	-0.01756	-0.10566	0.00526	0.04095	0.01999	-0.0458	0.06515**	0.02627	-0.00691
	[0.03274]	[0.02494]	[0.03841]	[0.02924]	[0.11348]	[0.03547]	[0.05118]	[0.02406]	[0.05817]	[0.02971]	[0.08342]	[0.03121]
Living with Mother at Age 14	0.13444***	-0.00416	-0.0097	0.02415	-0.05264	0.05052	-0.00344	0.02146	-0.0104	0.00046	n.a.	-0.06443*
	[0.03501]	[0.01993]	[0.04030]	[0.02024]	[0.08985]	[0.03522]	[0.05750]	[0.01441]	[0.05911]	[0.01894]		[0.03552]
Missing Indicator for LivWMom14	0.05269	-0.02329	n.a.	0.0328	n.a.	-0.10083**	n.a.	0.13567***	n.a.	0.08153	n.a.	0.07163
	[0.05991]	[0.02477]		[0.03182]		[0.04838]		[0.01712]		[0.06917]		[0.06213]
Constant	0.99417***	1.21666***	1.08764***	1.31144***	2.00831***	0.94199***	-0.05473	1.38405***	0.94136***	1.80790***	1.58481	1.10556***
	[0.12717]	[0.09705]	[0.13669]	[0.19586]	[0.45963]	[0.19250]	[0.28969]	[0.12479]	[0.32557]	[0.20560]	[0.97571]	[0.15888]
Observations (no of person-ages)	12401	17105	4926	6301	968	2589	5992	15363	2435	5084	231	2452
R-Sqd	0.359	0.276	0.253	0.174	0.502	0.306	0.261		0.19	0.127	0.244	0.274

Standard errors in brackets, adjusted for non-independence of age observations within each person. * denotes significant at 10% level; ** denotes significant at 5% level; *** denotes significant at 1% level.