Focus

What happens to youth after high school?

by Robert M. Hauser

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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 transitions include, but are not limited to, high school dropout or completion and entry into colleges, universities, or other postsecondary schools. They 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.[2] 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.[3] There is every reason to believe that these differentials are a valid reflection of the growing demand for a highly educated work force, that they will continue,[4] 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. 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.[5]

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, race, 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.[6] Neither is there integration of education, labor, or justice statistics with those on health and illness.[7] 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 each educational transition, the char-

acteristics of 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 (CPS) of the U.S. Bureau of the Census, especially the October and March surveys; and various supplemental survey programs of the NCES.[8]

The main data collection programs at the NCES obtain information about enrollment counts, institutional resources, and diplomas or degrees awarded. Because educational institutions provide the data for the main statistical series on secondary and postsecondary education (through the School and Staffing Survey and the Integrated Postsecondary Educational Data System), almost no information about students is obtained 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 CPS of the Bureau of the Census is a large national survey—currently covering about 55,000 households each month—and each October it fields an educational supplement that ascertains the school enrollment status of persons aged 3–34. Unlike the institutional data from the NCES, the CPS covers the nonenrolled 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 students in the eighth, tenth, or twelfth grade. 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 postsecondary 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—25,000 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.[9] 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 grade, 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[10]—its budget has grown roughly fivefold since the early 1980s. But it is still hampered by limits on its size 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.[11] The National Goals proclaim 90 percent high school completion and higher science and math test scores as primary goals, but they focus much less attention on the

transition from secondary to postsecondary schooling, which is mentioned as one among several objectives subsidiary to the goal of "adult literacy and lifelong learning."

Trends and gaps in federal statistics on education

College enrollment

There are major, unresolved inconsistencies between basic series of enrollment counts from the NCES and those from the CPS. Data from the two sources differ by as much as 100,000 for black women in some years (see Figure 1). To some degree, such differences are probably a result both of sampling variability in the CPS and of varying definitions of postsecondary schooling enrollment. One recent effort to reconcile them ended with an admission of failure.[12]

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, whereas high school equivalence 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 rates among minorities are an "artifact" of increases in their high school completion.[13] Figure 2 shows a CPS-based series of annual

high school dropout rates released by the NCES.[14] 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 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 2 are highly aggregated—they are three-year moving averages across three, single-year transitions—the jagged lines showing rates for minorities are 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
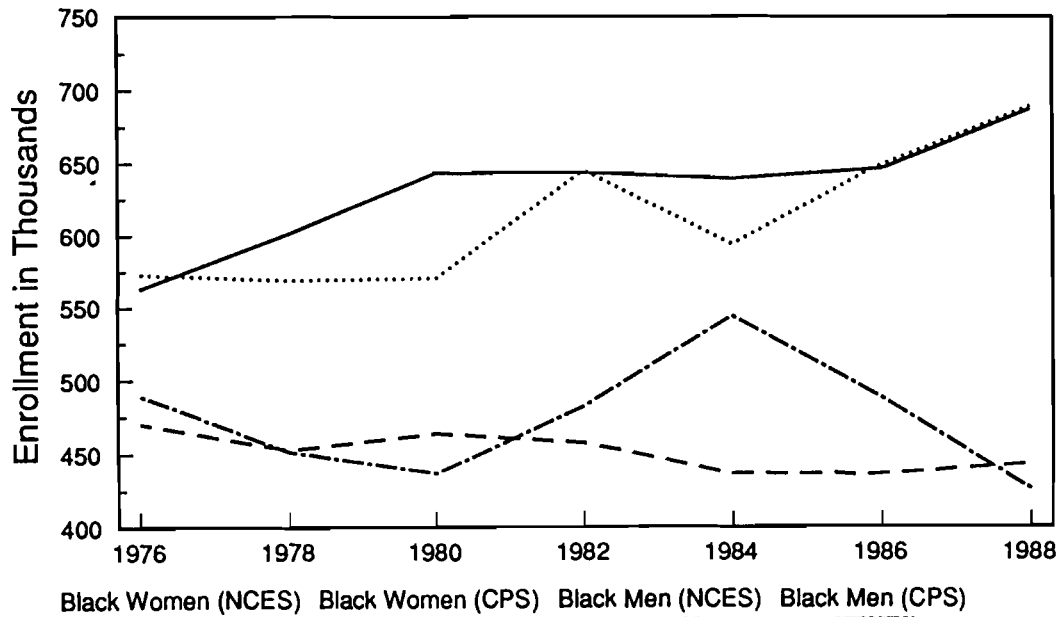

Figure 1. NCES and CPS Estimates of Enrollment in Higher Education: Black Men and Women, 1976–1988

Source: Data are from the Higher Education General Information System and the Integrated Postsecondary Education Data System, National Center for Education Statistics, and the October Current Population Surveys.
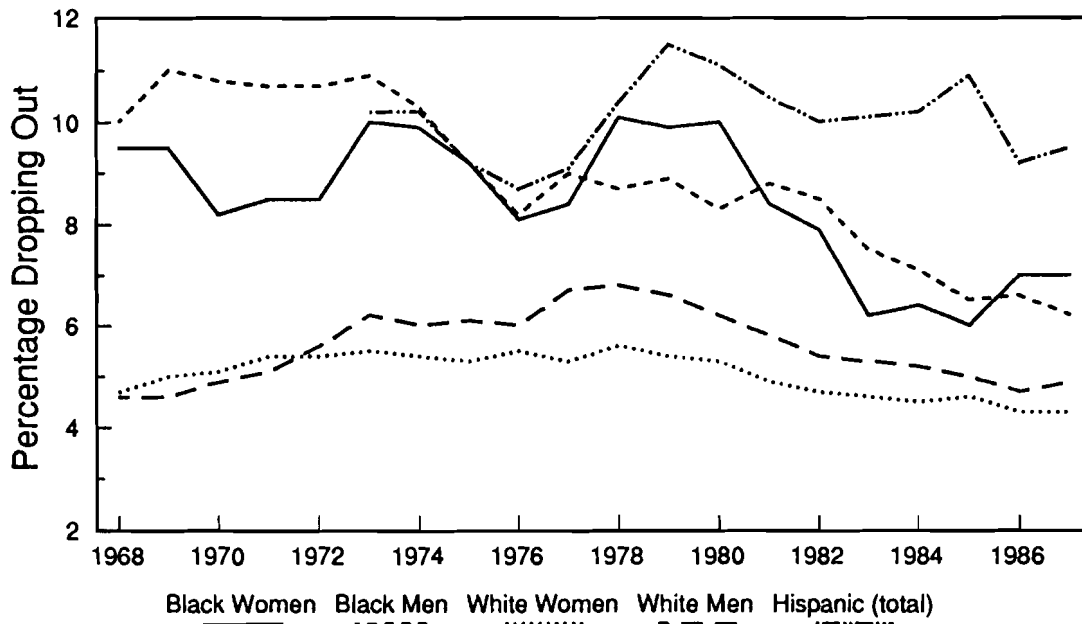
Figure 2. Yearly Dropout Rate from Grades 10–12: Persons Aged 14–24, 1968–1987

Source: Data are three-year moving averages for grades 10 to 12 from October Current Population Surveys, 1967–1987, as reported by Mary J. Frase, "Dropout Rates in the United States: 1988," *Analysis Report*, NCES 89–600, National Center for Education Statistics (Washington, D.C.: GPO, 1989).

the October CPS, they are unlikely to yield timely data on changes in the effects of social background on dropout.

Annual dropout rates are higher for blacks 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 CPS.

Our ability to measure high school completion is far better than our ability to measure high school dropout, for years of schooling are cumulative and irreversible, while school enrollment is not. For example, Figure 3 shows the proportions of whites, blacks, and Hispanics who completed high school by ages 21–24. From 1966 to 1985, high school completion grew from 85 percent to almost 90 percent among whites, and it has grown from less than 70 percent to almost 80 percent among blacks. 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 3 provide better information on high school completion, 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 24 before we can measure high school dropout, then we are a long way from the source of the problem. The series in Figure 3 uses 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 18–20 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 21–24 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 18–24-year-old high school graduates (or all persons), which can be estimated from the October
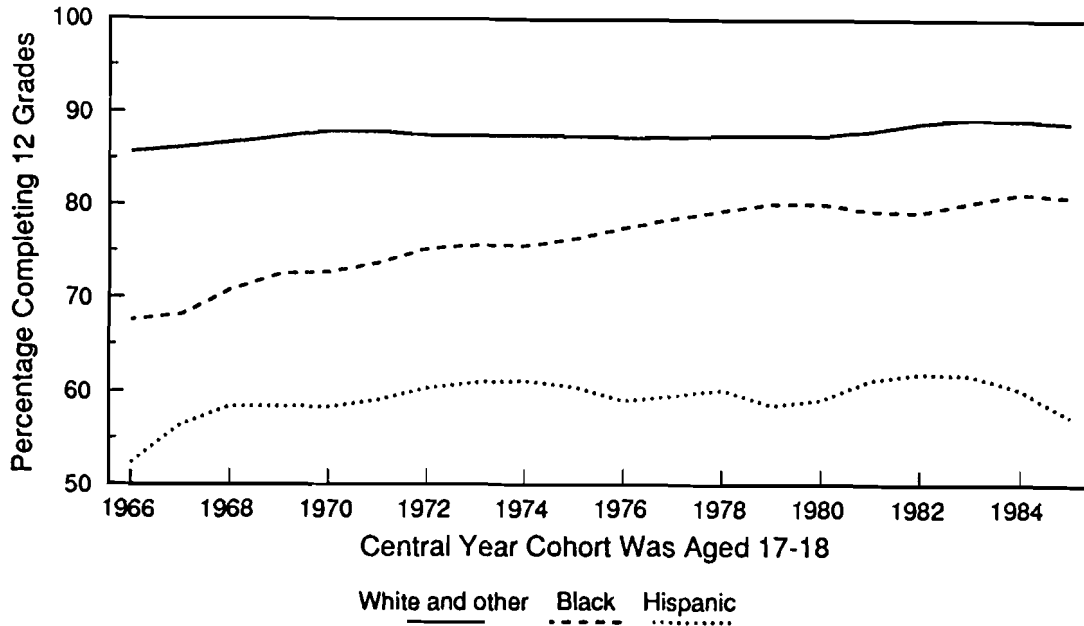
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Figure 3. High School Completion by Age 21–24: White, Black, and Hispanic Persons

Source: Data are three-year moving averages for persons aged 21–24 in March Current Population Surveys, 1971–1990.
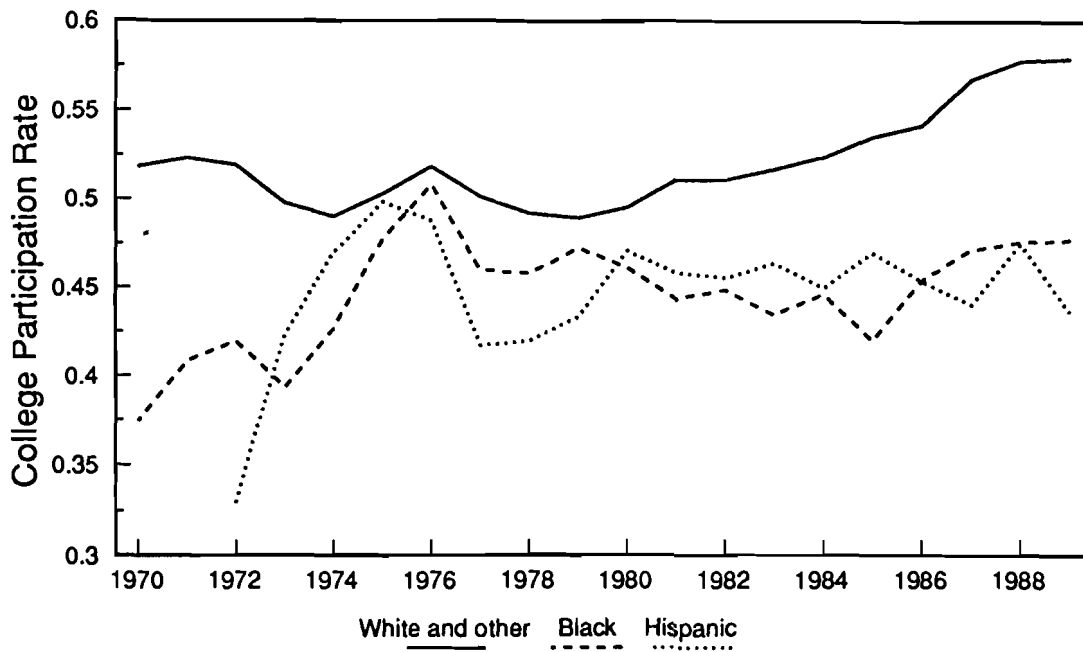

Figure 4. College Participation among High School Graduates Aged 18–24, 1970–1989

Source: Data are from October Current Population Surveys, 1970–1989.

CPS and is regularly published in the Current Population Reports.[15] 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. Figure 4 shows the rate of college participation among 18–24-year-old high school graduates, 1970–1989; 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 blacks 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 experiences after high school 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 enroll-ment; 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 blacks 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 col-lege participation rate also does not include persons who are outside the civilian noninstitutional population, that is, persons in military service or in prisons or other institu-tions. 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.[16] The college participation rate is, or ought to be, an embar-rassment 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 eco-nomic characteristic that is attached to the public version of the October Current Population Survey and used exten-sively 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.[17] 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 18–24 year olds. The tabula-tion usually displays participation rates of "dependent" youth, i.e., unmarried persons aged 18–24. The problem is that a large share of the older persons in this age group— and a nontrivial share of the younger ones—are living in their own households, some married and others cohabiting, and "nondependency" in this sense is itself a likely out-come of school completion. The percentage of high school graduates aged 18–24 who were married fell rapidly be-tween 1970 and 1989. Although among majority whites and Hispanics, at least a quarter of those in this age group were married in each year from 1970 to 1989, marriage rates for blacks were much lower.[18]

Incidentally, although numerous social and economic char-acteristics of the families of school-age children can in principle be attached to their October records, by reconsti-tution of households—and I have done this for all October surveys from 1968 through 1988[19]—the standard public release of the October surveys is a set of individual records with no household characteristics attached, other than con-trol 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 con-structed from the educational attainment questions in the March (or October) CPS. Figure 5 shows the percentage of high school graduates who ever attended a postsecondary school by the time they reached ages 21–24.[20] As with the corresponding series on high school completion (Figure 3), 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 18–24 year olds. The series in Figure 5 is somewhat like that in Figure 4, 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 4, there is no sign of a mid–1970s bubble in the college

Figure 5. College Entry of High School Graduates by Age 21–24: White, Black, and Hispanic Persons

Source: Data are three-year moving averages for persons aged 21–24 years old in March Current Population Surveys, 1971–1990.
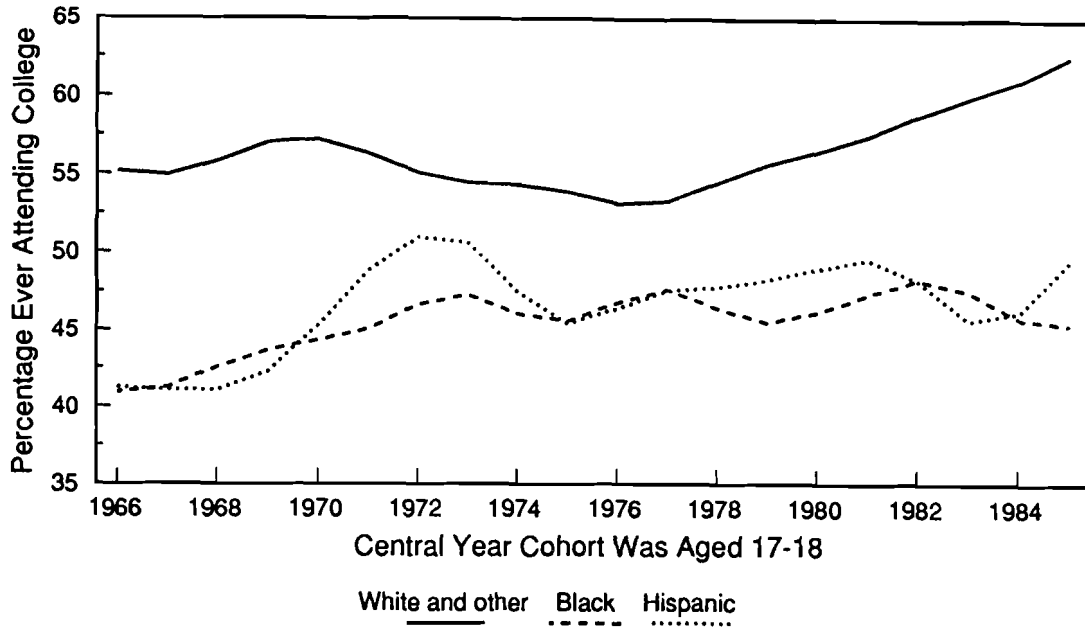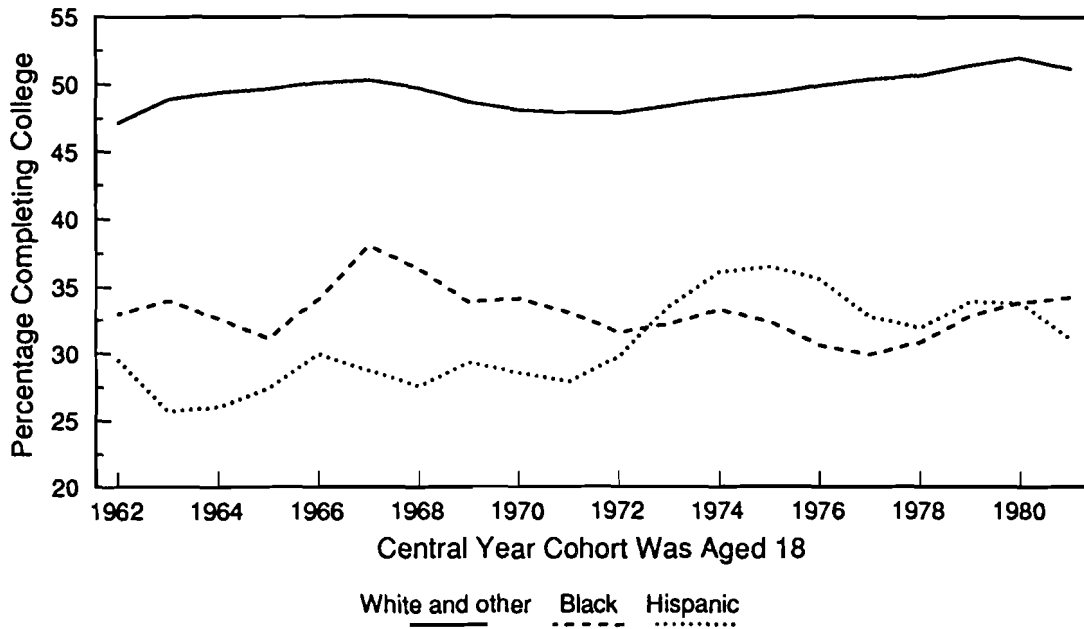

Figure 6. College Completion of College Entrants by Age 25–29: White, Black, and Hispanic Persons

Source: Data are three-year moving averages for persons aged 25–29 in March Current Population Surveys, 1971–1990.

attendance of blacks. 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 6 displays the rates of college completion by age 25–29 among college entrants.[21] 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 do so. There are no strong trends in the data, but 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 about 30 percent between the cohorts of the late 1960s and those of the late 1970s.

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 14–24; 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 7 shows this series from 1972 through 1988.[22] Unlike Figure 5, this series shows a peak in black college entry during the middle to late 1970s. At that 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 blacks. There is not necessarily an inconsistency between this series and those of Figures 3 and 5. 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 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;[23] thus, the number of observations and their statistical reliability are limited. There are typically about 2100 recent high school graduates in an October CPS, of whom about 200 are black and 100 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
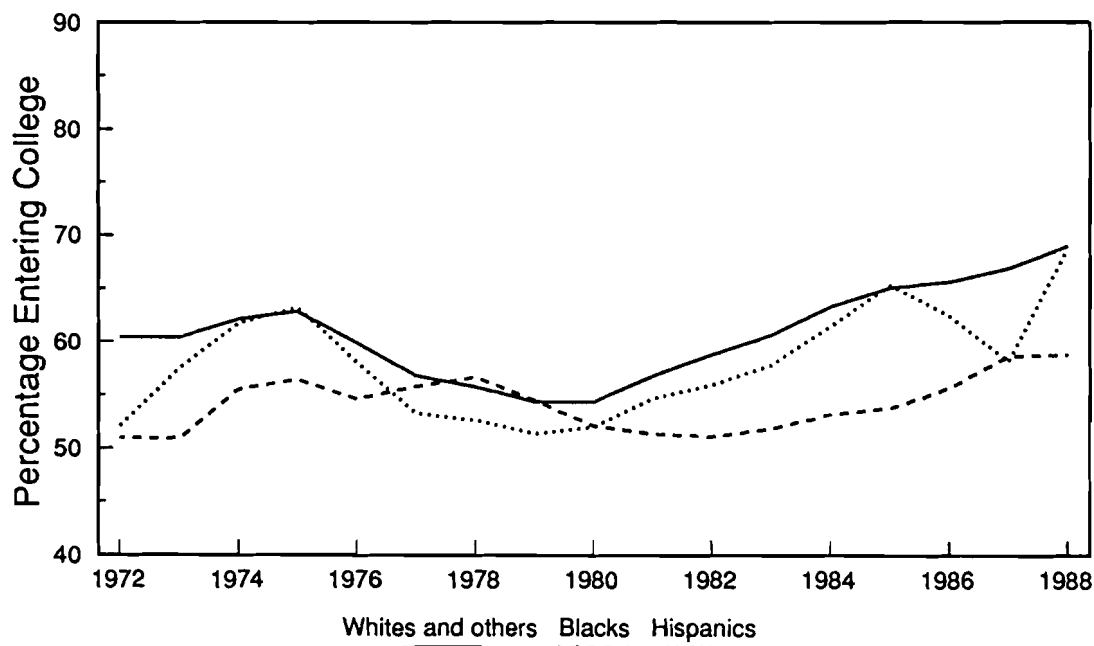

Figure 7. College Entry among Recent High School Graduates: White, Black, and Hispanic Men, 1972–1988

Source: Data are three-year moving averages of model estimates from October Current Population Surveys, 1972–1988.

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 7, 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 contemporary reports of the enrollment of each class with the next year's retrospective reports of college enrollment by that class in the October following high school graduation. Although there are changes in population coverage between the first and second year after high school graduation, Figure 7 is based on a statistical model that takes that difference into account.[24]

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 7. 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 Census 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 8, 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, nonintact family, head's and spouse's educational attainment, household head's labor force and occupational status, farm background, family income, and hous-
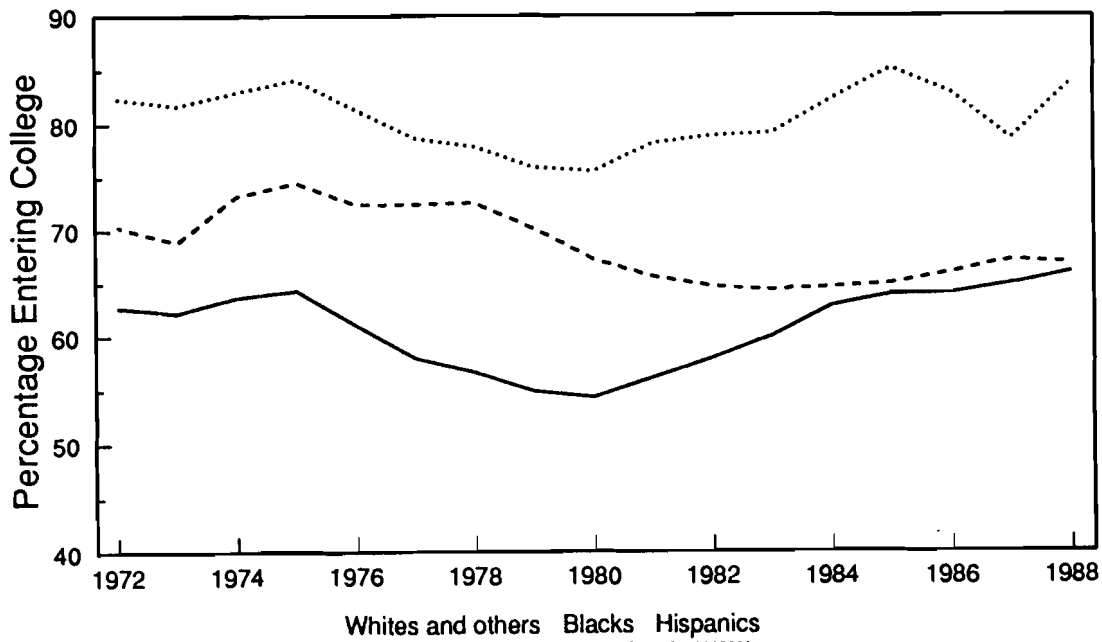

Figure 8. College Entry among Recent High School Graduates with the Average Social Background of Whites: White, Black, and Hispanic Men, 1972–1988

Source: Data are three-year moving averages of model estimates from October Current Population Surveys. 1972–1988.

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ing tenure (own vs. rent). Thus, the series in Figure 8 controls differences between blacks, 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 blacks were better than those of majority whites with comparable social and family background, and the college entry chances of Hispanics have consistently been much higher than those of whites. One reason for the advantage of Hispanic high school graduates may be the selectivity of high school graduation. Only about 60 percent of Hispanics graduate from high school.[25] In the 1970s, though perhaps no longer, we had succeeded in breaking one of the barriers to black economic and social success.[26]

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 are not explained away by changes in social or family background, nor are 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.[27]

It should be noted that once social background is controlled, even though blacks' chances of college entry have declined relative to those of whites after the late 1970s, they never fall below those of whites. These findings raise, in a rather pointed way, the question of how much compensation for preexisting population differences ought to be the goal of public policy. If, among persons with the same social background, minority chances of college entry exceed those of the white majority, is there a rationale for expanded efforts to improve the relative chances of minorities? The raising of such a question depends on the accuracy and comprehensiveness of the data available. In my opinion, the federal statistical system ought to 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.

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 effect 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 Education 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.[28]

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 8000 persons per year, equally divided among majority whites, blacks, 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 non-institutional 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 will 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 will provide 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 education or training. 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. These 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.[29] 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 Education Statistics will continue to grow. There is room for hope. I think it is time we stopped guessing what our youth are doing with their lives and started measuring it. ∎

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[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 25–29, and only about one-third of minority entrants complete sixteen years of school by ages 25–29. However, college dropout occurs over a prolonged period, and it affects only the survivors of the transition from high school to college.

[2]Kevin Murphy and Finis Welch, "Wage Premiums for College Graduates: Recent Growth and Possible Explanations," *Educational Researcher,* May 1989, pp. 17–26.

[3]Robert Hauser, "Measuring Adolescent Educational Transitions among African Americans, Hispanics, and Whites," IRP Discussion Paper no. 951–91, University of Wisconsin-Madison, August 1991, Figures 1 and 2 (pp. 2 and 3).

[4]John H. Bishop and Shani Carter, "The Worsening Shortage of College Graduate Workers," Working Paper, Center for Advanced Human Resources Studies, School of Industrial and Labor Relations, Cornell University, Ithaca, N.Y., 1990.

[5]See Hauser, "Measuring Adolescent Educational Transitions," p. 2, for a discussion of the growing proportion of minorities in the U.S. population.

[6]See Hauser, "The Decline in College Entry among African Americans: Findings in Search of Explanations," in *Prejudice, Politics, and Race in America Today,* ed. Paul Sniderman, Philip Tetlock, and Edward Carmines (Stanford, Calif.: Stanford University Press, forthcoming).

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

[8]For a description of the CPS, see U.S. Bureau of the Census, *The Current Population Survey: Design and Methodology,* Technical Paper 40 (Washington, D.C.: GPO, 1978). For a description of the various programs of the NCES, see *Programs and Plans of the National Center for Education Statistics, 1990 Edition,* ed. Laurence T. Ogle, Indicators and Reports Branch, Data Development Division, Office of Educational Research and Improvement, U.S. Department of Education (Washington, D.C.: GPO, 1990).

[9]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–72, because persons who were high school seniors in 1982 do 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.

[10]*Creating a Center for Education Statistics: A Time for Action,* ed. Daniel B. Levine, National Research Council (Washington, D.C.: National Academy Press, 1986).

[11]U.S. Department of Education, *National Goals for Education* (Washington, D.C.: GPO, 1990).

[12]Daniel Koretz, *Trends in the Postsecondary Enrollment of Minorities* (Santa Monica, Calif.: Rand Corporation, 1990).

[13]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.

[14]Robert Kominski, "Estimating the National High School Dropout Rate," *Demography,* 27 (May 1990), 303–311; Mary J. Frase, "Dropout Rates in the United States: 1988," *Analysis Report,* NCES 89–600, National Center for Education Statistics (Washington, D.C.: GPO, 1989).

[15]U.S. Bureau of the Census, Current Population Reports, Series P–20, no. 443, *School Enrollment—Social and Economic Characteristics of*

Students: October 1988 and 1987 (Washington, D.C.: GPO, 1990). Among the reports that make use of these data are Reginald Wilson and Deborah J. Carter, *Seventh Annual Status Report: Minorities in Higher Education* (Washington, D.C.: The American Council on Education, 1988); Wilson and Carter, *Eighth Annual Status Report: Minorities in Higher Education* (Washington, D.C.: The American Council on Education, 1989); Carter and Wilson, *Ninth Annual Status Report: Minorities in Higher Education* (Washington, D.C.: The American Council on Education, 1990); Thomas G. Mortenson, *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, 1990); Mortenson and Zhijun Wu, *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, 1990); and Mortenson, *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, 1991).

[16]Holly Hexter and Elaine El-Khawas, *Joining Forces: The Military's Impact on College Enrollments* (Washington, D.C.: American Council on Education, 1988).

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

[18]See Hauser, "Measuring Adolescent Educational Transitions," p. 21.

[19]Hauser, *Uniform October Current Population Survey Person-Household File, 1968–1988*, Codebook for Machine-Readable Data File (Madison, Wis.: Center for Demography and Ecology, University of Wisconsin-Madison).

[20]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 noncollegiate postsecondary schools.

[21]The series shows the percentage 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.

[22]Figure 7 shows percentages of male high school graduates entering college as estimated from a statistical model in which there are effects on college entry of year of graduation, year of survey report, sex, race-ethnicity, and interactions between sex and race-ethnicity; under the model the trends vary by race-ethnicity, but not by sex, and Figure 7 would be essentially the same if the reported estimates were for women. The analysis is based upon samples of 6102 blacks, 2801 Hispanics, and 50,348 white and other persons from the October Current Population Surveys, 1972 through 1988.

[23]See, for example, *A Common Destiny: Blacks and American Society*, ed. Gerald David Jaynes and Robin M. Williams, Jr., Committee on the Status of Black Americans, Commission on Behavioral and Social Sciences, National Research Council (Washington, D.C.: National Academy Press, 1989); and Thomas Mortenson, *College Entrance Rates for Recent High School Graduates*, ACT Financial Aid Research Briefs (Iowa City, Iowa: The American College Testing Program, 1990).

[24]Before pooling the contemporaneous and retrospective reports of college entry, I tested for interaction effects between year of graduation and year of survey report within each racial-ethnic group, and 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 effective sample size, but it is a substantial improvement.

[25]In other analyses (Hauser, "Trends in College Entry among Blacks, Whites, and Hispanics, 1972–1988," IRP Discussion Paper no. 958–91, University of Wisconsin-Madison, September 1991 (forthcoming in *The Economics of Higher Education*, ed. Charles Clotfelter and Michael Rothschild [National Bureau of Economic Research]) I show that control of dependency status does not account for changes in racial or ethnic differentials between the observed series (Fig. 7) and the adjusted series (Fig. 8). 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 7 with Figure 8 understates the explanatory power of social background variables.

[26]See Hauser, "The Decline in College Entry," and Hauser and Douglas K. Anderson, "Post–High School Plans and Aspirations of Black and White High School Seniors: 1976–86," *Sociology of Education*, 64 (October 1991), 263–277 (IRP Reprint no. 658), for more detailed analyses of the sources of changing black-white differences in college attendance.

[27]See Hauser, "Trends in College Entry."

[28]This is by no means an original idea. It was suggested more than twenty years ago by Otis Dudley Duncan (*Towards Social Reporting: Next Steps* [New York: Russell Sage Foundation, 1969]) and, more recently, by Harold W. Watts and Donald J. Hernandez (eds., *Child and Family Indicators: A Report with Recommendations*, 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, 1982]).

[29]That is, a survey beginning in the twelfth grade could include about 80,000 students per decade, which is about three times the size of the NELS–88. A survey beginning in the eighth or tenth grade 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.