University of Wisconsin-Madison

Institute for Research on Poverty

Discussion Papers

Robert M. Hauser

MEASURING ADOLESCENT
EDUCATIONAL TRANSITIONS
AMONG AFRICAN AMERICANS,
HISPANICS, AND WHITES

DP # 951-91

Measuring Adolescent Educational Transitions
among African Americans, Hispanics, and Whites

Robert M. Hauser
Vilas Research Professor of Sociology
Institute for Research on Poverty
University of Wisconsin-Madison

August 1991

Abstract

The federal statistical system does poorly at monitoring the educational and labor force transitions of American youth. Statistical agencies do not coordinate activities and programs; population coverage is incomplete; statistical concepts and survey items are inadequate; and cross-section surveys are not complemented by regular longitudinal surveys. In this context, I review sources and measures of high school completion and of college entrance, enrollment, and completion, focusing on ways to improve the assessment of trends and differentials among white, black, and Hispanic youth. Using a reconstituted set of person and household data from October Current Population Surveys, 1972 to 1988, I show how changes in family background have affected chances of college entry. When family background is controlled, black and Hispanic youth enjoyed better chances of college entry during the 1970s than did white youth, but the black advantage eroded during the 1980s.

Measuring Adolescent Educational Transitions
among African Americans, Hispanics, and Whites

For the past two decades and in the foreseeable future, the key educational transitions among American youth have occurred and will occur during middle to late adolescence. These include, but are not limited to, high school dropout or completion and entry into colleges, universities, or other postsecondary schools. These transitions are a key to the quality and productivity of the future work force because they are the main points at which youth now leave the educational system for work, military service, family formation--and in some cases street or prison life. For the past several years, public attention in the United States has focused mainly on the first of these transitions--high school dropout--but the transition from high school completion to whatever may follow is and will be the most important decision point in the American educational system. High school completion is the single point at which the most Americans leave schooling.[1] It is the point at which the largest share of the cost of schooling shifts from public to private hands--even though there is massive public funding for postsecondary schooling. It is the point that determines access to the kinds of jobs that are and will be most in demand in the American economy of the twenty-first century.

Wage differentials are growing between the college educated and persons with some college or a high school diploma or who are high school dropouts (Murphy and Welch 1989). For example, figures 1 and 2 show trends since the 1960s in the earnings of black and white male high school graduates and in the earnings of high school graduates relative to men with other levels of completed schooling. After increasing from the middle 1960s to the middle 1970s, the real earnings of male high school graduates declined through the middle 1980s. The earnings of high school dropouts relative to high school graduates also declined. After the middle 1970s, the relative earnings of men with college experience took off. Those for college graduates rose most rapidly, from about 20 percent more than the earnings of high school graduates to 40 or 50 percent more than the earnings of high school graduates. There is every reason to believe that these differentials are a valid reflection

Figure 1
Ratios of Earnings to those of High School Graduates:
Black Men aged 25 to 34, 1964 to 1988

Less than 12 Years vs. 12 Years   Some College vs. 12 Years

College, 16 or More Years, vs. 12 Years   Earnings of High School Graduates
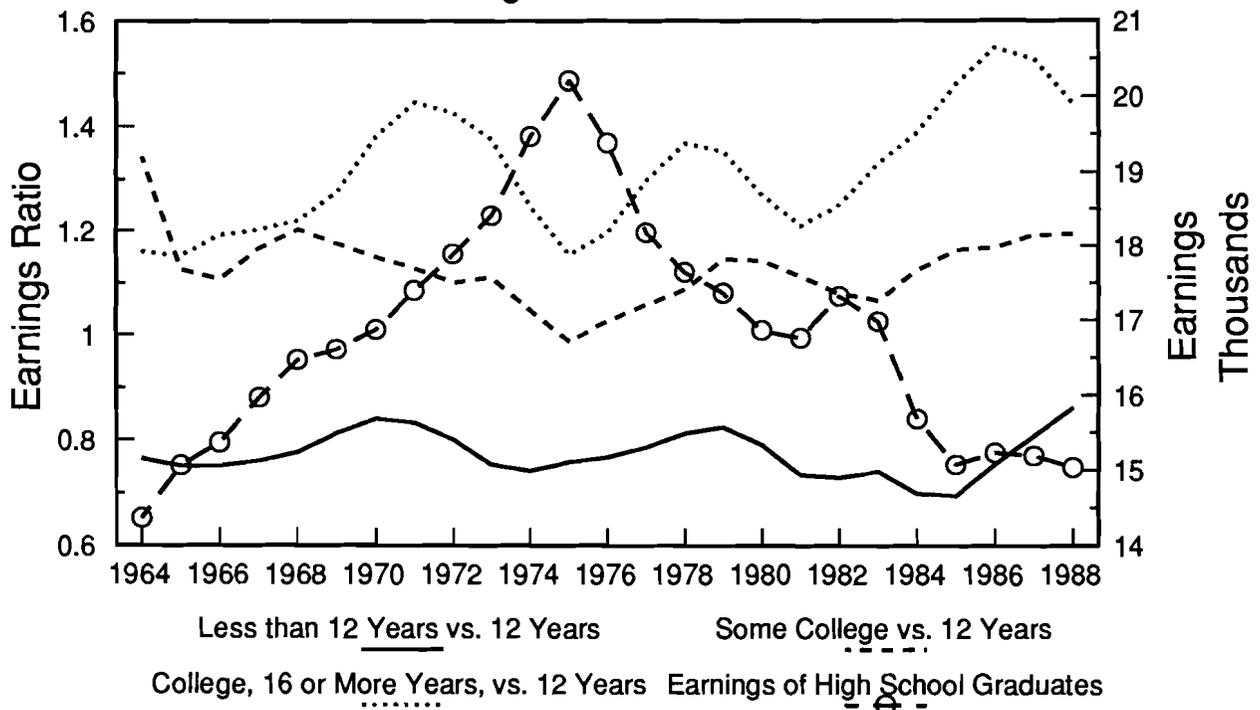
Data are 3-year moving averages from March
Current Population Surveys.

Figure 2

Ratios of Earnings to those of High School Graduates: White Men aged 25 to 34, 1964 to 1988

Less than 12 Years vs. 12 Years   Some College vs. 12 Years

College, 16 or More Years, vs. 12 Years   Earnings of High School Graduates
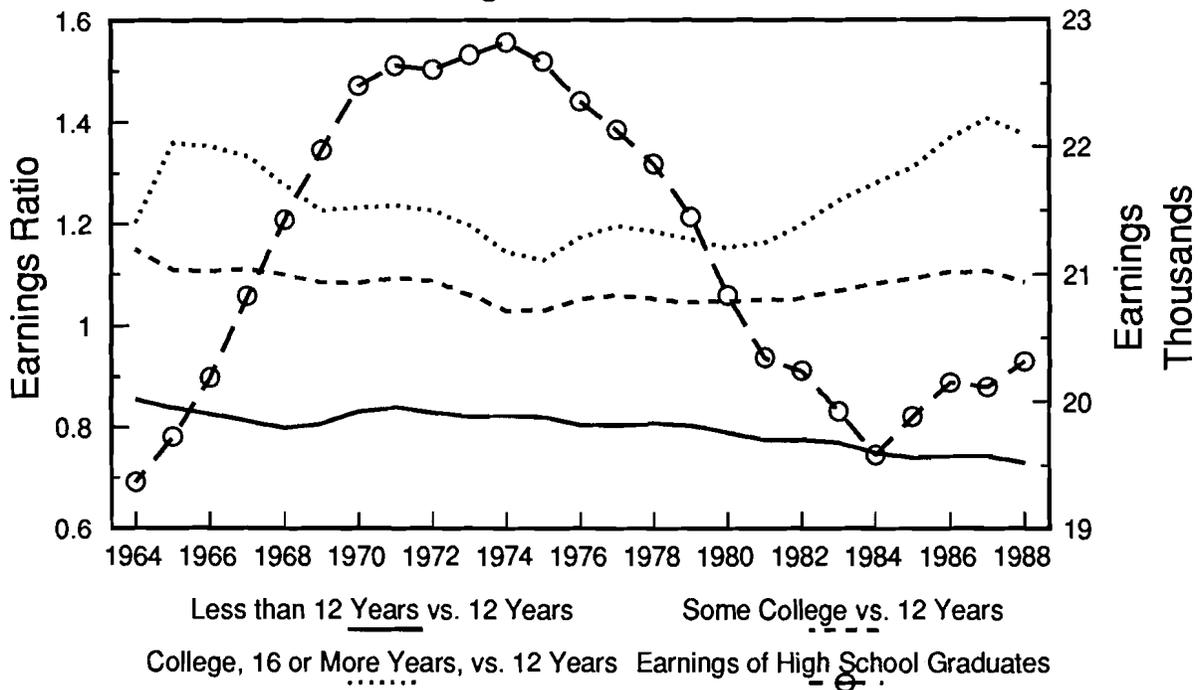
Data are 3-year moving averages from March
Current Population Surveys.

of the growing demand for a highly educated work force, that they will continue (Bishop and Carter 1990), and that they provide sound and compelling evidence of the need to monitor and foster the transition from school to the labor market.

What do we know about transitions out of high school in the United States? How do we know it? Do we know enough? And how can we learn more? I will begin with a brief overview of federal data sources and programs. Then, I will outline recent trends in adolescent educational transitions, focusing on differences in these transitions among racial and ethnic groups.[2] While I might have chosen some other set of differentials for special attention--for example, gender or income differences--I think that racial and ethnic differences are of particular importance, both because of their obvious relevance to issues of equity and equality of opportunity, and because of their implications for the future American economy. The demographer's stock in trade is the explanation of differences by population composition. If minorities are less successful in educational transitions than majority whites--or even if improvements in the status of minorities occur slowly--the growing share of minorities in the American population will itself reduce the educational quality of the future work force.

For example, much of my analysis focuses on trends in college entry since 1972--the first year in which it was possible to identify Hispanics consistently in the Current Population Survey (CPS). As shown in figure 3, the share of minorities among high school graduates has grown steadily. From 1972 through 1988 Hispanics grew from 4.3 to 6.5 percent of high school graduates, and African Americans grew from 10.3 to 14.3 percent of high school graduates. Obversely, the share of whites (and others) has declined from 85.5 percent to 79.2 percent.[3] This change in composition stems in part from increasing rates of high school completion by minority youth, but it is also fed by changes in the racial and ethnic composition of birth cohorts. The shift in population composition will continue. In 1972 Hispanics were 6.7 percent of five and six year olds, and blacks

Figure 3
Race and Ethnicity of Recent High School Graduates:
1972 to 1988

☒ White and other ☑ Black ☒ Hispanic
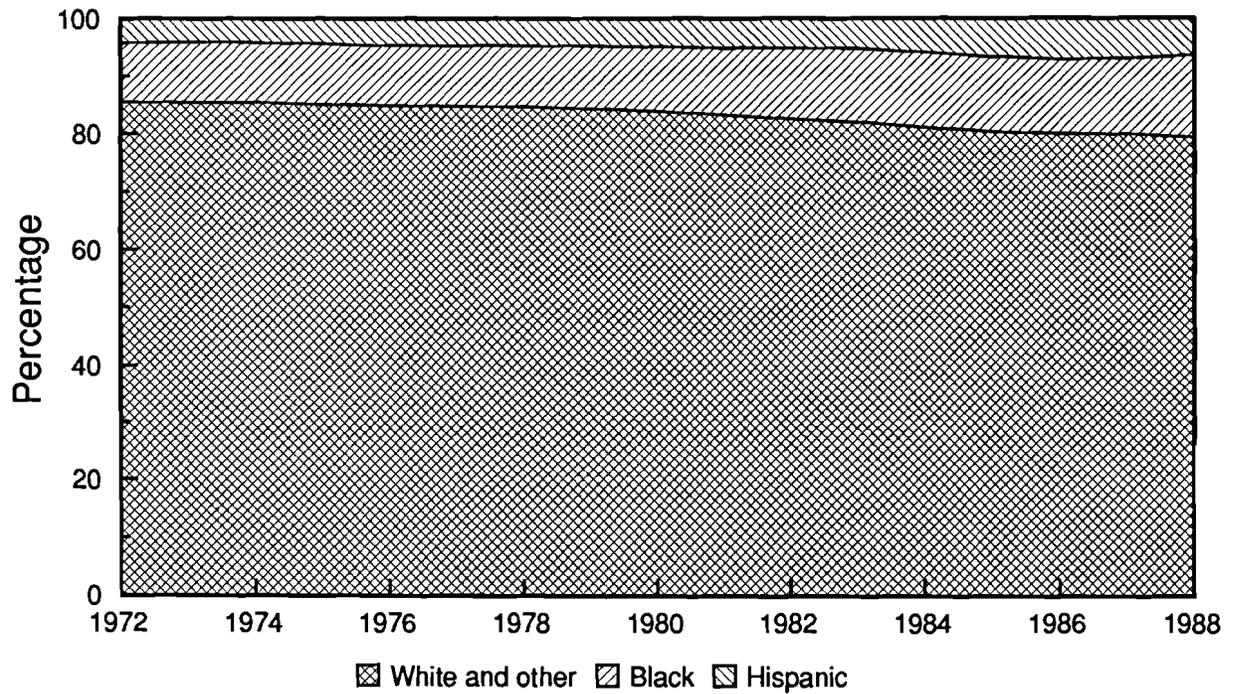
Note: Data are 3-year moving averages
for youth in October Current Population Surveys.

were 14.3 percent of five and six year olds (U.S. Bureau of the Census 1974, table 1). In 1988

Hispanics were 11.2 percent of five and six year olds, and blacks were 15.3 percent of five and six

year olds (U.S. Bureau of the Census 1990, table 1). Thus, before the turn of the century, these

disadvantaged minorities will comprise about one-quarter of persons reaching adulthood in the United

States.[4]

One main theme of my analysis is that the federal statistical system provides too little

information about the key educational transitions of adolescence, and much of that information is

incomplete, inconsistent, invalid, unreliable, untimely, or otherwise uninformative. We ought to be

doing better, and I will suggest several ways--some of which cost very little and others of which will

bear moderate price tags--that we can do better in the immediate future.

FEDERAL DATA RESOURCES

America's youth are the neglected stepchildren of the federal statistical system. The part of

the U.S. statistical system run by the Bureau of the Census ignores almost all people in military

service in its regular surveys, so we learn nothing about them except yearly estimates of their total

number by age, color, and sex. Thus, we do not know each year how many high school graduates

enter the military service, yet the absence of these data clouds our estimates of rates, trends, and

differentials in entry into the civilian labor market and into postsecondary schools. While reductions

in the size of the armed forces reduce these problems, they are compounded by changes over time in

the selectivity of entry into and exit from the armed forces. It is a long-standing tradition that the

Department of Education, in its longitudinal surveys of student populations, pays too little attention to

labor market outcomes, while the Department of Labor, in its surveys of youth, pays too little

attention to schooling processes. None of these agencies integrates its statistical activities with those

of the Bureau of Justice Statistics, which is itself unable to produce a mutually exclusive and

exhaustive account of persons controlled by the criminal justice system. Thus we are bombarded with

loud and specious comparisons of the numbers of minority youth in prisons and in colleges (Hauser 1991a). Neither is there integration of education, labor, or justice statistics with those on health and illness.[5] The overall effect of fragmented responsibility and piecemeal coverage is that, once youths leave high school, our statistical system treats them almost as if they had dropped off the face of the earth.

For policy purposes, we need to know what populations are exposed to the risk of educational transitions, the characteristics of those persons that affect the transitions, and the timing and outcomes of the transitions. There are three main sources of regular federal data on adolescent education: the institutional data collection programs of the National Center for Education Statistics (NCES); the Current Population Surveys of the U.S. Bureau of the Census, especially the October and March surveys; and various supplemental survey programs of the NCES (U.S. Bureau of the Census 1978; Ogle 1990).

The main data collection programs at the NCES obtain information about enrollment counts, institutional resources, and diplomas or degrees awarded. Because the main statistical series on secondary and postsecondary education are obtained from institutional representatives (through the School and Staffing Survey and the Integrated Postsecondary Educational Data System), they provide almost no information about students other than race-ethnicity and sex, and there is simply no way to use these data to assess or analyze educational transitions. The National Assessment of Educational Progress (NAEP) provides increasingly important and detailed measurements of academic performance, but the NAEP is a set of repeated cross-sections--not a longitudinal survey of persons--and its measurements of individual social and economic characteristics have been limited and difficult to analyze.

The Current Population Survey of the Bureau of the Census is a large national survey--currently covering about fifty-five thousand households each month--and each October it

fields an educational supplement that ascertains the school enrollment status of persons aged three to thirty-four years old. Unlike the institutional data from the NCES, the CPS covers the non-enrolled population as well as persons who are enrolled in school. The CPS obtains important personal characteristics other than race-ethnicity and sex, most notably age, grade or year in school, year of high school completion, and enrollment status in the previous year. For children who are living in their parents' households or who are living in group quarters while away at school, the CPS data permit us to attach the social and economic characteristics of parents to those of their children. Thus, for some populations we can relate school enrollment and progress to family income, to single-parent households, to the number of children in the household, and to parental education, labor force status, and occupation.

There are major problems in using the CPS data to measure adolescent educational transitions: the samples become excessively small and statistically unreliable when we try to focus on key transitions, especially among minority groups; family income is not measured well; we lose the link between parents and children when children leave their parents' household; the CPS does not cover persons in the military or in institutions, like prisons and jails, that now house a substantial minority of young adults; it tells us little about the schools or colleges in which students are enrolled; and recent content changes in the CPS have reduced the usefulness of the October data. Some of the problems of the CPS are inherent in its design; its primary purpose is to measure labor force participation and employment, and budget and design decisions are most heavily influenced by the needs of the Bureau of Labor Statistics.

The NCES also has survey programs that provide important data about adolescent educational transitions. These include the National Post-Secondary Aid Survey (NPSAS), which is a longitudinal study of postsecondary school entrants, and a series of occasional longitudinal surveys that begin with eighth-, tenth-, or twelfth-grade students. By construction, the NPSAS misses the transition from

high school completion to whatever follows; that is, it picks up students who have made the transition to some form of secondary schooling and cannot help us understand who does and does not make that transition or what the role of public policy may be in fostering it.

The other longitudinal surveys of the NCES have been initiated once per decade since the early 1970s. The first was the National Longitudinal Survey of the Class of 1972 (NLS-72), which started with twelfth graders. The second was the High School and Beyond Survey (HSB), which started with tenth and twelfth graders in 1980, thus covering the high school graduation class of 1982. The third is the National Educational Longitudinal Study of 1988 (NELS-88), which started with eighth graders in 1988. Thus, its members will not graduate from high school until 1992, and under current plans, their success in postsecondary schooling will not be surveyed until 1994. It will be late in the 1990s before we have a detailed post-1982 analysis of transitions beyond secondary school.

The NCES longitudinal studies are well designed and well executed. They begin with very large samples of school children--twenty-five thousand in the base-year sample of the NELS-88--and they obtain extensive measurements of academic performance, school and social environments, and family background. They have been valuable in basic scientific and policy research, and they have occasionally been useful in monitoring trends in educational transitions. Still, there are two main limitations to their use in public policy: they provide only one reading per decade on changes in educational transitions, and--perhaps because of this occasional character--they are not sufficiently comparable in design to permit unambiguous trend comparisons.[6] Think about the fact that we measure the unemployment rate every month, but our only good measurements of the transition from high school to college occur once per decade. My main suggestion for the future development of federal educational statistics is that we establish a parallel set of smaller, annual, school-based longitudinal surveys that will begin in the eighth, tenth, or twelfth grades, be constant in design and content, and fill in the gaps between major decennial surveys.

In response to a congressional mandate, the NCES has also initiated some efforts to improve the measurement of high school dropout. As I understand it, this began with an effort to design the National Household Education Survey (NHES), but the costs of screening households for potential high school dropouts are so great that the NCES can be expected to rely on the CPS to measure dropout in the near future. In its initial phase, the NHES will focus on early childhood education.

Why doesn't the NCES do a better job of measuring adolescent educational transitions? One reason is that its organizational structure is neatly split between elementary and secondary schooling on one side and postsecondary education on the other. Excepting the Longitudinal Studies Branch, which was the home of the NLS-72 and the HSB, there is no organizational unit whose interests cover the transition from secondary school to whatever may follow it. Second, the NCES has recently moved from poor orphan status among federal statistical agencies (Levine 1986)--its budget has grown roughly fivefold since the early 1980s. But it is still hampered by limits on its numbers of positions that force it to subcontract most statistical work, and its agenda is controlled to a substantial degree by the demands of the National Goals for Education (U.S. Department of Education 1990). While the National Goals proclaim the need for reduced dropout and higher secondary school test scores, as well as for improved performance by college students, there is a striking omission of any reference to the transition from secondary to postsecondary schooling. The NCES has no clear mandate to improve its monitoring of transitions out of high school.

TRENDS AND GAPS IN FEDERAL EDUCATIONAL STATISTICS
College Enrollment

There are major, unresolved inconsistencies between basic series of enrollment counts from the NCES and those from the Current Population Survey. For example, figure 4 shows NCES estimates of enrollment in higher education of blacks and whites by sex (Center for Education Statistics 1988; Schantz and Brown 1990). The series clearly shows growth in the enrollment of

Figure 4
Enrollment in Institutions of Higher Education
## Black and White Men and Women, 1976 to 1988
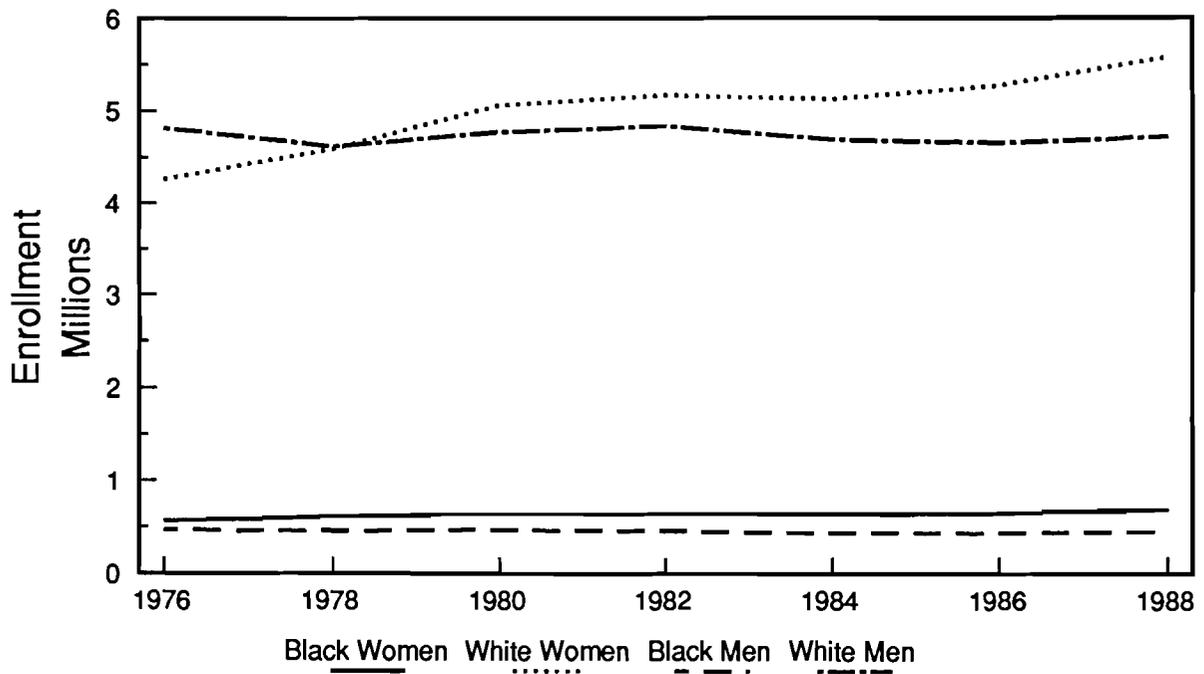
Black Women   White Women   Black Men   White Men

white women and hints at a divergence between enrollments of black women and black men. Figure

5 gives the NCES series for black women and men together with estimates from the October

educational supplement of the Current Population Survey (U.S. Bureau of the Census, *Current*

Population Reports, Series P-20). There are glaring discrepancies between the NCES and CPS series,

on the order of 100,000 for black men or black women in some years. To some degree, they are

probably a result both of sampling variability in the CPS and of varying definitions of postsecondary

school enrollment; one recent effort to reconcile them ended with an admission of failure (Koretz

1990, p. 38).

High School Dropout

What can we say about high school dropout and high school completion? Dropout and

completion are two different things: the former refers to school-leaving during the usual high school

ages, while high school equivalents can be obtained at later ages. Although most of this analysis

focuses on college entry, high school dropout affects the base population of potential college entrants,

and some have argued that decreases in college attendance among minorities are an "artifact" of

increases in their high school completion.[7] Figure 6 shows a CPS-based series of annual high school

dropout rates released by the NCES (Kominski 1990; Frase 1989). In each of the tenth-, eleventh-,

and twelfth-grade rates, the numerator includes persons whose highest grade completed is nine, ten,

or eleven, who were enrolled in school in the previous October, and who were not enrolled at the

survey date. At the tenth- and eleventh-grade level, the denominator is the sum of the numerator and

of persons with the same highest grade completed who were enrolled in school at the survey date; at

the twelfth-grade level, the denominator is supplemented by persons who reported having graduated

from high school in the survey year. The series is conceptually flawed: it ignores "drop-in," the

return to school of individuals who were not enrolled in the previous October; it includes

twelfth-grade graduates who may not have left the eleventh grade in the preceding year; and it

Figure 5

NCES and CPS Estimates of Enrollment in Higher Education:
Black Men and Women, 1976 to 1988

Black Women (NCES)   Black Women (CPS)   Black Men (NCES)   Black Men (CPS)
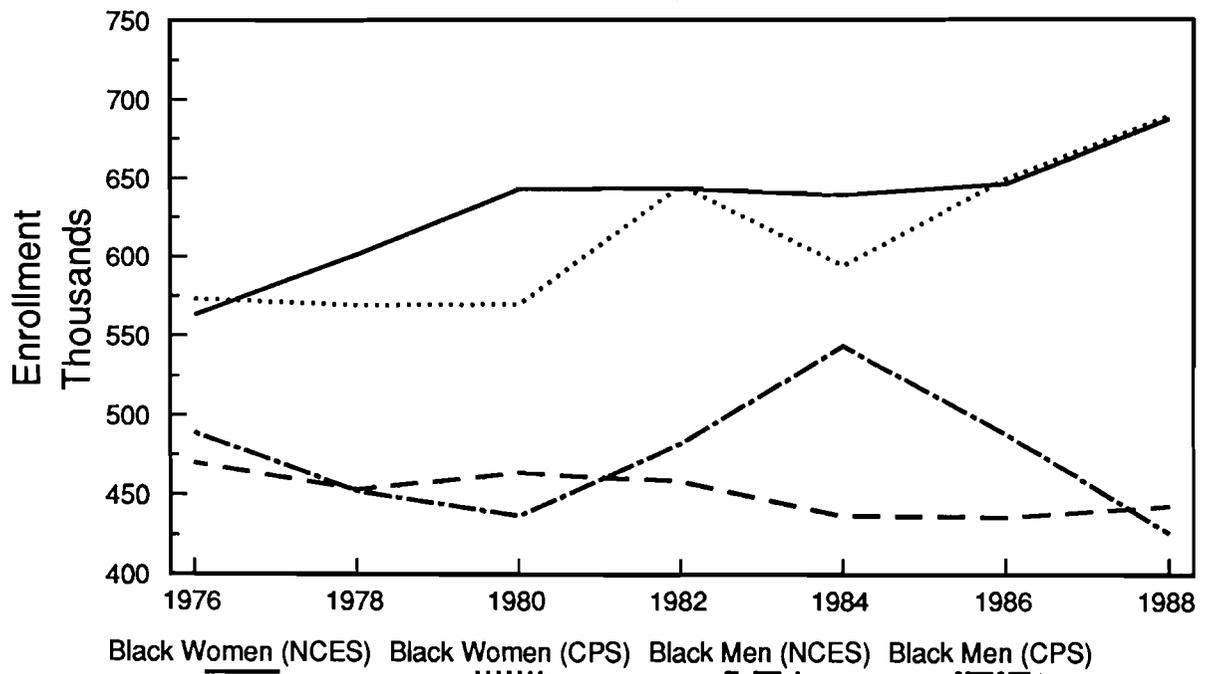
Data are from HEGIS and IPEDS, National Center for Educational
Statistics, and October Current Population Surveys.

14

Figure 6
Yearly Dropout Rate from Grades 10-12:
## Persons Aged 14 to 24, 1968 to 1987
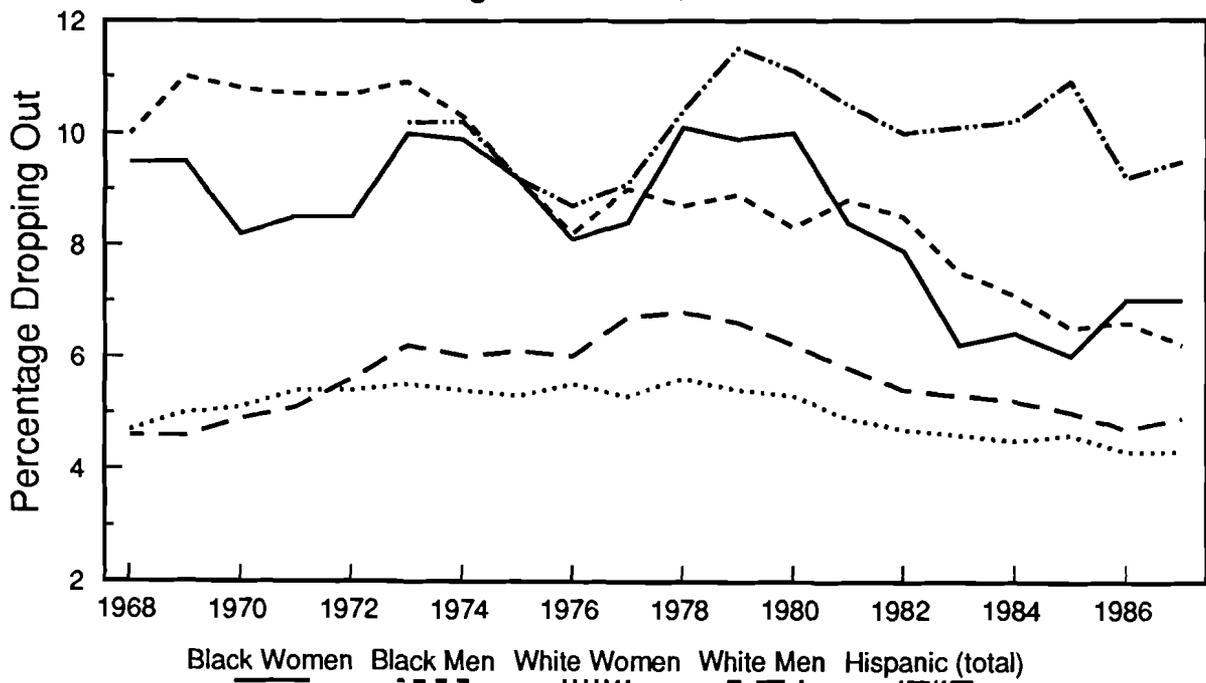
Data are 3-year moving averages for grades 10 to 12
from October Current Population Surveys, 1967 to 1988.

assumes that all persons who remain enrolled have advanced one grade. The first problem could be solved by minor tinkering with the flow of the October CPS questionnaire, and the second can be solved by retabulating existing data. It would take more substantial changes in the schedule to solve the third problem. Even though the data of figure 6 are highly aggregated--they are three-year moving averages across three, single-year transitions--the rates for minorities show obvious signs of sampling variability. Given this level of instability at the national level, the prospects are not good that the CPS data will yield timely estimates of differentials in dropout for policy-relevant subpopulations, for example, poor black inner-city residents. Thus, while it is possible to link these data on dropout to the characteristics of parental households within the October CPS, they are unlikely to yield timely data on changes in the effects of social background on school retention.

Annual dropout rates are higher for African Americans and Hispanics than for majority whites, and they appear to have been declining among blacks and whites since the late 1970s. One might read the current level of public interest in school dropout as a lagged response to the rising rates for whites in the 1970s as well as to the persistently high dropout rates of Hispanics. One serious problem with the rates for Hispanics, aside from sampling variability, is that we cannot distinguish between native- and foreign-born individuals. There is presently no way to determine whether the high dropout rates of Hispanics are the product of years of experience in American schools or of late entrance by the foreign born; surely these are different problems requiring different solutions. For this among other reasons, it is important that regular measurements of nativity be restored at least to the March and October Current Population Surveys.

Our ability to measure high school completion is far better than that to measure high school dropout, for years of schooling are cumulative and irreversible, while school enrollment is not. For example, figure 7 shows the proportions of whites, African Americans, and Hispanics who completed high school by ages twenty-one to twenty-four. From 1966 to 1985, high school completion grew

Figure 7

High School Completion by Age 21 to 24:
White, Black, and Hispanic Persons
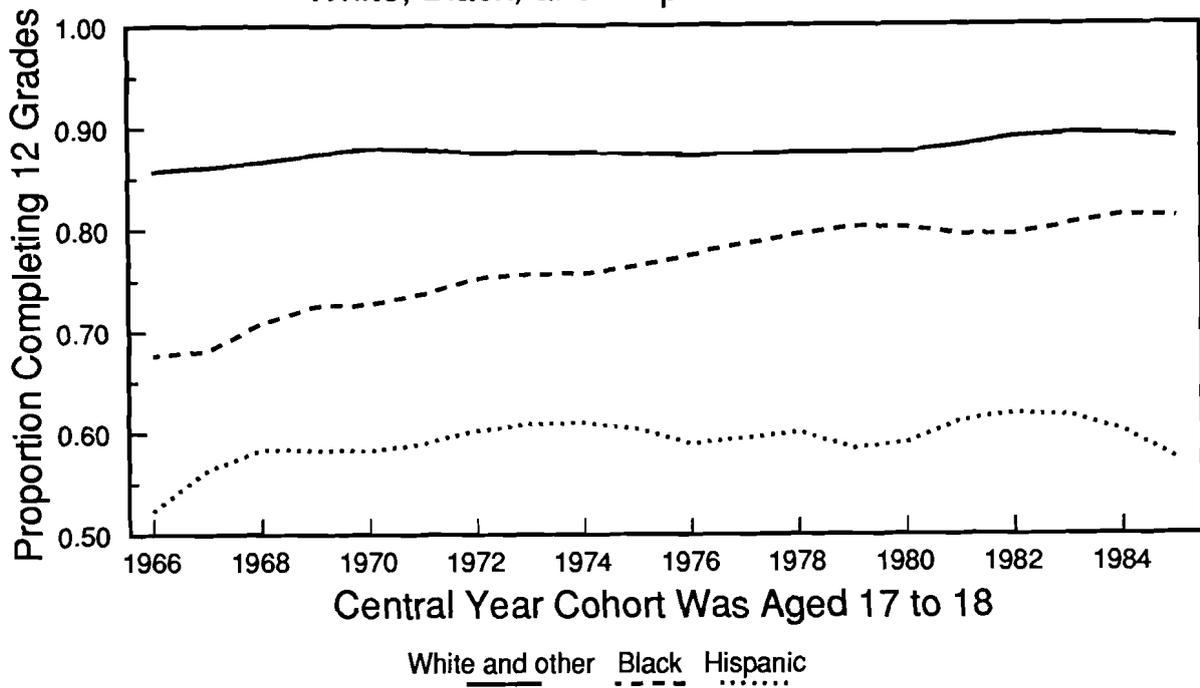
White and other   Black   Hispanic

Data are 3-year moving averages for persons aged 21 to 24
years old in March Current Population Survey, 1971 to 1990.

from 85 percent to almost 90 percent among whites, and it has grown from less than 70 percent to almost 80 percent among African Americans. High school completion remains much lower among Hispanic youth; its peak in the early 1980s was about 60 percent, and it may have declined since then.

If the data of figure 7 provide better information on high school retention, why need we worry about the defects of the annual dropout rates? First, the data on high school completion are not timely. If we have to wait for people to reach age twenty-four before we can measure high school dropout, then we are a long way from the source of the problem. The series in figure 7 use data from the March CPS through March 1990; there are no more recent data for this age group. It is possible to measure high school completion at younger ages--and the younger the age, the more likely it is that completion means graduation, rather than equivalence--but a narrow, younger age window will also miss more high school completions, since many eighteen to twenty year olds are still enrolled in high school. Second, the older the population, the less feasible it becomes to link the characteristics of children with those of their parents within the CPS; the CPS residence rules link fewer than half of Americans at ages twenty-one to twenty-four to their parents' households.

College Attendance

The most common and highly publicized annual measure of college attendance is a rate of enrollment (or, sometimes, participation) among eighteen- to twenty-four-year-old high school graduates (or all persons), which can be estimated from the October CPS and is regularly published in the *Current Population Reports* (U.S. Bureau of the Census 1990).[8] Whatever the variant, its only virtue is statistical reliability; because it covers seven birth cohorts, it does not suffer from the same statistical unreliability as, for example, the annual high school dropout rate. For example, figure 8 shows the rate of college participation among eighteen- to twenty-four-year-old high school graduates

Figure 8

College Participation Among 18 to 24 Year Old
High School Graduates, 1970 to 1989

White and other   Black   Hispanic
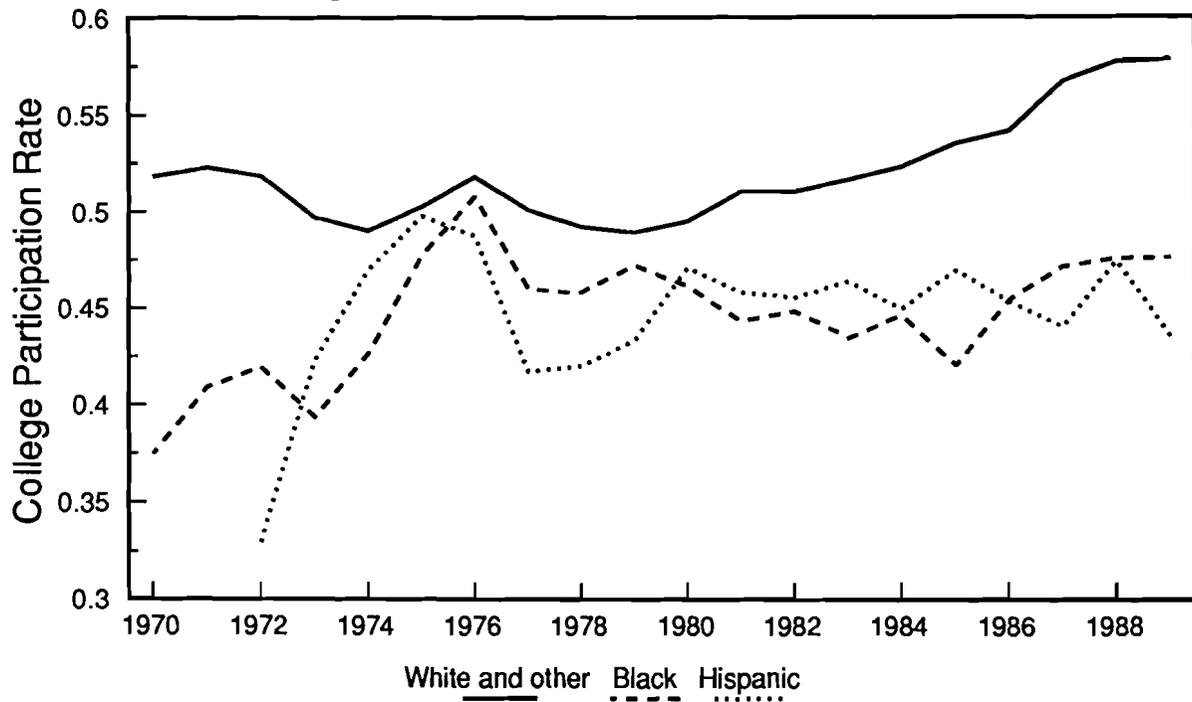
Data are from October Current Population Surveys.

from 1970 to 1989, where participants are currently enrolled in a college or university or have completed one or more years of postsecondary schooling. For majority whites, the rate is always at or above 50 percent, and for blacks and Hispanics it hovers around 45 percent. Thus, the variability in participation among persons is close to the maximum, which would be reached if the rate were 50 percent for all social groups. Among majority whites, the participation rate grew rapidly during the 1980s, and it is now about 58 percent. For African Americans and Hispanics, the rate appeared to rise and fall rapidly during the mid-1970s, and it has since stagnated. This is one of the bases for public concern that minority college participation is falling further behind that of majority whites.

What is wrong with the college participation rate? It is a conceptual muddle. It does not measure a transition that occurs in any fixed interval of time. It is not timely, for it covers seven birth cohorts, whose post-high school experiences may have differed widely. It may not measure school enrollment, for it may include persons who are no longer in school because they completed college or dropped out along the way. It confounds differences in the pace and timing of schooling with differences in enrollment; for example, if postsecondary schooling is prolonged through a mixture of part-time schooling and work, as now more commonly occurs, the participation rate will go up, yet this is scarcely a signal that college has become more accessible. If African Americans and Hispanics are more likely than majority whites to go to school part-time or to combine school and work, the difference in college chances between majority and minority groups will be understated. The college participation rate also does not include persons who are outside the civilian noninstitutional population, that is, persons in military service or in jails, prisons, or other institutions. It shares that defect with all of the college attendance measures that can be obtained from the CPS, but it may be a more important defect in this measure, given the broad age range that it covers, because of the extensive postsecondary educational activities that occur within the armed forces (Hexter and El-Khawas 1988). The college participation rate is or ought to be an

embarrassment to the federal agencies, public interest groups, and independent researchers who produce and use it.

Worse yet, college participation rates are often calculated by family income, because family income is the only economic characteristic that is attached to the public version of the October Current Population Survey and used extensively in published Census series. The October CPS family income measure is probably the worst income measure obtained in any major federal statistical program, yet it is the main economic measure used in the measurement of access to postsecondary education. It is a CPS control card item, which means that it is asked of anyone entering the sample for the first time in a calendar year.[9] The item is a single question about family income in the twelve months preceding sample entry, not in a calendar year, and the responses are coded in broad groups. By contrast, the March CPS now ascertains about a dozen specific sources of income in the preceding calendar year, and the Survey of Income and Program Participation (SIPP) ascertains more than fifty sources of income.

Whatever the virtues of the family income measure, it is a poor measure indeed when used in conjunction with the college participation rate of eighteen to twenty-four year olds. The tabulation usually displays participation rates of "dependent," i.e., unmarried, persons aged eighteen to twenty-four. The problem is that a large share of the older persons in this age group--and a non-trivial share of the younger ones--are living in their own households, some married and others cohabiting, and "non-dependency" in this sense is itself a likely outcome of school completion. For example, figure 9 shows trends in the percentage of persons married among eighteen- to twenty-four-year-old high school graduates. Among all groups, the percentage married fell rapidly between 1970 and 1989. Among majority whites and Hispanics, at least a quarter of eighteen to twenty-four year olds were married in each year from 1970 to 1989. Finally, there is a substantial difference in marriage rates between blacks and other groups.

Figure 9

Marriage Among 18 to 24 Year Old
High School Graduates, 1970 to 1989

White and other   Black   Hispanic
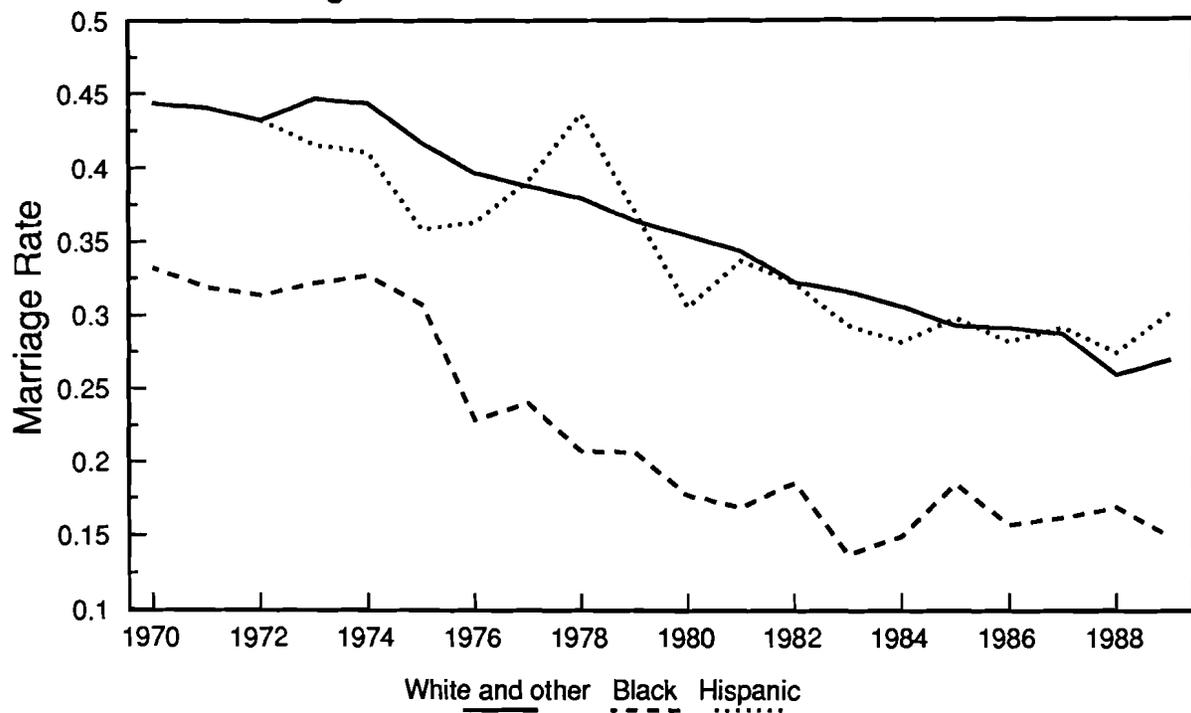
Data are from October Current Population Surveys.

Can we possibly learn anything from trends or differentials in participation rates so defined?

Figure 10 shows an effort to construct a cleaner variant of the participation rate. It displays trends in

the rate of college enrollment among eighteen- and nineteen-year-old high school graduates in three

segments of the income distribution. At this young age, relatively few persons are a household head

or spouse of head. Also, very few will have completed a college degree, but some may already have

entered college and dropped out. The figure shows a steep decline in college enrollment in every

income group in the early 1970s, followed by a rise in enrollment chances after 1973.[10] My

willingness to draw conclusions from this series is tempered by the correspondence between trends in

college enrollment and in the dependency rate--also shown in the diagram--during most of the period

covered by the series. Although dependency is much larger at ages eighteen and nineteen than at ages

eighteen to twenty-four, it may still affect the validity of the series.

Incidentally, although numerous social and economic characteristics of the families of

school-age children can in principle be attached to their October records, by reconstitution of

households--and I have done this for all October surveys from 1968 through 1988 (Hauser 1991b)--the

standard public release of the October surveys is a set of individual records with no household

characteristics attached, other than control card items. The October CPS would become vastly more

useful for public policy if the files and publications based upon them were redesigned and routinely

issued with the characteristics of parents attached to their children's records. This redesign would be

most valuable in analyses of school enrollment and progression at younger ages, when almost all

children live with at least one parent.

College Entry and Completion

What measures of the transition from high school to college would be more useful? One such

measure can be constructed from the educational attainment questions in the March (or October) CPS.

Figure 11 shows the proportion of high school graduates who ever attended a postsecondary school by

Figure 10

College Enrollment of Dependent 18 to 19 Year Old
High School Graduates by Family Income, 1968 to 1987

Dependent   Enrolled, Lowest Quarter   Enrolled, Second Quarter   Enrolled, Top Half
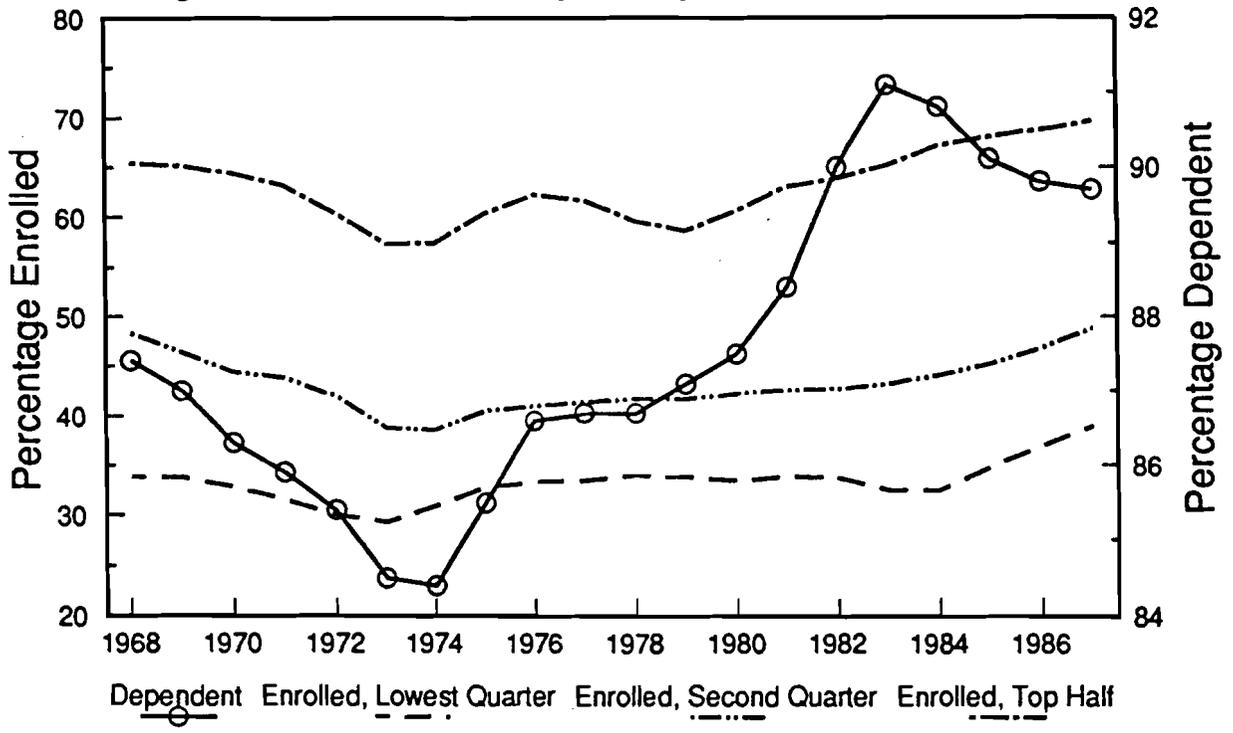
Data are 3-year averages from October Current Population Surveys.

24

Figure 11

College Entry of High School Graduates by Age 21 to 24:
White, Black, and Hispanic Persons
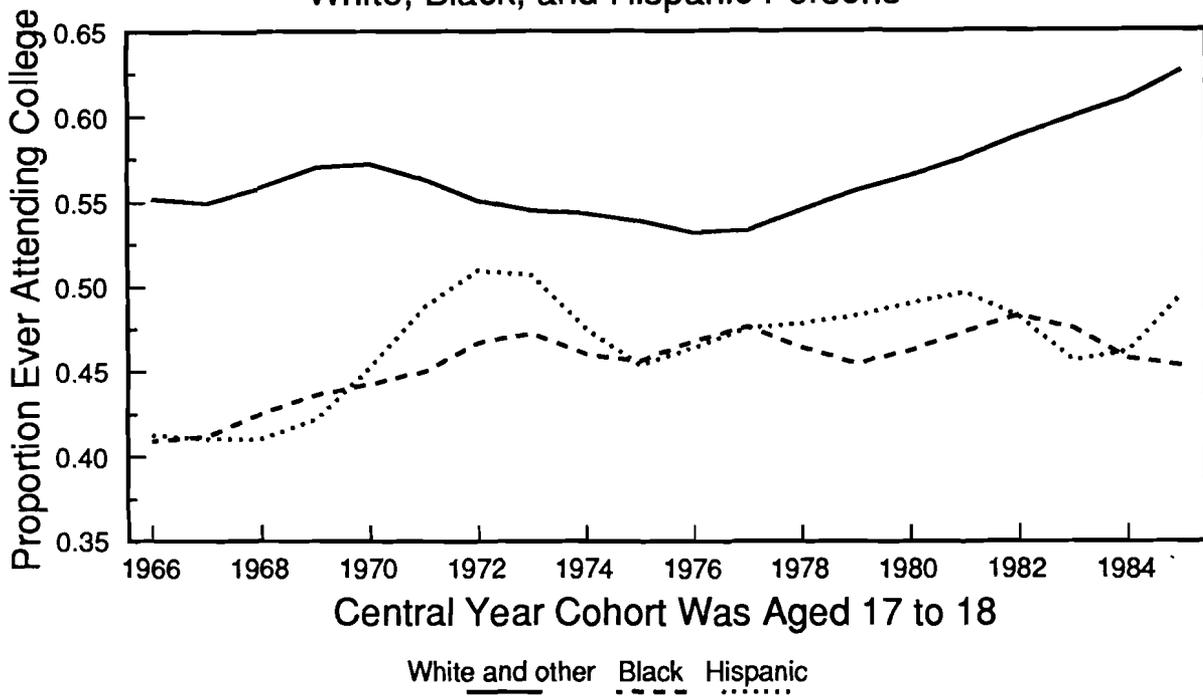
White and other   Black   Hispanic

Data are 3-year moving averages for persons aged
21 to 24 years old in March Current Population Survey.

the time they reached ages twenty-one to twenty-four.[11] As with the corresponding series on high

school completion (figure 7), we have to wait some years after the usual age of high school

graduation to obtain this measure, but at least we know of what it is a measure. And the time lag is

no worse than that implied in the use of college participation rates among eighteen to twenty-four year

olds. The series in figure 11 is somewhat like that in figure 8, in that rates of college attendance are

higher among majority whites, and the white rates rose rapidly after the mid-1970s, but unlike the

series in figure 8, there is no sign of a mid-1970s bubble in the college attendance of African

Americans. There does appear to be a rapid rise and fall in attendance rates among Hispanics, but it

occurs earlier than the bubble in the college participation rate. Among minorities, there is little sign

of a trend after the mid-1970s in this measure of college experience.

Figure 12 provides an independent check on the series in figure 11, but with a greater time-

lag, by counting college entry among high school graduates up to ages twenty-five to twenty-nine.

Thus, this series ends with persons reaching eighteen around 1981, and it provides little evidence of

the post-1980 growth in college entry among whites. Again, there is no evidence of a peak in college

entry during the 1970s, so there appears to be a conflict between the evidence from college

participation rates and those from college entry rates.

Figure 13 displays the rates of college completion by age twenty-five to twenty-nine among

college entrants.[12] Again, although the latest available data are used, the series ends with the

experience of youth who completed high school around 1980. There is a striking contrast between

rates of completion of whites and those of minorities: about half of white college entrants complete

sixteen or more years of school, but only one-third of minority college entrants complete sixteen or

more years of school. There are no strong trends in the data, but it appears that white completion

rates may have grown from just under 50 percent to just over 50 percent between the cohorts of the

early and late 1970s, while black completion rates may have declined from more than 35 percent to

26

Figure 12

College Entry of High School Graduates by Age 25 to 29:
White, Black, and Hispanic Persons
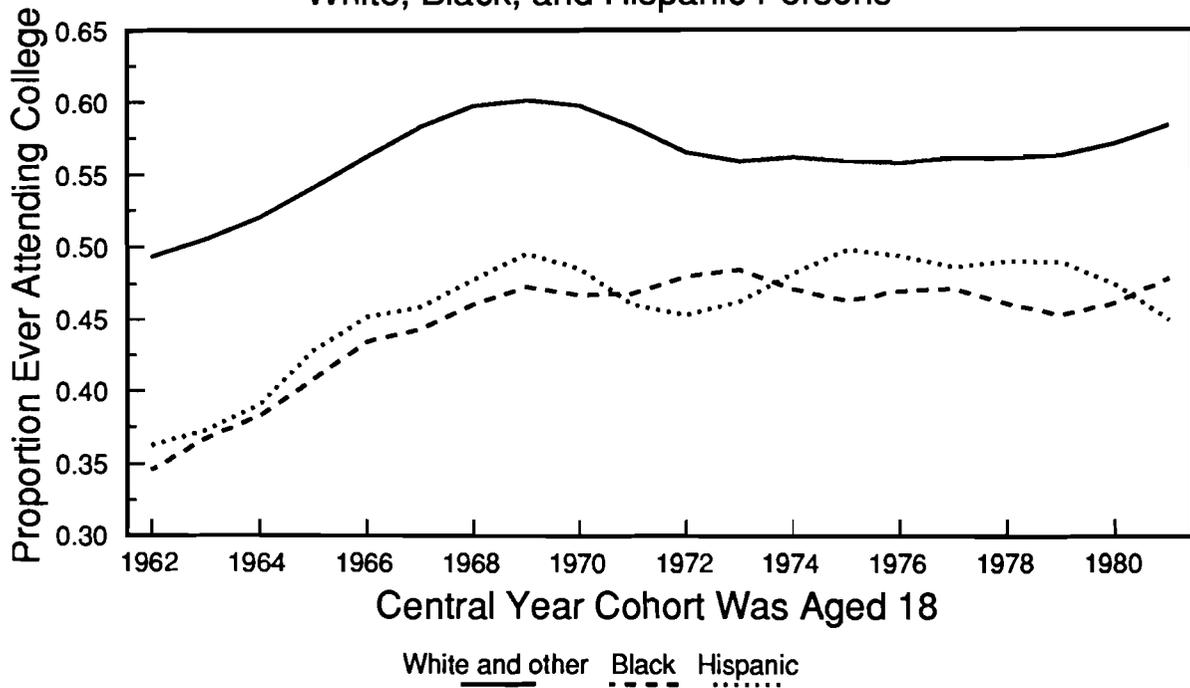
White and other   Black   Hispanic

Data are 3-year moving averages for persons aged
25 to 29 years old in March Current Population Survey.

Figure 13

### College Completion of College Entrants by Age 25 to 29:
White, Black, and Hispanic Persons
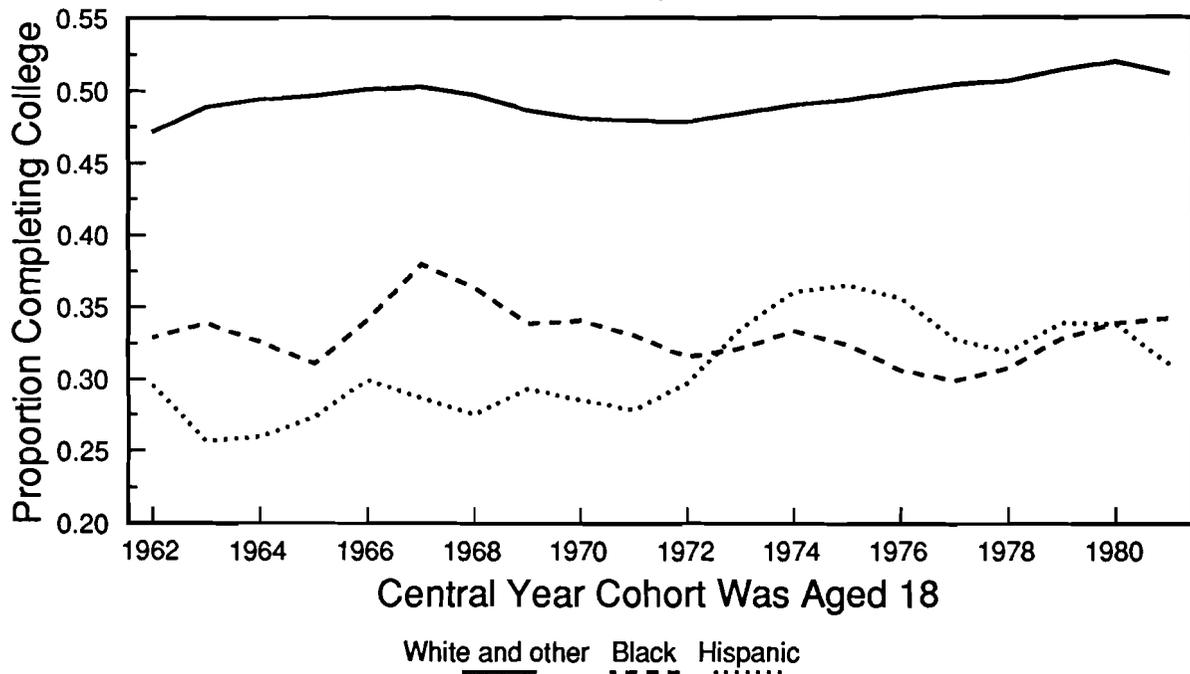

White and other   Black   Hispanic

Data are 3-year moving averages for persons aged
25 to 29 years old in March Current Population Survey.

about 30 percent between the cohorts of the late 1960s and those of the late 1970s. This suggests

some interesting comparisons between figures 12 and 13. How did white completion rates grow and

black completion rates decline when, if we believe the series in figure 12, white and black rates of

college entry were essentially constant? In the case of blacks, one possible argument is that this was

precisely the period when rates of high school completion were growing from just under 70 percent to

almost 80 percent (see figure 7), that is, high school graduation was becoming less selective. On the

other hand, among whites, college completion rates improved during a period when high school

completion and college entry were virtually constant.

College Entry of Recent High School Graduates

For many years the October CPS has included a question about the year of high school

graduation of persons aged fourteen to twenty-four; together with current enrollment data, this

permits a highly focused look at the transition from high school to college. We can ask what share of

each year's high school graduates were enrolled in college in the following October, and these

graduates are almost all young enough to be dependents at the time of the survey. Unlike age-specific

rates of college participation, enrollment, or attendance, the college entry rates are both timely and

specific. Figure 14 shows this series from 1972 through 1987.[13] Unlike figures 11 or 12, this

series shows a peak in African American college entry during the middle to late 1970s. At the peak,

the college-going chances of blacks were essentially equal to those of majority whites. But the peak

was followed by an equally rapid decline that lasted through the early 1980s. For most of the period,

Hispanic enrollment chances follow those of majority whites more closely than those of blacks. After

a peak in the middle 1970s, there was a sharp decline until 1980, followed by rapid growth that

preceded and outstripped the recovery among African Americans. There is not necessarily an

inconsistency between this series and those of figures 7, 11, and 12. If blacks are likely to delay

college entry, then a decline in the initial transition from high school to college need not lead to a

Figure 14

College Entry among Recent High School Graduates:
White, Black, and Hispanic Persons, 1972 to 1988

Whites and others Blacks Hispanics
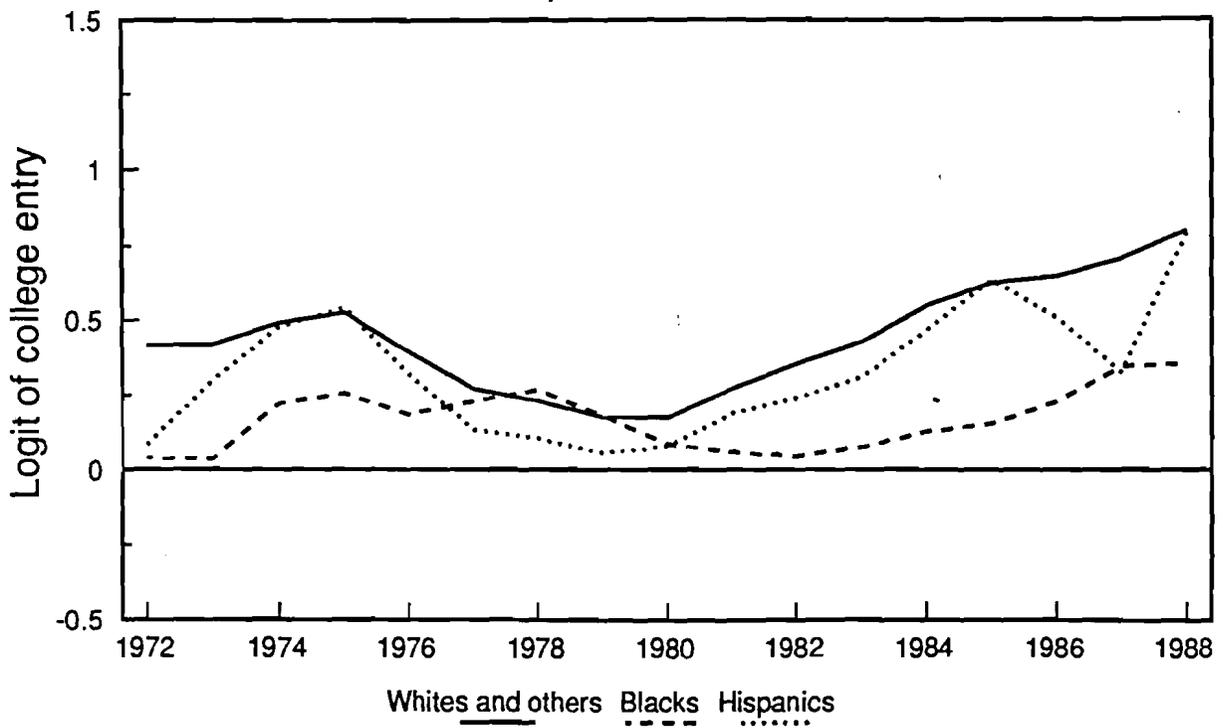
Data are 3-year moving averages of model estimates from October CPS.

decline in the chance of ever entering college. On the other hand, the costs of delayed or prolonged schooling are real and should not be ignored.

One problem with this series is that it is ordinarily based on the experience of a single cohort of high school graduates as reported in a single October CPS (Jaynes and Williams 1989; Mortenson 1990b); thus, the number of observations and their statistical reliability are limited. There are typically about twenty-one hundred recent high school graduates in an October CPS, of whom about two hundred are African American and one hundred are Hispanic. While it is possible to draw valid conclusions when the data are cumulated over a period of years, the data are not reliable in any one year for minority groups or for other similarly small subpopulations. There is a trade-off between timeliness and specificity on one hand and reliability on the other.

To increase the statistical reliability of the series in figure 14, I used a feature of the October design that has recently been dropped. Until 1988, the CPS identified the calendar year of high school graduation for several years preceding the calendar year of the survey. Using this question, plus other questions on highest grade attended and enrollment in the preceding year, I pooled reports from each year's CPS about first fall enrollment in the high school graduating class of the preceding year with the contemporaneous reports about the enrollment of that class. Although there are changes in population coverage between the first and second year after high school graduation, figure 14 is based on a statistical model that takes that difference into account.[14]

In 1988 the Census Bureau dropped the detailed responses to the question about year of high school graduation, retaining only the distinction between graduates in the current year and in any previous year. Thus, it is no longer possible to combine observations and increase statistical reliability as I have done in constructing figure 14. The same question on year of graduation is also the key to measuring delayed college entry and the timing of college completion. With it, we can measure how many individuals have entered college within two years of high school graduation and

how many are still enrolled--and the class of enrollment--in each succeeding year. These timing

issues are important, and the question on year of high school graduation should be restored to the

October CPS.

When I inquired at the Bureau about this item, I was told that the answers to it were not

necessarily true and that it was costly to retain all of the detail of the actual calendar year. I think

that the usefulness of this item manifestly justifies its restoration, with improvements in wording and

response categories, if those are necessary. With respect to cost and utility, I note that in the October

1989 education supplement, the truncated year of graduation item, with response categories "1989"

and "1988 or earlier" is followed shortly by the questions, "Is there a computer in this household?"

and "In what year was the computer purchased?" The latter item has the response categories 1989,

1988, 1987, 1986, 1985, 1984, before 1984, and don't know. I rest my case.

The potential utility of the college entry item in the October CPS is illustrated further by the

series in figure 15, which again shows trends in college enrollment of recent high school graduates,

but controls for a set of social and economic variables that have been linked to their records. These

variables include sex, age, regional and metropolitan location, dependency status, number of children

in the household, non-intact family, head's and spouse's educational attainment, household head's

labor force and occupational status, farm background, family income, and housing tenure (own vs.

rent). Thus, the series in figure 15 controls differences among African Americans, Hispanics, and

majority whites in social and family background as well as changes over time in social and family

background within each population. The most striking result in the figure is that the statistical

controls reverse the differentials among whites, blacks, and Hispanics. Throughout the 1970s and

until the middle 1980s, the college entry chances of African Americans were better than those of

majority whites with comparable social and family background, and the college entry chances of

Figure 15

College Entry among Recent High School Graduates
Controlling Social Background, 1972 to 1988

Whites and others   Blacks   Hispanics
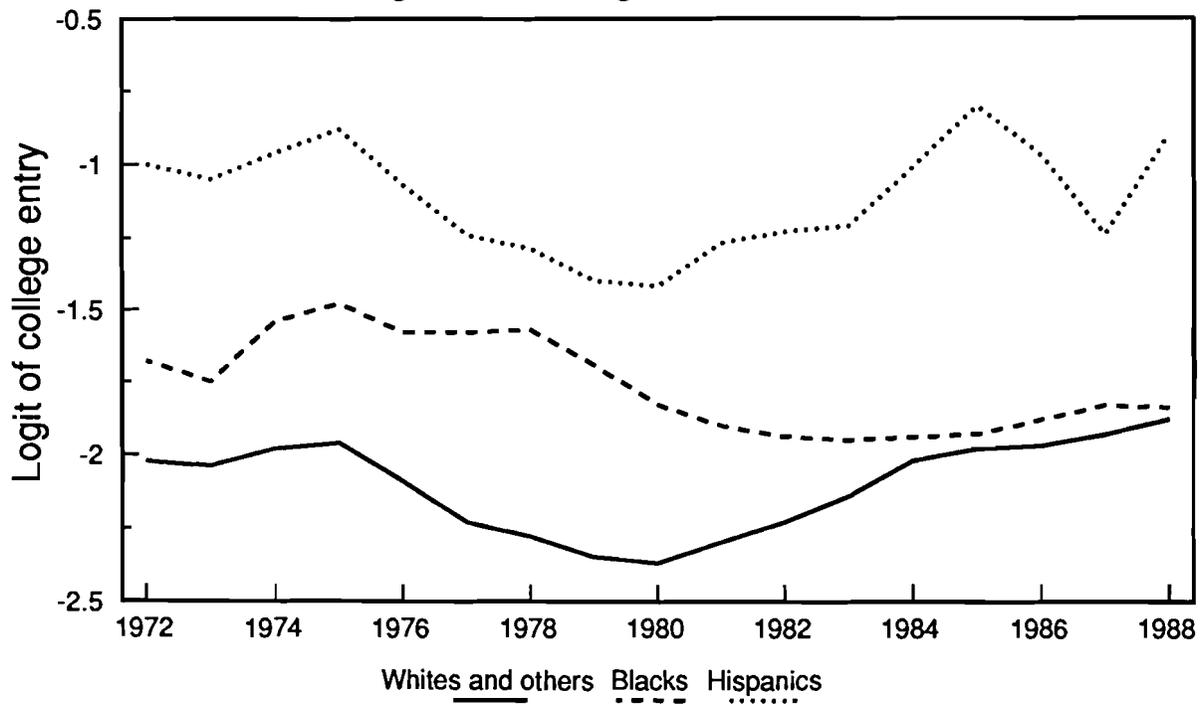
Data are 3-year moving averages of model estimates from October CPS.

Hispanics have consistently been much higher than those of whites.[15] In the 1970s, though perhaps

no longer, we succeeded in breaking one of the barriers to black economic and social success.[16]

Although the controls change the relative standing of blacks, Hispanics, and majority whites,

the basic temporal pattern in each population group remains intact. The basic similarity in trend

between white and Hispanic graduates, and the very different trend line for blacks, are both clearer in

the adjusted series. The rise and fall of black chances of college entry is not explained away by

changes in social or family background, nor is the fall and rise of white college chances. On the

other hand, among whites, the growth of college entry chances after 1980 is not as steep or sustained

in the adjusted series as in the observed series. And among blacks, the post-1982 increase in college

entry chances almost disappears. Obversely, the decline in black college attendance in the late 1970s

and early 1980s is not as sharp in the observed series as in the series that has been adjusted for social

background. These differences in observed and adjusted trends within the black and white population

are explained by steady improvements in the social backgrounds of successive cohorts of high school

graduates, especially by increases in parental schooling and occupational status and by decreases in

numbers of dependent children in the household (Hauser 1991c).

In my opinion, the federal statistical system ought be able to produce this kind of analysis of

educational chances, though with greater reliability and timeliness and with reference to a longer view

of postsecondary schooling and other outcomes. In principle, but not in practice, these analyses could

be elaborated and extended with data for youth in the Survey of Income and Program Participation

(SIPP), an eight-wave, thirty-two-month panel survey carried out by the Bureau of the Census.

Unfortunately, the SIPP sample is presently about one-fifth the size of the CPS, so there is little

likelihood that it could yield timely estimates of educational transitions. On the other hand, the SIPP

could play an important role in providing a longer-term perspective on the trends in access to

schooling and the labor market in relation to social and family background. From 1986 to 1988, the

Wave 2 SIPP questionnaire contained a brief set of family background questions, and these made it possible to trace, retrospectively, the influence of social background on schooling and labor market outcomes for all of the adults in the sample. These questions were eliminated in the 1989 SIPP panel, and I believe that their restoration should be a high priority.

IMPROVING STATISTICS ON THE TRANSITION FROM YOUTH TO ADULTHOOD

I have mentioned several changes in the design of the Current Population Survey that would improve our ability to monitor, explain, and affect changes in educational transitions. But there are inherent limitations to the CPS. Without a major change in design, it would be impossible to increase the reliability of timely measurements from the CPS to an acceptable level for minority groups or other similar subpopulations. It is unlikely that the CPS will ever be expanded to cover the military or other institutional populations, and it is even less likely that the CPS could be augmented with measurements of academic performance. Yet all of these elements--and others--should be a part of our system of educational statistics.

My proposal is a new survey program within the National Center for Educational Statistics, the Annual Longitudinal Survey of Youth, that will be designed from the ground up to provide valid, reliable, and timely estimates of educational and other transitions among American youth.[17]

(1)   The survey need not rival the size of the decennial longitudinal surveys in any one year, but it should be heavily stratified by minority group status, and each stratum should be large enough to yield reliable annual estimates of key statistics, like the proportions dropping out of school, entering college, or joining the military. A rough guess is that a well-designed sample of about eight thousand persons per year, equally divided among majority whites, African Americans, Hispanics, and Asians and Native Americans (groups that are far too small to show up reliably in the CPS), would be sufficient.

(2)   The sample should be drawn from schools, not from households. This will simplify both the selection of schoolchildren and coverage of racial-ethnic strata. The design should include the administration of one or more tests of academic achievement or aptitude, and it would be desirable to include at least a baseline interview with a parent as well as with the sample person.

(3)   My first priority would be to begin the survey at the twelfth-grade level because most of the variance in educational transitions occurs after the completion of high school, and to maintain and follow the sample for two or three years after high school graduation. Members of the sample should be followed regardless of their movement into and out of the civilian noninstitutional population--to and through the military, jails, prisons, and hospitals. The design could be extended to an earlier starting point, perhaps as early as the eighth grade, with some increase in sample size and a substantial increase in budget. That is, the design could improve the measurement of high school dropout as well as that of postsecondary school transitions. But the choice of an earlier starting point is consequential. It will be essential that the coverage of each cohort be as complete as possible, and each year's shift to an earlier age increases the possibilities for sample attrition and the costs of avoiding it. Regardless of the year in school at which the survey begins, it should continue to follow youth for the full duration of the panel. Thus, high school dropouts at grade ten or twelve should be followed just as long as high school graduates.

(4)   With a constant design and limited content, the survey data should be cumulative across years, much like the General Social Survey of the National Opinion Research Center or the October CPS data for recent high school graduates, and the cumulative surveys should provide less time-bound opportunities for detailed analysis of smaller population groups.

(5) The key content areas of the Annual Longitudinal Survey should include social and family

background; academic program and courses; academic aptitude and performance; educational,

occupational, marital, and military plans and aspirations; work activities and remuneration;

and plans and resources for financing postsecondary school activities. In each follow-up

survey, preferably beginning in the fall after the nominal date of high school completion, the

survey should ascertain educational, work, residency, and family status at the survey date and

in the months since the previous interview.

(6) The new survey should complement and not supplant other measurement programs. The CPS

has many other purposes, even in the measurement of education, than those I have mentioned

in this review. Within the NCES the idea of the larger decennial longitudinal studies ought to

be preserved, but built around the core content of the annual surveys, as an opportunity to

enrich, expand, and experiment with broader content. For example the NELS-88 contains

linkages between students and schools, teachers, and administrators that may not need to be a

part of the Annual Longitudinal Survey. This or similar linkages might be made an

occasional supplement to the core survey, but not one of its annual components.

How realistic is this proposal? Over the course of a decade, it will be about three times as large as

the NELS-88 if the sample is initiated in the twelfth grade, and the content could be much less than

that of the NELS-88.[18] In my opinion, this is not a large undertaking, and it will be dirt cheap in

comparison to its likely benefits for public policy. The Bush administration has undertaken a new

initiative to improve economic statistics under which the National Center for Educational Statistics

will continue to grow. There is room for hope.[19] I think it is time we stopped guessing what our

youth are doing with their lives and started measuring it.

37

Notes

[1] To be sure, college dropout is also large. Slightly more than half of white college entrants complete sixteen years of school by the time they reach ages twenty-five to twenty-nine, and only about one-third of minority entrants complete sixteen years of school by ages twenty-five to twenty-nine. However, college dropout occurs over a prolonged period, and it affects only the survivors of the transition from high school to college.

[2] I should also like to discuss the complex interplay between changes in selection into different levels of schooling, rates of progression through schooling, and measurements of academic aptitude and performance, but that is just too large a topic to cover here.

[3] Unless otherwise noted, all data reported herein are based on tabulations from public-use versions of the March or October CPS.

[4] The percentages of Hispanics and blacks are not additive in published tabulations of the U.S. Bureau of the Census because persons of Hispanic origin may be of any race. However, in the independent analyses reported here, I have given precedence to African Americans in order to construct a mutually exclusive and exhaustive racial-ethnic classification. That is, all blacks are classified as black, and Hispanics are all non-black. Only about 5 percent of Hispanics identify themselves as black in the CPS (U.S. Bureau of the Census 1988).

[5] For example, for more than fifteen years, the National Institute on Drug Abuse has sponsored *Monitoring the Future*, a large annual survey of high school graduates (with selective follow-ups) that does not obtain quite enough information to inform public discourse on trends in access to higher education (Bachman, Johnston, and O'Malley 1980).

[6] For example, transitions beyond high school among students who were sampled as high school sophomores in the HSB in 1980 are not comparable to those transitions among the HSB seniors of 1980 or among seniors in the NLS of 1972 because persons who were high school seniors in 1982 do

38

not include all persons who were high school sophomores in 1980. This problem could be even worse in analyses of postsecondary transitions in the NELS-88, whose members were drawn into the sample as eighth graders. Fortunately, there are plans to supplement the sample in 1992, the nominal year of high school graduation.

[7] I find this argument implausible, for rates of college entry among whites have been stable or increasing as high school graduation has become almost universal.

[8] For example, see Wilson and Carter (1988), Wilson and Carter (1989), Carter and Wilson (1990), Mortenson (1990a), Mortenson and Wu (1990), Mortenson (1991).

[9] That is, the October CPS family income item is not part of the Education Supplement.

[10] Other tabulations of these data, not shown here, suggest that income differentials in access to college may be growing, and this may be relevant to the current process of reauthorizing the Higher Education Assistance Act.

[11] The CPS educational attainment item asked, "What is the highest grade or year of regular school that . . . attended?" and "Did . . . complete that grade or year?" This series counts anyone who reported attending grade thirteen or a higher grade as having been a college entrant. It is problematic because people may report attendance at non-collegiate postsecondary schools.

[12] The series shows the proportion of persons who ever entered grade thirteen or higher who said they completed grade sixteen or higher. Some persons who completed at least sixteen years of schooling may not have a college degree, and some persons who said they had attended grade thirteen may never have enrolled in a college or university.

[13] Figure 14 shows the natural log of the odds of college entry under a statistical model described in note 15. The analysis is based upon samples of 6,102 African Americans, 2,801 Hispanics, and 50,348 whites and others from the October Current Population Surveys, 1972 to 1988.

[14] The individual logit model specifies effects of year of report, sex, race-ethnicity, sex by race-

ethnicity, and the interactions between year of high school graduation and race-ethnicity. The estimates reported in figure 14 pertain to men, but the trends are identical for women under the model, and the interaction between sex and race-ethnicity is negligible. Before pooling the contemporaneous and retrospective reports, I tested for interaction effects between the effects of graduation year and year of report within each racial-ethnic group; there were no statistically significant interactions. Because there is a 50 percent overlap in CPS households from one year to the next, this procedure does not double the precision of the estimates, but it is a substantial improvement.

[15] In other analyses, Hauser (1991c) shows that control of dependency status does not account for changes in racial or ethnic differentials between the observed series (figure 14) and the adjusted series (figure 15). The trend lines are essentially parallel when dependency, but not other social background variables, is controlled, but the racial-ethnic differentials are even larger. That is, the comparison of figure 14 with figure 15 understates the explanatory power of social background variables.

[16] See Hauser (1991a) and Hauser and Anderson (1991) for more detailed analyses of the sources of changing black-white differences in college attendance.

[17] This is by no means an original idea. It was suggested more than twenty years ago by Duncan (1969) and, more recently, by Watts and Hernandez (1982).

[18] That is, a survey beginning in the twelfth grade could include about eighty thousand students per decade, which is about three times the size of the NELS-88. A survey beginning in the eighth or tenth grades would have to have a larger sample size in order to retain sufficient statistical power after sample attrition and school dropout have taken their toll.

[19] I have presented a synopsis of these proposals to the House Subcommittee on Census and Population (Hauser 1991d), and I have been informed by the NCES that it has requested planning money for a new longitudinal survey program in the congressional authorization for its 1992 budget.

References

Bachman, Jerald G., Lloyd D. Johnston, and Patrick M. O'Malley. 1980. *Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors, 1978*. Ann Arbor: Survey Research Center, Institute for Social Research, the Univ. of Michigan.

Bishop, John H., and Shani Carter. 1990. "The Worsening Shortage of College Graduate Workers." Center for Advanced Human Resource Studies. School of Industrial and Labor Relations. Working Paper. Ithaca, New York: Cornell Univ.

Carter, Deborah J., and Reginald Wilson. 1990. "Ninth Annual Status Report: Minorities in Higher Education." Washington, D.C.: The American Council on Education.

Center for Education Statistics. U.S. Department of Education. 1988. "Trends in Minority Enrollment in Higher Education, Fall 1976-Fall 1986." *Survey Report*, CS 88-201. Washington, D.C.: GPO.

Duncan, Otis Dudley. 1969. *Towards Social Reporting: Next Steps*. New York: Russell Sage Foundation.

Frase, Mary J. 1989. "Dropout Rates in the United States: 1988." *Analysis Report*, NCES 89-609. National Center for Education Statistics. Washington, D.C.: GPO.

Hauser, Robert M. 1991a. "The Decline in College Entry among African Americans: Findings in Search of Explanations." Forthcoming in *Prejudice, Politics, and Race in America Today*, eds. Paul Sniderman, Philip Tetlock, and Edward Carmines. Stanford, California: Stanford Univ. Press.

------. 1991b. *Uniform October Current Population Survey Person-Household File, 1968-1988*. Codebook for Machine-Readable Data File. Madison, Wisconsin: Center for Demography and Ecology.

------. 1991c. "Trends in College Attendance among Blacks, Whites, and Hispanics." Forthcoming in

    The Economics of Higher Education, eds. Charles Clotfelter and Michael Rothschild. National

    Bureau of Economic Research (in preparation).

------. 1991d. "Educational Transitions and the Future Workforce: Federal Statistics to Inform Public

    Policy." Institute for Research on Poverty. Notes and Comments. Madison, Wisconsin: the

    Univ. of Wisconsin-Madison.

Hauser, Robert M., and Douglas K. Anderson. 1991. "Post-High School Plans and Aspirations of

    Black and White High School Graduates: What Has Changed Since the Mid-1970s?" (in

    press).

Hexter, Holly, and Elaine El-Khawas. 1988. "Joining Forces: The Military's Impact on College

    Enrollments." Washington, D.C.: American Council on Education.

Jaynes, Gerald David, and Robin M. Williams, Jr., eds. 1989. *A Common Destiny: Blacks and*

    American Society. Committee on the Status of Black Americans, Commission on Behavioral

    and Social Sciences, National Research Council. Washington, D.C.: National Academy Press.

Kominski, Robert. 1990. "Estimating the National High School Dropout Rate." *Demography* (May):

    303-11.

Koretz, Daniel. 1990. *Trends in the Postsecondary Enrollment of Minorities*. Santa Monica, Calif.:

    The RAND Corporation.

Levine, Daniel B., ed. 1986. *Creating a Center for Education Statistics: A Time for Action*. National

    Research Council. Washington, D.C.: National Academy Press.

Mortenson, Thomas G. 1990a. "The Reallocation of Financial Aid from Poor to Middle Income and

    Affluent Students: 1978 to 1990." ACT Student Financial Aid Research Report Series. Iowa

    City, Iowa: The American College Testing Program (May).

------. 1990b. "College Entrance Rates for Recent High School Graduates." ACT Financial Aid

Research Briefs. Iowa City, Iowa: The American College Testing Program.

------. 1991. "Equity of Higher Educational Opportunity for Women, Black, Hispanic, and Low

Income Students." ACT Student Financial Aid Research Report Series. Iowa City, Iowa: The

American College Testing Program.

Mortenson, Thomas G., and Zhijun Wu. 1990. "High School Graduation and College Participation of

Young Adults by Family Income Backgrounds, 1970 to 1989." ACT Student Financial Aid

Research Report Series. Iowa City, Iowa: The American College Testing Service.

Murphy, Kevin, and Finis Welch. 1989. "Wage Premiums for College Graduates: Recent Growth

and Possible Explanations." *Educational Researcher* (May): 17-26.

Ogle, Laurence T., ed. 1990. "Programs and Plans of the National Center for Education Statistics,

1990 Edition." Indicators and Reports Branch, Data Development Division, Office of

Educational Research and Improvement, U.S. Department of Education. Washington, D.C.:

GPO.

Schantz, Nancy B., and Patricia Q. Brown. 1990. "Trends in Racial/Ethnic Enrollment in Higher

Education: Fall 1978 through Fall 1988." *Survey Report*, NCES 90-370. National Center for

Education Statistics. Washington, D.C.: GPO.

U.S. Bureau of the Census. 1974. "Social and Economic Characteristics of Students: October 1972."

Current Population Reports. Population Characteristics. Series P-20. Washington, D.C.:

GPO.

------. 1978. "The Current Population Survey: Design and Methodology." Technical Paper.

Washington, D.C.: GPO.

------. 1988. "The Hispanic Population in the United States: March 1985." *Current Population

Reports*. Population Characteristics. Series P-20. Washington, D.C.: GPO.

——. 1990. "School Enrollment—Social and Economic Characteristics of Students: October 1988 and 1987." *Current Population Reports*. Population Characteristics. Series P-20. Washington, D.C.: GPO.

U.S. Department of Education. 1990. "National Goals for Education." Washington, D.C.: GPO.

Watts, Harold W., and Donald J. Hernandez, eds. 1982. *Child and Family Indicators: A Report with Recommendations*. The report of the Advisory Group on Child and Family Indicators of the Advisory and Planning Committee on Social Indicators. Washington, D.C.: Social Science Research Council, Center for Coordination of Research on Social Indicators.

Wilson, Reginald, and Deborah J. Carter. 1988. "Seventh Annual Status Report: Minorities in Higher Education." Washington, D.C.: The American Council on Education.

——. 1989. "Eighth Annual Status Report: Minorities in Higher Education." Washington, D.C.: The American Council on Education.