Progress in Schooling: A Review

Robert M. Hauser

University of Wisconsin-Madison
Russell Sage Foundation

June 2002

---

1 This research was supported by The Russell Sage Foundation, through its program of research on social dimensions of inequality and its visiting scholar program, and by the Vilas Estate Trust at the University of Wisconsin-Madison. The opinions are expressed herein are those of the author. Comments should be sent to Robert M. Hauser, Department of Sociology, University of Wisconsin-Madison, 1180 Observatory Drive, Madison, Wisconsin 53706 or hauser@ssc.wisc.edu.
“It is far from creditable that in hardly a city in the country can the school authorities tell how many pupils begin each school year, or how fast they advance, or what proportion finish or why they fall out, or where and why they lose time.”


“Much as age-grading changed the definition of a quality school system from one with high rates of failure to one with high rates of promotion, so in the 1940s, educators began to adopt the idea that automatic promotion, or as it would later be called ‘social promotion,’ of virtually all students was the sign of true educational quality.”

Angus, Mirel, and Vinovskis (1988: 227)
This essay reviews measures, trends, and differentials in grade retention and dropout in American elementary and secondary schools across the past three decades. It also discusses some of the current policy debates related to the processes of grade retention and dropout, especially as these relate to social and economic inequalities in progress through schooling. To some readers, the combination of grade retention and dropout in this review may seem artificial. However, their intimate relationship was well understood almost a century ago by Leonard P. Ayres, a researcher supported by the Russell Sage Foundation:

“We may now consider the relation which such low percentages of promotion have to retardation and the evil which is its corollary-elimination. It is apparent that if considerable numbers of the children entering school fail to be advanced regularly, the lower grades will become abnormally swollen by the damming of the stream of pupils through them. Experience teaches us, too, that in the upper grades the pupils who have advanced slowly and so are over-age will drop out before completing the course, thus making these grades abnormally small ...

Retardation results in elimination” (Ayres 1909: 139-40).

Across the past century, throughout the unprecedented expansion of the American educational system, the inescapable problem of balancing socialization and selection through the schools has played out through increases in age-grading and observable variations in the pace of progress through schools and in rates and patterns of school-leaving. As age at entry to regular schooling declined and age at school-leaving increased (Duncan 1968; National Research

---

2 Angus et al. (1988) review the development of graded schooling in the mid-19th century and the later introduction of age-grading. Dorn (1996) provides a useful history of school-leaving in the United States, which focuses on the invention of the problem of high school dropout in the early 1960s.
From 1974 through 1991, about half of high school graduates aged 25 to 34 had completed at least some college (U.S. Bureau of the Census 2001). Beginning in 1992, the percentage with some college rose rapidly to 65 percent in 2000. From 1940 to 1974, the percentage of high school graduates with college experience rose only from 38 percent to 47 percent at ages 35 to 44, while the percentage of persons who graduated from high school rose from 35 percent to 80 percent. Thus, through much of the 20th century, the rise in college attendance and completion was driven by growth in high school completion, not by increased chances of going from high school to college.

The focus of public concern with tradeoffs between socialization and selection gradually shifted from lower to higher grades, from completion of the elementary grades to high school completion. While this essay focuses on processes leading to high school completion – or its absence – the recent, massive increase in transitions to post-secondary schooling raises the same questions in somewhat altered form. Who should attend college, and what role should society play in influencing college-going decisions? How – if at all – should colleges accommodate their programs to students with varying levels of educational preparation? What is the appropriate pace for students making their way through the college years?

The language of contemporary debate about the success or failure of schools substitutes “high standards” for socialization and “dropout” for selection, and there are real differences between their meanings, and those of the corresponding terms, “retardation” and “elimination,” that accompanied educational debate a century ago (Ayres 1909). Several common themes persist. A larger share of children should complete the course of study. Universal school completion supports democratic values and improves labor market chances. Schooling is a production process that can be improved in all respects by scientific knowledge and business-like administration. Gender, health, race-ethnic origins, immigrant status, social background, and residential stability each affect progress through schooling. Too many students learn that they are
failures in school. Retention in grade leads to early school-leaving. Local school authorities fail to collect data adequate to diagnose or solve problems of failure and attrition in their schools. Problems of data availability are compounded by erroneous assumptions and poor analyses of available data. A thorough reading of Ayres’ *Laggards in Our Schools* (1909), which is, I think, far more often cited than read, could leave one feeling that contemporaneous research and policy debates exemplify “*deja vu* all over again.”

To be sure, there are real and substantial differences in contemporary distributions and processes of school completion, not least among which are that elementary schooling is essentially universal among persons born in the United States, that high school completion – in some form – is nearly universal, and that post-secondary schooling awaits a large majority of high school graduates. In the case of elementary and secondary schooling, the most visible goal of policymakers and advocates has changed from school completion to academic achievement, that is, from selection to socialization – and much of the educational debate focuses on the use of standardized tests to assess and certify success in schooling. A century ago, there was no parallel to the contemporary advocacy of publicly funded alternatives to public common schools. While both economic and political goals for schooling have persisted, there has been a shift in primary emphasis from preparation for membership in a democratic society to preparation for work in a globally competitive labor market.

Data and analytic resources are in many respects far superior to those of a century ago. One such resource is the ability to track individual progress through schools across time, both in samples and in whole populations. A second is the availability, across a wide span of years, of comparable and detailed social and economic characteristics of current and former students.
Educational goals, policies, and resources, as well as data about the process of schooling, now come increasingly from national sources – including not just the federal government, but nationally based advocacy organizations and a few dominant commercial suppliers of educational textbooks and achievement tests. Yet the limits of our present understanding of persistence and success in elementary and secondary schooling are amply illustrated by the fact that there is no consensus about the extent of high school completion among population groups and across localities (Greene 2002) – nor even about the desirability or feasibility of universal high school completion (Hayward 2000).

Retention in Grade

Retention in grade was not a highly visible issue in American education from the late 1940s to the early 1990s. It was a variable local educational practice, not a recognizable tool of educational policy at the district, state, or federal level (American Federation of Teachers 1997b). In 1998, President Clinton made high standards for promotion a cornerstone of his educational policy goals for the nation. Clinton combined a demand for high-stakes testing of individual students with a call for “an end to social promotion.” In a memorandum to the secretary of education, President Clinton (1998:1-2) wrote that he had “repeatedly challenged States and school districts to end social promotions—to require students to meet rigorous academic standards at key transition points in their schooling career, and to end the practice of promoting students without regard to how much they have learned…. Students should not be promoted past the fourth grade if they cannot read independently and well, and should not enter
high school without a solid foundation in math. They should get the help they need to meet the standards before moving on." In his 1999 State of the Union address, the President reiterated the proposal – to sustained applause – by calling for legislation to withhold federal education funds from school districts practicing social promotion. In October 1999, President Clinton told a “summit” meeting of political and business leaders, “that students who are held back because they fail to vault newly raised bars should be treated with tough love. … ‘look dead in the eye some child who has been held back’ and say, ‘This doesn't mean there's something wrong with you, but we'll be hurting you worse if we tell you you're learning something when you're not.' “ (Steinberg 1999).

The Clinton administration's proposals for educational reform strongly tied the ending of social promotion to early identification and remediation of learning problems. The president called for smaller classes, well-prepared teachers, specific grade-by-grade standards, challenging curriculum, early identification of students who need help, after-school and summer school programs, and school accountability. He also called for “appropriate use of tests and other indicators of academic performance in determining whether students should be promoted” (Clinton 1998:3).

According to a report by the American Federation of Teachers (American Federation of Teachers 1997a), seven states, up from four in 1996, already required schools and districts to use the state standards and assessments in determining whether students should be promoted into certain grades: Arkansas, Florida, Louisiana, New Mexico, North Carolina, South Carolina, and

5 For a striking contrast, see Angus, et al.’s (1988:227-31) account of the development and rationale for social promotion during the 1930s.
West Virginia. A report from the Council of Chief State School Officers (Council of Chief State School Officers 1998) listed five states with required testing for promotion: Louisiana, North Carolina, New York, South Carolina, and Virginia. Other localities and states proposed or implemented test-based promotion standards in the wake of the Clinton administration’s proposals. For example, these included the cities of Chicago, New York, Detroit, and Atlanta and the states of California – despite its long history of opposition to retention in grade (George 1993) – and Texas.

The rush to embrace high stakes testing for promotion or retention would have been comic at times, had it not serious implications for the future of millions of children and youth. In Atlanta, Georgia, the School Board fired its Superintendent for refusing to implement a policy of failing any student whose test scores were below average. The State Superintendent of Schools in Louisiana declared that the state was not failing a large enough share of students, early enough in their careers; yet the state of Louisiana was already leading the nation, both in grade retention and high school dropout. When asked about the use of the Iowa Test of Basic Skills to retain students in the Chicago Public Schools, the Chief Accountability Officer told a panel of the National Research Council that, as long as The Chicago Tribune backed the testing program, “we are committed to use the Iowa forever and ever” (National Research Council, Committee on Appropriate Test Use 1999: 31).

In Texas, then-Governor Bush proposed that “3rd graders who do not pass the reading portion of the Texas Assessment of Academic Skills would be required to receive help before moving to regular classrooms in the 4th grade. The same would hold true for 5th graders who failed to pass reading and math exams and 8th graders who did not pass tests in reading, math,
and writing. The state would provide funding for locally developed intervention programs” (Johnston 1998).

As President, through the “No Child Left Behind Act” (P.L. 107-110) (United States 2002), George W. Bush has largely succeeded in initiating – on a large scale – many of the educational policy changes that were denied his predecessor. While there are – as yet – no “voluntary national tests” in reading and mathematics, of the kind proposed by the Clinton administration, the new federal legislation mandates administration of state-developed achievement tests to every school-child from the third through the eighth grade, and there is every likelihood that these tests will be used to retain students in grade, as well as to diagnose what they know and can do.

While the No Child Left Behind Act is specific in not requiring the use of tests as promotion or graduation criteria (Section 1111, p. 1444), neither does it discourage such use. The recent history of testing suggests that, if tests are given, they will be used to make decisions about students (National Research Council, Committee on Appropriate Test Use 1999; Linn 2000). Section 1240 includes a requirement that states provide information about children’s promotion or retention as an indicator of “program quality” (p. 1566). Section 1503 requires the Secretary of Education to “conduct an independent study of assessments used for State accountability purposes and for making decisions about the promotion and graduation of students” (United States 2002:1597).

**Measurement of Grade Retention**

The recent public discussion of “social promotion” has made little reference to past or current retention practices, and one might easily gain the impression that—until the recent
reforms—almost no students had been retained in grade. The main federal source of information about education, The National Center for Education Statistics, provides essentially no statistics about grade retention or social promotion. For example, there are no data on this subject in current editions of its two major statistical compendia, the Digest of Education Statistics (National Center for Education Statistics 2002b) and the Condition of Education (National Center for Education Statistics 2002a).  

One egregious exception to the lack of federal information about grade retention and promotion is a publication of the Department of Education, issued late in the Clinton administration, Taking Responsibility for Ending Social Promotion: A Guide for Educators and State and Local Leaders (U.S. Department of Education 1999). While it also cites more reputable estimates of grade retention, the Guide features a “conservative” estimate from “1996 Current Population Statistics” that “only about 3 percent of students are two or more years over age for their grade (an indication that they have been retained at least once)” (p. 6). This estimate of retention is indefensibly low for three reasons. First, it covers only currently enrolled students, ignoring persons of normal school age who have fallen behind and dropped out. Second, by referring to K-12 students at all grade levels, it aggregates data for children in the primary grades, who have had few years at risk of retention, with data for children in higher

---

6 Full-text searches for the strings “retention,” “retain,” “promote,” and “failure” yielded no relevant hits.

7 Presumably, the source of this statistic was actually the Current Population Report on school enrollment in October 1996 (U.S. Bureau of the Census 1998: Table 3), but I was unable to reproduce the reported estimate of 3 percent from that table. Neither was I successful in obtaining additional information about how the estimate was constructed in repeated calls to the Department of Education.
grades, who have had many years at risk of retention. Third, by counting as “retained” only those students who are two or more years above the modal age for their grade, the Guide fails to include a large number of retained students. I cannot think of any rationale for this statistic, other than an effort to mislead the public about the true extent of grade retention.

No federal or independent agency monitors social promotion and grade retention. Occasional data on retention are available for some states and localities, but coverage is sparse, and little is known about the comparability of these data (Shepard and Smith 1989). For example, the denominators of retention rates may be based on beginning-of-year or end-of-year enrollment figures. The numerators may include retention as of the end of an academic year or as of the end of the following summer session. Some states include special education students in the data; others exclude them. In the primary grades, retention is usually an all-or-nothing matter; in high school, retention may imply that a student has completed some requirements but has too few credits to be promoted.

Some states do not collect retention data at all or collect very limited data. For example, the NRC study of high stakes testing found that 13 states--Colorado, Connecticut, Illinois, Kansas, Montana, Nebraska, Nevada, New Hampshire, New Jersey, North Dakota, Pennsylvania, Utah, and Wyoming--collected no statewide data on grade retention. Twenty-two states, plus the District of Columbia, provided data on retention at some grade levels, but in some cases the data were very limited. For example, New York State collects such data only at the 8th grade level (National Research Council, Committee on Appropriate Test Use 1999).

---

8 For some historic data on age-grade retardation at the state level, see Angus et al. (1988: 226-7).
Much to its credit, Texas reports data on retention at every grade level, disaggregated by race-ethnicity (Texas Education Agency 1998; Texas Education Agency 2000; Texas Education Agency 2001).\textsuperscript{9}

Official retention rates are highly variable across states. They are unusually high in the District of Columbia, whose students are largely black. Rates are relatively low in some states, like Ohio, including states with relatively large minority populations, like South Carolina and Georgia. Retention rates tend to be relatively high in the early primary grades—though not in kindergarten—and in the early high school years.

There might appear to be a contradiction between high rates of retention in grade and the widespread belief—common among teachers as among the general public—that poorly performing students regularly pass from one grade to the next. That need not be the case. As Leonard Ayres understood, seemingly modest grade-level retention rates have a large cumulative impact on progress through school (1909: 141-49). For example, each year Texas reports retention rates separately by grade level and race/ethnicity. Retention rates have been stable from 1990 onward, well before the new initiatives to “end social promotion.” The retention rate

\textsuperscript{9} Here is the definition of retention used in the Texas reports: “Student attendance in 1999-00 was compared to October 2000 enrollment. Students who enrolled both years or who graduated were included in the total student count. Students found to have been enrolled in the same grade in both years were counted as retained. Students who dropped or migrated out of the Texas public school system after the first year, 1999-00, were excluded from the total student count, as were students new to the system in the second year, 2000-01. The retention rate was calculated by dividing the number of students retained by the total student count” (Texas Education Agency 2001:69). This definition would tend to underestimate retention, insofar as students who “who dropped or migrated out of the Texas public school system after the first year” are more likely to have been retained than continuing students, but do not appear either in the numerator or denominator of the retention rates. This feature of Texas’s definition of retention is especially likely to be problematic in the high school grades, where failing students are likely to drop out.
was typically about 6 percent in the first grade, and 1 to 3 percent in other elementary grades. Retention rates peak at about 18 percent in the 9th grade, but fall off quickly thereafter to 8 percent, 5.5 percent, and 4.5 percent in the 10th to 12th grades (Texas Education Agency 2001: 72-4). If all Texas students were subject (at random) to the failure rates of 1996-97, 17 percent would fail at least once between the 1st and 8th grades, and 32 percent would fail at least once between the 9th grade and high school completion (Texas Education Agency 1998). Among African American students, the corresponding rates are 20 percent and 42 percent, and among Hispanic students they are 21 percent and 44 percent.¹⁰

In fact, while retention practice has varied across time and place, grade retention is and has been pervasive in American schools. Ignorance about the practice of grade retention may be due in part to sporadic data collection and reporting, but far more consistent statistical data are available about the practice of grade retention than, say, about academic tracking. It is possible to describe rates, trends, and differentials in grade retention using data from the U.S. Bureau of the Census, but these data have not been widely used.

Weak inferences about the extent of grade retention may be obtained from historic data on educational attainment by age. For example, in the Census of 1940, 17.6 percent of 7 year olds had not completed any school, 31.5 percent of 8 year olds had not completed more than the first grade, and 46.3 percent of 12 year olds had not completed more than the fifth grade (U.S. Bureau of the Census 1943: Table 2). Similar inferences may be drawn from a table of age by year of school in which enrolled, based on the Current Population Surveys of 1964 through 1966

¹⁰ To estimate each rate, I multiplied the complements of the reported failure rates across grade levels to estimate the probability of never having failed. The complement of that probability is the estimated probability of having failed at least once.
Since 1990, the annual decennial censuses have been of limited value in tracking retention. The Censuses of 1990 and 2000 did not obtain data on grade of current enrollment, and exact grade completed was not ascertained below the 9th grade. In each of these cases, one infers that the increase with age in grade completion or enrollment below the modal level implies grade retention. However, the inferences are weak because they are based on comparisons of birth cohorts in cross-section and because age at school entry varies across cohorts, especially in the earlier period. All the same, the data appear to show substantial increases in grade retardation as children age, presumably caused by grade retention.

The best source of current information on levels, trends, and differentials in grade retention is the annual October school enrollment supplement to the monthly Current Population Survey (CPS) of the U.S. Bureau of the Census. Using published data from the annual October supplements, it is possible to track the distribution of school enrollment by age and grade each year for groups defined by sex and race/ethnicity. These data have the advantage of comparable national coverage from year to year, but they say nothing directly about educational transitions or about the role of specific educational practices, e.g., high stakes testing, in grade retention. We can only infer the minimum rate of grade retention by observing changes in the enrollment of children below the modal grade level for their age from one calendar year to the

---

11 Since 1990, the annual decennial censuses have been of limited value in tracking retention. The Censuses of 1990 and 2000 did not obtain data on grade of current enrollment, and exact grade completed was not ascertained below the 9th grade.

12 Data on school enrollment by single years of age, grade in which enrolled, gender, and race-ethnicity have been published in aggregate form in Current Population Reports for years since 1971, and the data are available in unit record form from 1968 onward.

13 The October supplement did ask specifically about grade retention in 1992 and 1995.
next. Suppose, for example, that 10 percent of 6-year-old children were enrolled below the 1st grade in October of 1994. If 15 percent of those children were enrolled below the 2nd grade in October of 1995, when they were 7 years old, we would infer that at least 5 percent were held back in the 1st grade between 1994 and 1995. Using this approach, I briefly review trends and differentials in retention, as indicated by age-grade retardation.

*Trends and Differentials in Age-Grade Retardation*14

Extended Kindergarten Attendance

Historically, there has been great variation in age at school entry in the United States. This variation had more to do with the labor demands of a farm economy and the availability of schooling to disadvantaged groups than with readiness for school. The variability declined as school enrollment completed its diffusion from middle childhood into younger and older ages (Duncan 1968; National Research Council, 1989).

The age at entry into graded school has gradually crept upward since the early 1970s, reversing one of the major historic trends contributing to the growth of schooling in the United States. The Census Bureau’s statistics on grade enrollment by age show that, from the early 1970s to the late 1980s, entry into 1st grade gradually came later in the development of many children. However, for the past decade there has been little change in age at school entry. Figure 1 shows percentages of 6-year-old children who had not yet entered the 1st grade as of October of the given year.15 Among 6-year-old boys, only 8 percent had not yet entered the 1st grade in

---

14 The following section is based upon, but updates material in (Hauser 2001).

15 U.S. Bureau of the Census, *Current Population Reports*, “School Enrollment: Social and Economic Characteristics of Students” for various years. Percentages shown in Figure 1 are 3-year moving averages and do not agree exactly with the annual estimates reported in the text.
1971, but 22 percent were not yet in the 1st grade in 1987, and 20 percent were not yet in the 1st grade in 2000. Among 6-year-old girls, only 4 percent had not yet entered the 1st grade in 1971, but 16 percent were not yet in the 1st grade in 1987 or in 2000. While boys are consistently more likely than girls to enter 1st grade after age 6, there are only small differences between blacks and whites in age at entry into graded school, and these differences consistently favor black children. That is, 6-year-old black children are slightly less likely than white children of the same age and sex to be enrolled below the 1st grade or not enrolled in school. Also, 6-year-old Hispanic boys are consistently more likely than white boys to have entered the 1st grade. However, 6-year-old Hispanic girls are less likely than white girls to have entered the 1st grade.

It is not clear why age at school entry has increased. One contributing factor has been the influence of state laws on minimum age at school entry. Another – suggested by the initially slow school entry of white boys – is that some parents “red shirt” their children at an early age in order to give them an advantage in athletic competition later on. Early school retention is yet a third potential explanation of the trend.

Over the past two decades, attendance in kindergarten has been extended to two years for many children in American schools. There is no single name for this phenomenon. As Shepard (1991) reports, the names for such extended kindergarten classrooms include

16 The percentages include those enrolled below 1st grade level and a small share of 6-year-olds who were not enrolled in school. The data are virtually unchanged if non-enrolled children are eliminated from the analysis: Neither the trends nor the differences by race-ethnicity and gender are affected.

17 Another relevant factor is change in state or local requirements about the exact age a child must reach before entering kindergarten or first grade.
"junior-first," "prefirst," "transition," and "readiness room." There are also no distinct categories for the first and second years of kindergarten in Census enrollment data. Fragmentary reports suggest that, in some places, kindergarten retention may have been as high as 50 percent in the late 1980s (Shepard 1989; Shepard 1991). There are also reports of inappropriate use of cognitive tests in such decisions (Shepard 1991: 287; Shepard, Kagan, and Wurtz 1998). The degree to which early retention decisions originate with parents, e.g., to increase their children’s chances for success in athletics, rather than with teachers or other school personnel is not known. Moreover, there are no regular national estimates of the prevalence of kindergarten retention, and none of the available state data indicate exceptionally high kindergarten retention rates. From occasional national surveys, Karweit (1999) suggests that, “by first grade between 7 and 11 percent of children have been retained.”

Excepting the ubiquitous tendency for girls to enter (and complete) primary and secondary school at earlier ages than boys, there is little sign of social differentiation in age at school entry. Instead, socially differentiated patterns of grade retention begin to develop after entry into graded school, and they persist through secondary school.

Retention in the Primary and Secondary Grades

Age-grade retardation refers to enrollment below the modal grade level for a child’s age (and no broader meaning is either intended or implied). I have examined national rates of age-grade retardation by age, sex, and race ethnicity for three-year age groups at ages 6 to 17 from 1971 to 2000 and, also, at parallel tabulations for young children by single years of age, 1971 to 2000. In each case, I have organized the data by birth cohort (year of birth), rather than
by calendar year, so it is possible to see the evolution of age-grade retardation throughout the schooling of a birth cohort, as well as changes in age-grade retardation rates from year to year.\textsuperscript{18}

The recent history of age-grade retardation is summarized in Figure 2. It shows age-grade retardation at ages 6 to 8, 9 to 11, 12 to 14, and 15 to 17 among children who reached ages 6 to 8 between 1962 and 2000. The horizontal axis shows the year in which an age group reached ages 6 to 8, so vertical comparisons among the trend lines at a given year show how age-grade retardation cumulated as a birth cohort grew older.

For example, consider children who were 6 to 8 years old in 1991 – the most recent cohort whose history can be traced all the way from ages 6 to 8 up through ages 15 to 17. At ages 6 to 8, 21.2 percent were enrolled below the modal grade for their age. By 1994, when this cohort reached ages 9 to 11, age-grade retardation grew to 26.2 percent, and it was 28.5 percent in 1997, when the cohort reached ages 12 to 14. By 2000, when the cohort reached ages 15 to 17, the percentage who were either below the modal grade level or had left school was 34.5 percent. Almost all of the growth in retardation after ages 12 to 14, however, was due to dropout (4.3 percent), rather than grade retention among the enrolled.

One could read the rate of enrollment below the modal grade at ages 6 to 8 as a baseline measure, that is, as if it did not necessarily indicate that grade retention had taken place.

Relative to that baseline, increases in enrollment below the modal grade at older ages clearly

show the net effects of retention in grade. This reading of the data would suggest that, in most birth cohorts, retention occurs mainly between ages to 6 to 8 and 9 to 11 or between ages 12 to 14 and 15 to 17. This way of looking at the data surely understates the prevalence of grade retention, for much of it occurs within ages 6 to 8 and ages 15 to 17, that is, early in elementary school or during the high school years.

The series for ages 15 to 17 includes early school dropout, which is also shown as a separate series along the bottom of the figure. Dropout, rather than retention, evidently accounts for a substantial, but declining component of the increase in age-grade retardation between ages 12 to 14 and ages 15 to 17.

The trend in age-grade retardation at ages 6 to 8, 9 to 11, 12 to 14, and 15 to 17 can be read across Figure 2 from left to right. Age-grade retardation increased in every age group from cohorts of the early 1970s through those of the middle to late 1980s. Age-grade retardation increased at ages 15 to 17 after the mid-1970s, despite the slow decline in the early school dropout component throughout the period. That is, grade retention increased while dropout decreased. Peak rates occurred earlier at older than at younger ages, suggesting that policy changes occurred in specific calendar years, rather than consistently throughout the life of successive birth cohorts. Among cohorts entering school after 1970, the percentage enrolled below the modal grade level was never less than 10 percent at ages 6 to 8, and it exceeded 20 percent for cohorts of the late 1980s. The trend-lines suggest that age-grade retardation has

\[19\] We ignore the logical possibility that age-retardation at younger ages could be counter-balanced by double-promotion at older ages.
declined slightly for cohorts entering school after the mid-1980s, but rates have not approached the much lower levels of the early 1970s.

Overall, a large share of each birth cohort now experiences grade retention during elementary school. Among children aged 6 to 8 from 1982 to 1997, age-grade retardation has reached 24 to 29 percent by ages 9 to 11.

Retention after School Entry

Enrollment below the 1st grade at age 6 is a convenient baseline against which to assess the effects of later grade retention. The comparisons of age-grade retardation at ages 7 to 9 with that at age 6 are shown in Figure 3. There are two main patterns in the series. First, grade retention takes place through the elementary years at each successive age. Retention cumulates rapidly after age 6. For example, among children who were 6 years old in 1991, enrollment below the modal grade increased by 3.4 percentage points between ages 6 and 7 and by 4.7 more percentage points between ages 7 and 9. Excepting the cohorts that entered school between 1988 and 1993, age-grade retention increased by 9 percent or more between ages 6 and 9, and it never increased by less than 7 percent between those two ages. Second, there appear to have been a decline in retention after the early 1980s and a possible reversal of that trend for cohorts entering school in the 1990s. That is, comparing Figure 1 with Figure 3, we can infer a shift in elementary school grade age-grade retardation downward in age from the transition between

---

20 This figure is substantially revised to correct an error in Hauser (2001: 162) as well as to update data through 2000. Hauser (2001) erroneously arrayed the data to display cross-sectional differences in retention by age at the survey year, rather than arraying them by age at school entry to display intra-cohort change in age-grade retardation.
ages 6 and 7 to somewhere between ages 4 and 6—including possible effects of legal changes in age at school entry.

How much grade retention is there after ages 6 to 8? And does the recent growth in grade retardation by ages 6 to 8 account for its observed growth at older ages? Figure 4 shows changes in age-grade retardation between ages 6 to 8 and each of the three older age groups.21 Age-grade retardation grows substantially after ages 6 to 8 as a result of retention in grade. For example, among children who reached ages 6 to 8 between 1972 and 1985, almost 20 percent more were below the modal grade for their age by the time they were 15 to 17 years old. Among children who reached ages 6 to 8 between the middle 1970s and the middle 1980s, grade retardation grew by about 10 percentage points by ages 9 to 11, and it grew by close to 5 percentage points more by ages 12 to 14. Relative to ages 6 to 8, age grade retardation at ages 9 to 11 and 12 to 14 increased for cohorts who were 6 to 8 years old in the early 1970s; it was stable from the middle 1970s to the middle 1980s, and it has declined since then. However, the gap between retention at ages 15 to 17 and that at ages 6 to 8 has been relatively stable – close to 20 percentage points – possibly excepting a very recent downward turn. Thus, the rise in age at entry into 1st grade—which is partly due to kindergarten retention—accounts for much of the overall increase in age-grade retardation among teenagers.

In summary, grade retention is pervasive in American schools. It is cautionary to think about the implications of “an end to social promotion,” when ages at school entry are increasing, and a large share of each new cohort of youth already experiences grade retention. It is

21 Again, early school dropout (at ages 15 to 17) is counted as age-grade retardation.
Social Differences in Retention

While there are similarities in the age pattern of grade retardation among major population groups—boys and girls and majority and minority groups—there are also substantial differences in rates of grade retardation among them, many of which develop well after school entry. Figure 5 shows rates of age-grade retardation of boys and girls at ages 6 to 8 and ages 15 to 17. Overall, the gender differential gradually increases with age from 5 percentage points at ages 6 to 8 to 10 percentage points at ages 15 to 17. That is, boys are initially more likely than girls to be placed below the modal grade for their age, and they fall further behind girls as they pass through childhood and adolescence.

The differentiation of age-grade relationships by race and ethnicity is even more striking than that by gender. Figures 6 to 9 show trends in the development of age-grade retardation by race/ethnicity in each of the four age groups: 6 to 8 years old, 9 to 11 years old, 12 to 14 years old, and 15 to 17 years old. Unlike the case of gender differentiation, at ages 6 to 8 the rates of age-grade retardation are very similar among whites, blacks, and Hispanics. By ages 9 to 11, the percentages enrolled below modal grade levels have typically been 5 to 10 percentage points higher among blacks or Hispanics than among whites, but the white and Hispanic rates have converged for cohorts entering school after 1987.

The differentials continue to grow with age, and at ages 15 to 17, rates of grade retardation range from 40 to 50 percent among blacks and Hispanics, while they have gradually drifted up from 25 percent to 35 percent among whites. By ages 15 to 17, there is a differential
between Hispanics and blacks, favoring the latter, and this appears to follow from high rates of early school dropout among Hispanics. Figure 10 shows the rates of school dropout among 15 to 17-year-old whites, blacks, and Hispanics. There is almost no difference in early school dropout between whites and blacks, but Hispanics are much more likely to leave school at an early age. Thus, early high school dropout contributes very little to the observed difference in age-grade retardation between blacks and whites, which is mainly due to retention in grade. Early dropout does account in part for the difference in age-grade retardation between Hispanics and whites or blacks.

In recent years, gender and race-ethnic differentials in age-grade retardation, even at young ages, are a consequence of school experience and not primarily of differentials in age at school entry. Social differentials in age-grade relationships are vague at school entry, but a hierarchy is clearly established by age 9, and it persists and grows through the end of secondary schooling. This growth can only be explained by grade-retention. By age 9, there are sharp social differentials in age-grade retardation, favoring whites and girls relative to blacks or Hispanics and boys. By ages 15 to 17, close to 50 percent of black males have fallen behind in school—30 percentage points more than at ages 6 to 8—but age-grade retardation has never exceeded 30 percent among white girls of the same age. These rates and differentials in age-grade retardation are characteristic of a schooling regime in which social promotion is perceived to be the norm. Both the rates and differentials could become much larger as new policies of achievement testing and accountability are put in place.

\[\text{22} \text{ Dropout by ages 15 to 17 does not indicate ultimate rates of failure to complete high school because large numbers of youth complete regular schooling through age 19 or, alternatively, pass the GED exam through their late 20s (Hauser 1997).}\]
Multivariate Analyses of Retention

While the disproportionate rates of grade retention among minorities are both large and of long standing (U.S. Bureau of the Census 1979; National Research Council, Committee on Appropriate Test Use 1999; Hauser 2001), relatively little research has focused on the role that socioeconomic and family differences between population groups play in accounting for those differences. At the national level, one can look back only to a few simple tabulations from the 1976 Survey of Income and Education (U.S. Bureau of the Census 1979) and to an exploratory—but exemplary analysis of family background and age-grade retardation in the October Current Population Survey of 1979 (Bianchi 1984). Both of these analyses suggest that social and economic background, rather than minority status *per se*, accounts for a large share of group differences in retention.

Hauser, Pager, and Simmons (Hauser, Pager, and Simmons 2000) report analyses of race-ethnic differences in age-grade retardation among 6, 9, 12, 15, and 17 year-olds, using data from October Current Population Surveys from 1972 to 1998. These ages span the period between normative entry to graded school and the later years of high school, but do not extend to ages where a substantial minority of youth no longer live in parental or quasi-parental households. At these ages, the modal October grade levels are 1, 4, 7, 10, and 12. By looking at several ages, they observed typical developmental patterns of retention and of differentials in retention. By combining data from 27 annual surveys, they identified trends in retention practices across three decades.

From 1972 to 1998, the October CPS data files include between 57,500 and 63,500 cases at each age. For example, at age 17—the age at which the number of observations is
smallest—there are 43,900 non-Hispanic whites, 7700 African-Americans, 3900 Hispanics, and 1900 youth in other race-ethnic groups. The file attaches characteristics of households and of householders to demographic characteristics and enrollment data for school-age youth (Hauser, Jordan, and Dixon 1993; Hauser and Hauser 1993). The individual data include race-ethnicity, enrollment status, grade level, region of residence, and metropolitan location. Their analysis was restricted to dependents—those who are a child or other relative of the householder and are not a householder or spouse of a householder. They also linked several relevant social and economic characteristics of the household and householders to each child or youth's record: family income, number of children in the household, single-parent household, education of household head and of spouse of head, head or spouse without an occupation, occupation of household head and of spouse of head, and housing tenure. However, the CPS data lack any measure of academic achievement.

Hauser, Pager, and Simmons carried out logistic regression analyses of enrollment below modal grade level vs. enrollment at or above modal grade level for persons aged 6, 9, 12, 15, and 17. At these ages, the modal October grade levels are 1, 4, 7, 10, and 12. At age 6, many of the effects of social and economic background characteristics were small. Mainly, this reflects the lack of social differentiation at school entry. One strong and expected effect was that of gender: The odds of boys’ enrollment below the first grade, other things being equal, are 40 percent higher than those of girls. At each successive age, social and geographic differentials become more pronounced: gross race-ethnic differentials become larger, the effects of socioeconomic background variables increase, central cities become notably more likely to have overage
students than suburbs, and regional differences between the South and all other regions become sharper (with students in the South significantly more likely to be below modal grade for age). There is a geographic pattern to the ordering of cities: southern cities have the highest rates of age–grade retardation, while northern and western cities have the lowest rates. Also, there is increasing differentiation between central cities and their suburbs with increases in age. By age 17, rates of age–grade retardation are roughly 20 percent higher in central cities than in suburbs, controlling for social background characteristics.

Perhaps most striking in their findings were the net effects of social background vis a vis race-ethnic differentials. Once the full set of social background and geographic characteristics were controlled, the major differences among race-ethnic groups disappeared. The most important effects were the structural and socioeconomic characteristics of families, not the geographic characteristics—regional, central city, or suburban location. The only exception pertains to 17 year olds. Although most of the very large race-ethnic differential at age 17 is explained by the other variables in the model, there remain modestly larger odds of age-grade retardation among minorities. At other ages, although the raw odds of falling behind were about twice as great in minority groups as among Whites, the race–ethnic differentials were negligible after social background and geographic location were controlled. These findings also held in separate analyses of data from the 1970s, the 1980s, and the 1990s. Thus, over the past three decades, there has been little evidence of direct race-ethnic discrimination in progress through the elementary and secondary grades.

However, these findings do not clearly demonstrate that there is no discrimination against minorities in progression through school. Given the large and ubiquitous race-ethnic differentials
in achievement test scores, one should expect that minority students would have substantially lower rates of age-grade retardation than whites, if academic achievement as well as social and economic background variables were controlled. Thus, the absence of net differences in age-grade retardation, when social background, but not academic achievement is controlled, suggests that race-ethnic minorities are subject to lower academic standards than whites. Thus, some analysts would suggest that the appearance of parity in age-grade relationships indicates a different form of discrimination, the absence of high academic standards. A corollary of these observations is that the recent movement toward high stakes testing for promotion could magnify race-ethnic differentials in retention.

If the large, observed race-ethnic differentials in age-grade retardation over the past three decades can largely be explained by group differences in family structure and social background, it follows that the effects of the latter variables are also large and persistent. While economic and social analysts tend to identify income as the key policy variable in child outcomes, the analyses of Hauser, Pager, and Simmons show that each of a larger set of background characteristics has important effects on age-grade retardation. These include parental education and occupation, family structure, number of children in the household, and housing tenure, as well as family income. From existing research, it is not clear whether this array of background characteristics actually affects retention directly—or whether its influence is largely or entirely mediated by academic performance. It should be possible to address this question using data from the National Longitudinal Survey of 1988, by observing grade retention after the initial survey and test administration at the 8th grade level.

Effects of Grade Retention
Retention in grade is not a negative outcome if it benefits students. But are there positive consequences of being held back in school? Do students do better after repeating a grade, or would they have fared just as well or better if promoted with their peers? Research data indicate that simply repeating a grade does not generally improve achievement (Holmes 1989; House 1989; Jimerson 2001). Furthermore, there is overwhelming evidence that retention increases school dropout (Gampert and Opperman 1988; Grissom and Shepard 1989; Anderson 1994; Darling-Hammond and Falk 1995; Luppescu, Bryk, Deabster, Easton, and Thum 1995; Reardon 1996; Hauser et al. 2000). Indeed, the latter findings might be traced back to Ayres’ seminal observations about the link between promotion, age, and school-leaving (Ayres 1909: 139-140).

Retention and Academic Achievement

Some of the clearest evidence regarding the effects of retention comes from Holmes’ (1989) meta-analysis of 63 controlled studies of grade retention in elementary and junior high school through the mid-1980s. When promoted and retained students were compared one to three years later, the retained students’ average levels of academic achievement were at least 0.4 standard deviations below those of promoted students. In these comparisons, promoted and retained students were the same age, but the promoted students had completed one more grade than the retained students. Promoted and retained students were also compared after completing one or more grades, that is, when the retained students were a year older than the promoted students but had completed equal numbers of additional grades. Here, the findings were less consistent, but still negative. When the data were weighted by the number of estimated effects, there was an initially positive effect of retention on academic achievement after one more grade in school, but it faded away completely after three or more grades. When the data were weighted
by the number of independent studies, rather than by the estimated number of effects on achievement, the average effects were negligible in every year after retention. Of the 63 studies reviewed by Holmes, 54 yielded overall negative effects of retention, and only 9 yielded overall positive effects. Some studies had better statistical controls than others, but those with subjects matched on IQ, achievement test scores, sex, and/or socioeconomic status showed larger negative effects of retention than studies with weaker designs. Holmes (1989: 27) concluded, “On average, retained children are worse off than their promoted counterparts on both personal adjustment and academic outcomes.”

Despite the seemingly conclusive findings of Holmes’ review, there have been occasional new studies of the academic effects of retention. Jimerson (2001) reviewed an additional 20 published studies of about 2800 promoted or retained students that appeared between 1990 and 1999. Most of the studies covered retention in kindergarten through the third grade. The studies yielded 175 comparisons between academic achievements of promoted and retained students, of which 91 were statistically significant. Of the latter, only 9 favored the retained students, while 81 favored the students who had been promoted. Only three analyses that extended beyond the repeated year were favorable to retained students. The findings were favorable to promoted students across a wide array of academic content areas. Socioemotional and behavioral outcomes were also analyzed in 16 of the studies, but the vast majority of comparisons were not statistically significant, and no common findings emerged. Jimerson’s (2001: 434) overall conclusion was that “Research results published between 1990 and 1999 are very similar to findings reported during the preceding 90 years.”(2001: 433)
Some recent studies of grade retention were included in Jimerson’s meta-analysis, but are important enough to deserve separate mention. A study of Chicago children – undertaken in connection with an experiment in sustained educational intervention – found that “grade retention was significantly associated with lower reading and math achievement at age 14 above and beyond a comprehensive set of explanatory variables” (McCoy and Reynolds 1999; Reynolds 1992).

A large, longitudinal study of Baltimore schoolchildren by Alexander, et al. (1994) concludes that grade retention does increase the chances of academic success. That conclusion is explicit in the title of the book, *On the Success of Failure*. Alexander, et al. argued that earlier studies were methodologically weak. Along with legitimate criticisms, they dismissed many earlier studies precisely because they were old. They investigated an extensive longitudinal survey, following 800 children who entered first grade in 1982 for up to 8 years, so long as they remained in the Baltimore public schools. They assessed academic achievement regularly, and they also looked at measures of self-concept, attitudes toward school, and achievement orientations. One important contribution of the book is a detailed account of the complex flows of students from one grade to the next – or to repeat a grade – and into and out of special education classifications. A vision of the schooling process as a linear progression in grade-level, possibly interrupted by retention, covers only a fraction of the experience of the Baltimore students.

23 One wonders whether they would, for the same reason, dismiss the pioneering findings of natural scientists in the 19th century. Also, recall the consistency of findings across time in Holmes’ (1989) and Jimerson’s (2001) reviews.
However, Alexander, et al.’s analysis of the Baltimore data does not support their positive conclusions about the value of grade retention. Most of the retention that they observed occurred at the first grade level. Here, their stated conclusions about the effects of retention were plainly negative: “… retainees fall farther and farther behind never-retained youngsters for as long as we can monitor their progress. ... any lasting benefits of retention would be apparent within the time spans observed.” However, for much smaller numbers of students who were retained at higher grade levels, the findings were in some cases neutral or positive. Nevertheless, Alexander, et al., gradually shift their conclusions from negative to positive from earlier to later sections of the text. A close reading of their text, tables, and graphs makes it difficult to follow or to accept such conclusions.

Worse yet, there are serious methodological problems in Alexander, et al.’s analysis, which were documented in an intensive review by Shepard, et al. (1996). First, much of the analysis rests on comparisons of absolute test score gains of retained and promoted students. However, the test used in their study is vertically equated on the assumption that students learn more at lower than at higher grade levels. The standard deviations of the reading and math tests thus decline with grade level, and low-performing students typically have higher gain scores than high-performing students, even when they are falling further and further behind in relative terms. Second, Alexander, et al., failed to observe their own methodological rules (for same-grade

---

24 Throughout the following discussion, I have focused on same-grade comparisons of promoted and retained students, where the scores of promoted students are lagged one calendar year behind those of retained students. That is, the retained students have taken one more year to complete each grade. These comparison are usually more favorable to retained students than same-age comparisons, in which they are one grade level behind the promoted students.
Also, see the exchange between Alexander (1998) and Shepard, et al., concluded that the major empirical claims of Alexander, et al., could not be sustained.\textsuperscript{25}

Some other major studies or policy interventions yielded new data about the academic effects of retention, but were not covered in Jimerson’s meta-analysis. Karweit (1999) reports a large scale, but short-term national study of the effects of retention, based on the Prospects database, an evaluation of the effects of Chapter 1 (federal support for education of economically disadvantaged students). She was able to follow nearly 10,000 students in the 1st grade cohort of 1991 during their first three years of schooling. Thus, it was possible to compare the academic achievements of students who were retained in the 1st grade with those of students who had not been retained, after both groups had completed the 2nd grade. As is typically observed in retention studies, the retained students gained substantially in the year of retention, relative to their poor performance in the preceding year. However, by the end of the second grade, the retained students had fallen back, relative to promoted students, though not as far behind as at the end of their first year in the 1st grade (Spring 1992). In these respects, the Prospects data are consistent with many previous studies of retention. Unfortunately, as Karweit notes, it is neither possible to sort out the effects of initial selection on poor test scores in Spring 1992, nor follow the cohort into higher grades. Retention fared better in comparisons between retained students and a small number of low-performing students in schools where there was no retention. However, Karweit observed that these retained and promoted students were poorly matched and cautioned readers that the comparisons should not be taken too seriously.

\textsuperscript{25} Also, see the exchange between Alexander (1998) and Shepard, et al. (1996; 1998).
One other large-scale retention study was featured by the national newspaper, *USA Today* (1999; 1999; Whitmire 1999; Hauser 1999) as evidence that retention increases academic achievement (Dworkin 1999; Lorence, Dworkin, Toenjes, and Hill 2002). In an unpublished analysis of longitudinal data supplied by the Texas Education Agency, Dworkin, et al. (1999) compared the academic achievements of elementary grade students who had failed the TAAS (Texas Assessment of Academic Skills) and been retained with the much larger number of students who had failed the TAAS and had not been retained. Only about 3 percent of TAAS failures were retained. Across several two- and three-year panels of observations, from grades 3 or 4 forward, students who had been retained frequently out-performed those who were promoted, when comparisons were made at the same grade levels. The editorial writers of *USA Today*, like the authors of the study, were quick to attribute the test-score gains of retained students to (assumed) remedial instruction that was withheld from the promoted students.

There were serious methodological problems in the Texas study and plausible alternative interpretations of the TAAS score gains. First, student coverage was poor: Only about two-thirds of Texas students were initially covered at each grade level. Students who changed school districts were immediately lost, as were those who moved out of state. Consequently, retention rates were much lower in the study of Dworkin, et al., than among all Texas students, as reported by the Texas Education Agency (1998: 42). Second, by limiting the study only to students who had failed TAAS, Dworkin, et al., followed only about 40 percent of covered students who were retained—and only a tiny fraction of students who failed TAAS were retained.

---

26 It seemed curious at the time that *USA Today* gave this study national editorial coverage, when it had not been published formally, and its findings were not covered by any national news service except Gannett, which owns *USA Today*.
Third, the retained students were so strongly selected for low test scores that one should expect to observe large increases in their scores in later years merely because of documented levels of year to year instability in test scores (Shepard 1999). Fourth, the same-grade comparisons that one would usually prefer to examine in studies of retention are suspect because of the systemic reforms carried out in Texas during the period of the study. Throughout the mid-1990s, the elementary school curriculum in Texas was revised to focus increasingly on preparation for the TAAS. For this reason – and because retained students completed each new grade one calendar year later than promoted students – it is not clear whether the superior test performance of retained students should be attributed to retention or to systemic, period-specific changes in school practices – such as “teaching to the test” – that affected all students in specific grade levels. That is, one can attribute the observed improvements in test performance to retention in the Texas study only in the same way that one can attribute inter-cohort growth in educational attainment to being born in a later year; in each case, it pays to have gone through school more recently. There is no way to tie specific post-retention educational practices to the success of retained students, nor any basis for the belief that such practices, if they were successful, could be expanded to cover all students who might fail the TAAS.

Lorence et al. (2002) summarized much of the material in Dworkin’s (1999) original report, and they attempted to correct, dismiss, or discuss the methodological problems in the original report. After correction for regression to the mean, retained, low-performing 3rd-grade students still gained more in performance than promoted, low-performing 3rd-grade students. However, Shepard (2002) showed that serious problems of internal validity remained, while Lorence, et al. also gave short shrift to negative evidence in earlier research. To their credit,
Lorence et al. were careful not to generalize their positive findings beyond the unique educational accountability system in Texas. It will be both important and interesting to assess the effects of retention on academic achievement in Texas after 2003, when retention will be mandatory—with limited exceptions—for students who fail the Texas Assessment of Academic Skills in the 3rd grade.

If it takes ambitious extrapolation to draw positive policy prescriptions from the Texas study, it is much easier to learn from the experience in Chicago. In 1996-1997 the Chicago Public Schools instituted a new program to end social promotion. Retention decisions were based almost entirely on student performance on the Iowa Test of Basic Skills (ITBS) at the end of grades 3 and 6, and on another standardized test at end of the 8th grade. Students who fell below specific cutoff scores at each grade level were required to attend highly structured summer school programs and to take an alternative form of the test at summer's end. At the end of the 1996-1997 school year, it was initially reported that 32 percent, 31 percent, and 21 percent of students failed the initial examination at grades 3, 6, and 8, respectively. Out of 91,000 students tested overall, almost 26,000 failed. After summer school, it was reported that 15 percent, 13

27 The 1997-1998 Guidelines for Promotion in the Chicago Public Schools also list minimum report card requirements and a minimum attendance requirement, but “students who score at or above grade level on both the Reading and Mathematics sections of the ITBS are excepted from the latter requirement” (Chicago Public Schools 1997). This use of the ITBS appears to be in conflict with the publisher's recommendations about “inappropriate purposes” of testing: “If a retention decision is to be made, classroom assessment data gathered by the teacher over a period of months is likely to be a highly relevant and accurate basis for making such a decision. A test score can make a valuable contribution to the array of evidence that should be considered. However, a test score from an achievement battery should not be used alone in making such a significant decision” (Hoover, Hieronymus, Frisbie, and et al. 1994). However, the test publisher (but not the developers) have endorsed this use of the ITBS by the Chicago Public Schools.
percent, and 8 percent of students were retained at the three grade levels (Chicago Public Schools 1998).  

Later reports on Chicago’s retention policy provide an even less sanguine picture. For example, among 3rd graders, 30.5 percent were excluded from testing because they were in special education or were bilingual students. Of the remainder, 48.7 percent failed the spring 1997 exam. Of those who failed and remained in the public schools, 33.0 percent passed the ITBS at summer’s end and were promoted, 21.2 percent failed and were promoted anyway, and 40.8 percent failed and were retained for a second year in the 3rd grade. In the next year, the test score gain among students who were retained was indistinguishable from that among students who had failed the summer test and been promoted; moreover, fewer than half of the retained students passed the ITBS after the retention year or the following summer (of 1998) (Roderick, Bryk, Jacob, Easton, and Allensworth 1999: 12-13 ). Data from the Chicago Public Schools show that “African American students were 4.5 times more likely to be retained than White students in 1997. And Latino students were nearly three times more likely to be retained than White students in 1997” (Moore 1999: 3 ).

A follow-up report in 2000 (Roderick, Nagaoka, Bacon, and Easton 2000) maintained that students who were threatened with retention and subsequently passed the ITBS had made extraordinary test-score gains in summer school and thereafter. That “finding” piles artifact on artifact. First, students who passed the ITBS after a summer school program had the benefit of regression to the mean. Second, they were (positively) selected on the basis of having passed the

---

28 The initial report was that between 2 and 3 percent of students failed the initial exam at each grade level but were ultimately “waived” into the next grade, but in fact waivers were frequent (Moore, 1999).
exam on the second try. Third, the report provides enough data to permit a three-year comparison of achievement growth between all students who had failed the ITBS in the spring of 1997 and all those who would have failed in the spring of 1995 if the retention plan had then been in effect. Over a three-year period, the aggregate growth in achievement was virtually identical in those two groups. That is, at the cost of millions of dollars in summer test preparation and repeated grades—and a huge aggregate loss of time to retained students, there was absolutely no aggregate gain in achievement among low-performing students after the retention plan was put in place. The retention program was successful only in generating an artifactual statistical distinction between low performing students who had passed the ITBS after summer school and low performing students who had failed the ITBS after summer school.

It would perhaps be too much to say that grade retention cannot possibly succeed in raising academic performance more than the obvious alternative—promotion with remediation, but surely there is no compelling evidence that it increases academic achievement on a large scale or in the long term. To be sure, the available evidence is almost all based on typical educational practice, and one might believe that new practices would yield more favorable outcomes. However, if there are effective new practices, why not use valid assessments to identify students with learning difficulties, and intervene before retention is the only alternative?

One of the frustrations of retention research is that—excepting three very early studies—there are no true field experiments. Many educational researchers dismiss this option because, they believe, it would be unethical. But if we truly do not know whether retention helps or hurts low-performing students, why would it be unethical to assign volunteers either to retention or promotion? Would this be any less ethical, say, than creating the variations in class size that
have led to new understanding of the value of very small class sizes in the primary grades? If there is truly continuing disagreement about the observational evidence on retention and academic achievement, then a large-scale field experiment is a logical choice (Burtless 2002; Krueger 1999). Surely, such an experiment would be preferable to massive interference in the lives of America’s most vulnerable children.

High School Dropout and High School Completion

Whether or not a person has completed a high school education would appear a simple matter of fact, yet there are diverse indicators of high school dropout and completion and diverse opinions about trends and differentials in them. In this section, I first review the importance of high school graduation as an indicator of prospects for successful adulthood. I then review some of the more important evidence related to trends and to social and economic differentials in high school dropout and completion.29 Last, I review some recent evidence about the relationship between grade retention and high school dropout.

Just as the earning power of high school graduates declined relative to that of college graduates in the 1980s (Murphy and Welch 1989; Murnane and Levy 1993; Hauser 1993), so has the earning power of high school dropouts declined relative to those who have completed high school. Indeed, in most cases, high school dropouts are already unable to compete for jobs that pay enough to keep one out of poverty; clearly, the economic consequences of dropping out of high school are severe. For example, Figure 11 shows trends and differentials in March employment rates of persons 25 to 34 years old by sex and educational attainment from

29 In part, this review updates Hauser (Hauser 1997).
the early 1970s through 2000. In every year and among women and men, employment varies directly with completed schooling. Moreover, from the early 1970s to the mid-1990s, the differential in employment grew between dropouts (here defined as those with 9 to 11 years of schooling) and either high school or college graduates. However, the favorable labor market conditions of the late 1990s improved the employment chances of dropouts. Men and women differ in the sources of the growing differential. Among men, employment has been very high and stable among college graduates, while it has declined, slightly among high school graduates and to greater extent among dropouts. Among women, employment has increased among dropouts as among all women, but the growth has been much greater among high school and college graduates. In the early 1970s, a male dropout was about 30 percentage points more likely to be employed than a female college graduate. Since 1981, college women have always been more likely to be employed than male high school dropouts. In the early to middle 1990s, a college woman was at least 10 percentage points more likely to work outside the home than was a male dropout.

For men and women aged 25 to 34, classified as white, black, or Hispanic, figures 12 and 13 show ratios of the median earnings of high school graduates to those of persons with 9 to 11 years of schooling from 1970 to 2000. Among men and women wage and salary workers,  

---

30 The employment rate is just the ratio of employed persons to the total population in the specified group; that is, it ignores labor force status. These persons are old enough so differentials in age between recent dropouts and graduates should not much affect employment differentials; indeed, for dropouts and graduates of the same age, potential work experience is inverse to the quantity of schooling.
dropouts make substantially less than high school graduates.\textsuperscript{31} From 1970 to 1990, the earnings of white male dropouts declined from about 86 percent to 72 percent of the earnings of white high school graduates.\textsuperscript{32} Among African-American and Hispanic men, the time series is far more variable, but there is also a decline in earnings of dropouts relative to high school graduates. Black dropouts earned about 76 percent as much as graduates in 1970, but only 67 percent as much in 1990; Hispanic dropouts earned 88 percent as much as graduates in 1970, but only 76 percent as much in 1990. However, male dropouts fared increasingly well during the economic expansion of the 1990s.\textsuperscript{33} Among women, there was no apparent trend in the relative earnings of high school dropouts from 1970 to 1990; the differential fluctuated around a level of 0.6. That is, women high school graduates earned about two thirds more than dropouts. After 1996, as in the case of men, there has been an upward swing in the relative earnings of female dropouts. Despite evident improvements in the status of dropouts in the 1990s, failure to complete high school continues to carry a high price in employment and economic chances.

Illustrative differentials between dropouts and graduates could be elaborated endlessly. For example, electoral participation by high school dropouts is less than among high school graduates, and the gap has widened since the mid-1960s (National Center for Education Statistics 1994:100-101). Failure to obtain at least a high school diploma looks more and more

\textsuperscript{31} Graduates are individuals with exactly 12 years of schooling or a high school diploma or equivalent. Data for Hispanic women are unreliable and are not shown.

\textsuperscript{32} The earnings of white male high school graduates have also declined in real terms.

\textsuperscript{33} The upward trend in the series after 1992 seems clear. Unfortunately, it is not possible to compare ratios before and after 1992, when the statistical definition of high school graduation used in the Current Population Survey was altered to conform to the flawed scheme used in the 1990 Census (Hauser 1997: 162-64).
like the contemporary equivalent of functional illiteracy. High school dropout indicates a failure to pass minimum thresholds of economic, social, or political motivation, access, and competence.

In this context the highly publicized National Educational Goals (U.S. Department of Education 1990) proclaimed 90 percent high school completion among six primary goals. Since the middle 1980s, there has been a steady stream of new reports about the familial and socioeconomic origins of high school dropout (McLanahan 1985; Ekstrom, Goertz, Pollack, and Rock 1986; Krein and Beller 1988; Astone and McLanahan 1991; Haveman, Wolfe, and Spaulding 1991; Sandefur, McLanahan, and Wojtkiewicz 1992; Rumberger and Larson 1998; Hauser, Simmons, and Pager 2000), and the National Center for Education Statistics has produced a regular series of annual reports on trends and differentials in high school dropout (Fraser 1989; Kaufman and Frase 1990; Kaufman, McMillen, and Whitener 1991; Kaufman, McMillen, Germino-Hausken, and Bradby 1992; McMillen, Kaufman, Germino-Hausken, and Bradby 1993; McMillen, Kaufman, and Whitener 1994; McMillen and Kaufman 1996; McMillen and Kaufman 1997; McMillen 1997; Kaufman, Klein, and Frase 1999; Kaufman, Kwon, Klein, and Chapman 1999; Kaufman, Kwon, Klein, and Chapman 2001; Kaufman, Alt, and Chapman 2001). Thus, the association of high school dropout with educational and economic deprivation, minority status, and family disruption is well documented, as is the global trend in high school dropout, which has generally – but not always – declined since the 1970s.

34 However, the operational definition of 90 percent high school completion has varied from time to time (Hauser 1997). Early in 2002, the Congress dissolved the National Educational Goals Panel.
The possible consequences for high school dropout of higher educational standards – especially test-based promotion and graduation – have stimulated new interest in dropout. Many believe that higher standards – or the expectation of eventual failure – will accelerate decisions to leave school on the part of marginal students (Lillard and DeCicca 2001). Some argue that high standards create pressure on school administrators, as well as on students, to leave school early if they have poor chances of graduation (Haney 2000). Others declare that lower rates of high school completion are acceptable if that is the price of higher demonstrated competence among those who persist to graduation (Hayward 2000). However, there is as yet little evidence about the effects of higher standards on school dropout, eventual high school completion, or – for that matter – on the academic achievements of high school graduates. That is, we are as yet poorly equipped to assess the costs and benefits of tradeoffs between the quality and quantity of high school graduates that may be entailed in standards-driven educational reforms.

It is not clear how long we may have to wait to observe the effects of educational policy changes on dropout rates, or whether the effects of visible policy changes may be swamped by other changes, for example, in overall economic activity (Duncan 1967). To provide an appropriate baseline to monitor future changes, I outline the recent social and historic context of high school dropout: How much high school dropout is there? Who drops out of high school? What are the major social and economic characteristics affecting high school dropout? What do we know about the connection between age-grade retention and high school dropout?

Measuring High School Dropout and Completion

School-leaving is a process that takes place over time, and it is not an irreversible process. Many students leave and return to high school (Anderson 1994). Thus, the fact that
someone of high school age has not completed high school and is not currently enrolled does not imply that she will not eventually return to school and graduate. The problem of measuring dropout is further confounded – both for statistical and practical purposes – by the fact that many youth gain high school equivalency credentials, typically by passing the General Educational Development Examination (GED), often without enrolling in a regular school. Since 1990, the U.S. Bureau of the Census has confounded high school diplomas with completion of the GED by combining those two forms of certification in its definition of high school graduation, while adding a category of persons who completed 12 years of schooling, but do not hold a high school diploma. Immigration creates additional problems in the measurement of dropout and high school completion. Especially in populations of Hispanic or Asian origin, many persons of school age, as well as older persons, may have had little exposure to American schools. In these populations, non-completion of high school is not a valid indicator of high school dropout per se. For these reasons, among others, there is no one preferred measure of high school dropout or completion; the progress of populations through high school must be assessed with multiple measures.35

Figure 14 shows time series, by gender, of the annual high school dropout rate used in the most annual reports of the National Center for Education Statistics (Kaufman et al. 2001). The rate rose from just over 5 percent to over 6 percent between 1967 and 1974, after which it declined regularly to about 4 percent in 1991. This is a very large decline, implying a cumulative reduction in dropout across grades 10 to 12 – assuming no one returns to school – from almost

35 See Hauser (1997) for a more extensive review of the measurement of high school dropout and completion.
18 percent to less than 12 percent. For reasons explained below, there is a break in the series between 1991 and 1992, but the data suggest that dropout increased briefly in the early 1990s and then leveled off. Men were more likely to drop out than women between the early 1970s and the late 1980s, but before and after that period, there has been little difference in high school dropout rates between women and men.

The annual dropout rate was originally developed by Robert Kominski at the U.S. Bureau of the Census (Kominski 1990: 304).

“By using current and prior enrollment statuses, along with information on years of school completed, it is possible to identify those individuals who were enrolled a year ago, are not enrolled now, and have not completed high school. These individuals are identified as high school dropouts in the past year. The formula for the 1-year rate from grade $X$ is $A/(A + B)$, where $A$ is the number of persons with grade $(X-1)$ completed who were enrolled in school last year and are not currently enrolled and $B$ is the number of persons with grade $X$ completed who were enrolled last year and are currently enrolled. In computing the rate for the 12th grade, a modification is necessary, since many persons who successfully complete grade 12 will not be enrolled in the fall following graduation. In this case the value for $B$ is the number of persons who were enrolled in the previous fall and who graduated in the spring (as determined from a question that asks high school graduates for their year of graduation.)”

Such rates can be ascertained each year from the October Current Population Survey (Kominski and Adams 1993). Among rates that are available annually and for major population subgroups,
this comes closest to recognizing that high school completion is a process that may involve repeated moves out of and back into school. Another important advantage of the annual dropout rates is that they condition on prior school enrollment. Thus, unlike “status” measures of dropout, they are not directly affected by the presence of immigrants who have had no exposure to schooling in the United States.

At the same time, the definition of the annual dropout rate is less than ideal because it combines persons who do not continue from one grade to the next in the survey year with persons who drop out from the next higher grade level during the academic year preceding the survey, as if they were in the same cohort. It also fails to identify return enrollees among this year's students at each grade level. Despite these problems, the concept is useful, perhaps more so than definitions based upon grade completion and enrollment by a specific age, which fail to take account of variation in age-grade progression.36

Perhaps to increase its reliability as well as to limit the number of data series that need be displayed, the annual dropout rates are usually aggregated across grades 10 to 12. This also partly overcomes the conceptual problem in cohort coverage mentioned above. However, the aggregation across grade levels also exacerbates a serious problem of temporal comparability in the series. Because the construction of annual dropout rates based on the October CPS has, since 1992, rested on the official distinction between “12th grade no diploma” and “high school graduate (or equivalent),” there was a substantial upward shift in the annual rate of high school

36 For further discussion of the conceptualization and measurement of high school dropout, see Kominski (1990), Pallas (1989), and Kaufman (2000). See below for discussion of state and local estimates.
37 There were also minor breaks in the series between 1986 and 1987, when new editing rules were adopted, and in 1994, when the CPS began to use computer-assisted interviewing technology (Kaufman et al. 2001: Appendix D).

38 The effect of the changing definition is especially large among overage students covered by the annual dropout concept, that is, persons aged 20 to 24, and there is scarcely a blip in the series below age 20. Thus, an alternative to revising the definition of high school completion used in the series would be to limit the dropout rate to students aged 15 to 19.

Trends and Differentials in High School Dropout

Figure 15 shows the trend in annual dropout rates for three family income groups, comprising the bottom fifth, the middle 60 percent, and the top fifth of the distribution. Dropout has been consistently much larger in the lowest income group, while there is a smaller differential between the middle and high income groups. Dropout in the lowest income group converged modestly toward that in the other two groups from the early 1970s to 1992. There was, possibly, a brief divergence through 1994, but movement toward convergence resumed in the second half of the 1990s. Unfortunately, because of the post-1990 changes in Census methodology, these observations cannot be taken entirely at face value.
Across the past three decades, annual dropout rates followed different paths among white, black, and Hispanic youth. As shown in Figure 16, the white and black time series have been roughly parallel, but converged partially between the early 1970s and 1990. White and black dropout rates differed by about 4.5 points in the early 1970s, but only by about 2.5 points in the late 1980s. Since 1992, they have differed by only 1.6 to 2.3 percentage points. Hispanic dropout rates were similar to those of blacks in the 1970s, but they diverged sharply upward at the end of that decade. The annual dropout rate among Hispanics peaked at more than 10 percent in the mid-1990s, but it has since declined, remaining a few percentage points above the rate for black youth.

Figure 17 provides a very different view of trends in race-ethnic differentials in progress toward high school completion. It shows the educational status of white, black, and Hispanic youth between the ages of 16 and 24, specifically, the percentage of all youth in the age range who were not enrolled in school in October of the survey year and had not completed high school. There is a steady downward trend in the series among blacks across the past three decades, and a similar trend among whites after 1980. However, among Hispanics, the rate of non-completion and non-enrollment has consistently been much higher than in the other two groups; it has been near or above 30 percent since the early 1970s. This is a much larger differential than that observed in the annual dropout rate, and it provides indirect evidence of the

---

39 Because individuals in the upper half of this age range are unlikely to live with their parents, it is not possible to assess differentials in this dropout measure by social and economic background using the October CPS data.

40 In principle, this measure is also affected by the post-1990 changes in the definition of high school completion, but the shift in the time series after 1991 appears to be very small.
extent to which Hispanic immigrants of high school age have never enrolled in school. However, the differential between Hispanics and non-Hispanics in this series was substantially affected by the change in the CPS measure of educational attainment in 1992. It is not obvious which of the several changes in the Census measure may account for the abrupt downward shift in dropout status among Hispanics between 1990-91 and 1991-92 – about 5 percentage points – but the methodological change had far less influence on the series for non-Hispanic Whites and Non-Hispanic Blacks.

*Trends and Differentials in High School Completion*

Because educational attainment is, in principle, cumulative and irreversible (Duncan 1968), it should be possible, at some time in the life of a cohort, to obtain a definitive measure of its high school completion. This is easier said than done, partly because some credentials are earned later in life, and partly because researchers and policy-makers should like to know how far a cohort as gone in school as early as possible in the life course. One widely used (and criticized) series is educational attainment at ages 25 to 29 (Hauser 1997; Greene 2002). The modal age of that group is about 10 years beyond typical ages at high school graduation, leading to an unacceptably large lag between the measurement of high school completion and the time at which most individuals have completed it. Moreover, many individuals obtain high school equivalency credentials after the typical ages of high school completion, and there is substantial evidence that the GED is less valuable than a diploma (Cameron and Heckman 1992).

In this context, for the past several years, the National Center for Education Statistics has featured an “early” measure of high school completion: the percentage of 18 to 24 year old youth, not currently enrolled in high school or below, who had completed high school with a
diploma (or, after 1991, with a diploma or GED). A problem with this measure is that many youth, especially minority youth, are still “on track” in regular high schools at ages 18 and 19 (Hauser 1997). Thus, the measure tends to exaggerate race-ethnic differentials in high school completion by underestimating it among minority youth. The problem is compounded because high school completion is highly contingent among older students, so it may indicate unrealistically high levels of school completion in the majority population. For example, during the 1990s, the NCES measure has been above 90 percent for non-Hispanic whites, but barely over 80 percent among non-Hispanic blacks. An alternative, early measure of high school completion, suggested by Hauser (Hauser 1997), is the percentage of all persons who have completed high school by ages 20 to 24. This share is modestly less than completions by ages 25 to 29, and it covers the entire population. According to this measure, during the 1990s white high school completion levels were just over 85 percent, and the completion rate among blacks was only about 5 percentage points less.

Figure 18 shows the time series of high school completion by ages 20 to 24 among whites, blacks, and Hispanics from 1970 to 2000. These series were not substantially disrupted by the change in Census methodology between 1991 and 1992 – but growth after 1992 may have been affected by the growth in GED credentials (Kaufman et al. 2001). The main features of Figure 18 are the glacial growth in high school completion among whites – about 5 percentage points over three decades – rapid growth in high school completion among young African Americans, from barely 60 percent in 1970 to more than 80 percent throughout the 1990s, and
the consistently poor showing of Hispanics.\textsuperscript{41} In that group, the only sustained improvement in high school completion was an increase from 60 to 65 percent during the 1990s. At the end of the 20\textsuperscript{th} century, the gap in high school completion between Hispanics and blacks was about the same as that between blacks and whites thirty years earlier.

\textit{National, State, and Local Estimates of Dropout}

It is difficult to monitor rates of high school dropout and completion at the national level; it is much harder to do so at the state or local level. The annual NCES dropout reports have for some years included averaged annual rates of high school completion (among persons not enrolled in school) at ages 18 to 24 (Kaufman et al. 2001). Because of the small number of sample cases in many states, this statistic is not highly reliable, and the defects of excluding enrolled students and including persons at ages 18 and 19 remain. The NCES has also reported averaged annual dropout rates for states from a federal-state cooperative program, part of the Common Core of Data (CCD). This program developed estimates of the annual dropout rate from public schools in each state that would be comparable to those in the Current Population Survey (Kaufman et al. 2001: 59-61). However, only 27 states comply fully with the statistical standards of the CCD, and only 9 other states use methods that are similar enough to justify publication of their series in the NCES reports (Winglee, Marker, Henderson, Young, and Hoffman 2000). A compendium of these estimates has recently been published (Young and Hoffman 2002); it covers the years 1991-92 through 1997-98 and classifies dropout and completion only by year, locality, gender, and race-ethnicity.

\textsuperscript{41} Again, the rate of high school completion among Hispanics is undoubtedly lowered by the presence of poorly educated immigrants.
In the fall of 2001, there was national coverage of a privately funded effort to produce a comparable series of estimates of high school graduation at the national, state, and local levels (Greene 2002). Greene proposes to estimate the high school graduation rate as the ratio of the number of high school diplomas awarded in the spring of 1998 to the number of youth enrolled in the 8th grade in the fall of 1993, after the base enrollment estimate was adjusted for change in the size of the total school population across the four-year period. His scheme yields a national graduation rate of 71 percent, far less than that estimated from CPS data, and he attributes the difference largely to the inclusion of the GED in CPS-based estimates of high school completion. Greene surely has a valid point in arguing for the exclusion of the GED from the definition of high school completion, but beyond that, his scheme has no merit. In fact it joins the ranks of numerous, equally flawed efforts to estimate high school completion as the ratio of diplomas awarded to school enrollment in a prior year. First, at the state or local level – and even at the national level – there is a problem of population closure; students move across district, state, and national boundaries. Second, and perhaps more important – notwithstanding Greene’s (2002: 3) protests to the contrary – the number of students enrolled in a prior year is not an appropriate base population for calculation of a graduation rate in a system where students are retained in grade. The reason – well understood a century ago by Leonard Ayres (1909: Chs. III, V, VI) – is that retained students contribute repeatedly to the denominator of such “rates,” leading to a downward bias in them. A student can appear in the numerator of Greene’s “rate” only once,

42 Actually, Greene produced estimates for only one year, 1998. If his estimates were valid, they could be produced for other years.

43 In this context, it is almost amusing to read Greene’s effort to explain the inconsistency between his estimate of the high school graduation rate among African-Americans,
but he or she may appear in the denominator many times. Another way to see the weakness of Greene’s effort is simply to look at the time series in Figure 18; however inappropriate, the inclusion of the GED in the post-1991 classification of high school graduates had relatively little impact on the time series.

**Multivariate Analysis of High School Dropout**

Hauser, Simmons, and Pager (2000) have reported a comprehensive analysis of social and economic factors affecting high school dropout over the past three decades, based on annual dropout data from the October Current Population Survey, 1972 to 1998. Their analysis links enrollment data about more than 160,000 persons of school age with the social and economic characteristics of their households, i.e., the characteristics of families and parents. Few students in the 10th to 12th grades live outside a parental or quasi-parental household, so there is little missing data.\(^{44}\) It is not possible to carry out parallel analyses of dropout status (at ages 16 to 24) or of high school completion (at ages 18 to 24 or 20 to 24) because many children no longer live with their parents by age 20.\(^{45}\) As with all analyses based on Census-type data, Hauser, Simmons, and Pager did not have any measure of academic ability or achievement.

---

56 percent, and the 73 percent high school completion rate estimated by NCES (2002: 6-7). Greene fails to consider the effect of grade retention on base enrollment in the black population, and he ends up suggesting that black youth simply lie about whether or not they have completed high school.

\(^{44}\) Over the past three decades, 3.1 percent of youths have been nondependent at the tenth-grade transition; 5 percent have been nondependent at the eleventh-grade transition; and 11.8 percent have been nondependent at the twelfth-grade transition.

\(^{45}\) However, it would be possible to analyze dropout *status* at a younger age, say, 16 to 19, the age range within which the Annie E. Casey Foundation has recently assessed progress toward high school graduation.
There are problems of population coverage in the Current Population Survey, especially for black males. For example, for Current Population Surveys in 1996, the U.S. Bureau of the Census reports coverage ratios of 0.83 for black men at ages 16 to 19 and 0.66 for black men at ages 20 to 29.\footnote{The annual dropout measure is based on persons aged 15 to 24.} Excepting Hispanic men, for whom coverage is also poor, these are much lower than coverage ratios for other combinations of age, gender, and race-ethnicity, which typically range from 0.85 to 0.95 (U.S. Bureau of the Census 2000: Table 16-1). The coverage problem is corrected to some degree by the weighting procedures used by the Bureau of the Census.

For all covered youth, Hauser, Simmons, and Pager knew age, sex, race-ethnicity, grade at risk, region of residence, and metropolitan location. They linked several relevant social and economic characteristics of the household and householders to the youth's record: female-headed household, employment status of household head, number of children in household, education of household head, education of spouse of head, occupation of household head, family income, and housing tenure.

Some believe that school location in cities vs. suburbs accounts for a large share of race-ethnic differentials in dropout. For that reason, Hauser, Simmons, and Pager examined trends and differentials in school dropout by location during three periods: 1972 to 1980, 1981 to 1989, and 1990 to 1998. Dropout is consistently greater in central cities. For example, during the 1990s, the cumulative dropout rate was 18.0 percent in major central cities and 19.2 percent in other central cities, while it was 10.2 percent and 11.9 percent in their respective suburban
In addition, the overall decline in school dropout appears in almost all areas. The decline is most consistent in the large central cities, from 23.1 in the 1970s to 21.6 in the 1980s and 18.0 in the 1990s. The largest decrease in dropout occurred in the other (small metropolitan and non-metropolitan) areas between the 1970s and 1980s – from 19.0 percent to 13.7 percent.

The same differentials and trends by metropolitan status occurred for each major race-ethnic group. For example, clear differences in dropout between central cities and their rings occur for whites, as for African-Americans, along with a decrease in dropout rates across time. In the 1990s, the cumulative dropout rate was 12.8 percent among whites and 15.0 percent among African-Americans in the major central cities, while it was 8.3 percent among whites and only 7.3 percent among blacks in the suburban rings of those cities. In other metropolitan areas, dropout was 17.0 percent among whites and 19.9 percent among blacks in the central cities, but there was a much larger differential in the suburban ring – 10.3 percent among whites and 17.3 percent among blacks. Thus, neither the differential in dropout between African-Americans and whites, nor that between central cities and their rings is merely a consequence of racial separation between schools in those two types of areas. However, it should also be kept in mind that minorities are more likely than non-Hispanic whites to be located in the central cities, where dropout rates are higher.

Social and economic characteristics of youth and of their families have large effects on school dropout. Overall, dropout increases with grade level during the high school years, and the chances of dropout are much larger in the 12th than in the 10th or 11th grades. Men are

---

47 Cumulative dropout was estimated by projecting the effect of the annual dropout rate over a three-year period (Hauser et al. 2000: 5).
consistently more likely to drop out of school than women. Family and socioeconomic characteristics have the expected effects on dropout. For example, higher family income, parental educational attainment reduce the risk of dropout, while living in a single parent family increases the risk substantially – especially among whites. Youth who live in households with small numbers of other children and in owner-occupied housing are unlikely to drop out. The distributions of many of these predisposing factors have not changed substantially across the past three decades, but there has been a notable increase in single family households, a decrease in the number of children in households, and a substantial increase in parental levels of education. These changes in social background account for part, but not all of the decline in high school dropout among blacks and whites from the 1970s to the 1990s.

There are very large differences in social, economic, and family background between white, black, and Hispanic youth. We have seen that observed differences in high school dropout among the groups are quite large, but Hauser, Simmons, and Pager find that these are fully explained by intergroup differences in background. That is, social background, rather than race-ethnicity per se, accounts for the intergroup differences in high school dropout. Moreover, since their analysis does not control academic achievement – while blacks and Hispanics perform far below whites – their findings imply that minority dropout levels are probably lower than those among whites with similar levels of academic achievement and social background.

Hauser, Simmons, and Pager also found that age has very large effects on school dropout. For example, independent of all other variables, black youth were 150 percent more likely to drop out at age 19 than at age 17 and 300 percent more likely to drop out at age 20 than at age 17. The effects of age are similar – but somewhat smaller – among whites and Hispanics. Since
grade-level is constant in their analyses, by construction, the implication is that students who are over-age for grade are exceptionally likely to drop out of high school.

*Retention and School Dropout: A Reconnaissance*

Of course, Hauser, Simmons, and Pager were scarcely novel in pointing to the role of age-grade retardation in school dropout. Their work simply documented, on a large scale and across several decades, a finding that has appeared over and over again across the past century.

For example, Grissom and Shepard (1989) reported that retention accelerated school dropout, based on data for several localities including the 1979 to 1981 freshman classes from the Chicago Public Schools. In a more recent analysis of data from Chicago – which predates the recent educational “reforms” in that city – Temple, Reynolds, and Miedel (2000) found that retention during kindergarten through the eighth grade increased dropout by 12 percentage points, after controls for social background, program participation, school moves, and special education placement. For two decades, the Chicago Public Schools have cycled through successive policies of loose and restrictive promotion, and it is not clear how long the present strict policies will hold (Chicago Public Schools 1997). But is there any reason to doubt that the current regime of massive retention in Chicago will not also lead to increased dropout in future years?

Roderick’s (1993) intensive study of schools in Fall River, Massachusetts, also identified grade retention as a key factor in dropout: “Students who were retained in grade were more than three times more likely to drop out of school than students who were never retained ... Even after controlling for grades and attendance through the ninth grade, however, students who had
repeated grades were substantially more likely to drop out than those who had never repeated a grade” (pp. xix-xx).

Anderson (1994) carried out an extensive large-scale national study of the effect of grade retention on high school dropout rates. He analyzed data from the National Longitudinal Study of Youth for more than 5,500 students whose school attendance was followed annually from 1978-1979 to 1985-1986. With statistical controls for sex, race/ethnicity, social background, cognitive ability, adolescent deviance, early transitions to adult status, and several school-related measures, students who were currently repeating a grade were 70 percent more likely to drop out of high school than students who were not currently repeating a grade.

Rumberger and Larson (1998) analyzed high school dropout and completion of the GED in longitudinal data from the National Educational Longitudinal Study of 1988 (NELS88). After controlling social and family background, school characteristics, student engagement, and academic achievement in the eighth grade (test scores and grades), they found that being held back before the eighth grade increased the relative odds of dropout by the twelfth grade by a factor of 2.56 (p. 24). Furthermore, “Students who were held back before the eighth grade were more than four times as likely as students who were not held back to not complete high school or receive a GED by 1994” (p. 27). Reliable negative evidence of that strength in a clinical trial would lead to its early termination.

While Alexander, Entwisle, and Dauber (1994) claimed to find improved academic performance among grade-repeaters in their longitudinal study of Baltimore schoolchildren, their findings were far more negative with respect to school dropout. About 42 percent of their sample was lost to school dropout at some point, but dropout reached 71 percent among students who
had repeated any grade, 80 percent among all multiple repeaters, and 94 percent – near certainty – among youth who had been retained both in elementary school and in middle school (Alexander, Entwisle, and Kabbani 2001: 767, 775).

**The Policy Context of Grade Retention and School Dropout**

The continuing push for higher standards in elementary and secondary education, exemplified by the policy initiatives of the Clinton and Bush administrations, has seemingly obvious implications for high school completion and dropout. As grade-retention increases, high school dropout will eventually increase as well, though perhaps with a delay of some years. When a child is retained in the third or fourth grade, with the best of intentions, the stage is set for that child to be overage for grade, some years later, during high school. The belief, contrary to most evidence, that retention is helpful to students, in sustained in part by the lengthy gap between the retention decisions and their effects.

The possible future course of high school dropout will likely be affected, also, by the combination of grade retention practices with the use of high stakes tests, both to retain students and to certify their competence as high school graduates. The direct effect of a high school exit exam is to deny high school diplomas to students who fail the test – usually after repeated administrations of it. In the terms of the educational classification system now used by the U.S. Census, exit test failure classifies students as having completed 12 years of school, but with no diploma. Such individuals will be classified as dropouts or non-completers unless they subsequently pass a high school equivalency examination. It is less clear how these people will fare in the labor market – or even in access to post-secondary education. The available evidence, e.g., from the Texas Academic Assessment System (TAAS) and the Massachusetts
Comprehensive Assessment System (MCAS), suggests much higher failure rates will occur in minority populations than among non-Hispanic whites. A similarly large scale trial of exit examinations is about to take place in New York State, and in several others. It is not clear whether such tests will be modified to increase pass rates, or whether a backlash against their use will occur when very large numbers of students fail.

Exit exams also may have important indirect effects on high school completion. First, there has been widespread speculation that the introduction of high school exit exams will discourage many poorly-performing students from continuing in high school. There is, as yet, little evidence to support or disconfirm this hypothesis. Second, in Texas, Walter Haney (2000) has argued, there is administrative and political pressure on schools to achieve high pass rates on the TAAS, which is first administered in the 10th grade. This leads to very high retention rates, especially of minority students, in the 9th grade – and to their early departure from high school.\footnote{In the GI Forum case, a federal judge found that the TAAS exit exam had disparate impact on minority students, but held that its use was legal because the State of Texas had introduced the test with the intention of improving the quality of education.} This is a highly controversial argument (Toenjes and Dworkin 2002; Haney 2001; Carnoy, Loeb, and Smith 2001), and the evidence for and against it deserves detailed examination. One of the ironies of current debates about the effects of TAAS is that much of the evidence so far proposed is based on ratios of high school completion in a target year to enrollment in the 9th or 6th grade 3 or 6 years earlier. Such data bear the same fatal flaw that Leonard Ayres (1909: Chs. III, V, VI) identified a century ago in parallel data about the completion of elementary school: the fact that cumulative retention invalidates earlier grade level populations as a base for the graduation rate. The TAAS system has been in place for several years, and it will soon be replaced by a new...
test with a higher passing threshold.\textsuperscript{49} A definitive analysis of the aggregate and distributional effects of the TAAS could be of great value in the development and assessment of educational policy.

One might have expected high school graduation to have become virtually universal in the U.S. by the beginning of the twenty-first century. Instead, growth in high school completion has been glacial in most American population groups across the past 30 years. The major exception is the African American population, which made major advances during this period. Is there any reason to expect that high school education will approach universality in the current policy climate? On the contrary, new educational policies are likely to increase retention and encourage dropout in the name of high standards. Nearly a century ago, Leonard Ayres pointed to compulsory school attendance as a key to the successful extension of schooling, and he complained about school regimes that regularly retained students, so as to guarantee that they would not complete elementary school before exceeding the age of compulsory student attendance. There is a similar and growing inconsistency today between the emerging school regime and the requirements of school attendance. Absent an increase in the legally permissible age at school leaving – a policy that is not on anyone’s agenda – it is likely that high school completion will become less prevalent and less equally distributed across the coming decade.

\textsuperscript{49} When it was introduced, the passing standard of the TAAS was at the 25th percentile.
Reference List


Clinton, William J. 1998. *Memorandum to the Secretary of Education*.


USA Today. 20 Sep 1999. “To Hold Back Students or Not? Texas Study May Hold Answers.” *USA Today*.


Figure 1
Percentage of Six Year Old Children Who Have Not Entered First Grade,
1972 to 1999

Source: U.S. Bureau of the Census, Current Population Reports,
Series P-20. Entries are three-year moving averages.
Figure 2
Percentage of Children Enrolled Below Modal Grade for Age by Age Group and Year in which Cohort was 6 to 8 Years Old

Source: U.S. Bureau of the Census, Historical Statistics, Table A-3, persons 6 to 17 years old. Dropouts are included in the series at ages 15 to 17.
Figure 3
Change in Age-Grade Retardation from Age Six to Ages Seven, Eight, and Nine by Year When Cohort Was Six Years Old

Figure 4
Changes in Age-Grade Retardation from Ages 6 to 8 to Ages 9 to 17 by Year When Cohort Was 6 to 8 Years Old

Source: U.S. Bureau of the Census, Historical Statistics, Table A-3, persons 6 to 17. Dropouts are included in the series at ages 15 to 17. Entries are three-year moving averages.
Figure 5

Percentage Enrolled Below Modal Grade at Ages 6 to 8 and at Ages 15 to 17 by Sex and Year Cohort Reached Ages 6 to 8

Source: U.S. Bureau of the Census, Historical Statistics, Table A-3, persons 6 to 8 and 15 to 17.
Dropout is counted as age-grade retardation at ages 15 to 17.
Figure 6
Percentage Enrolled Below Modal Grade
at Ages 6 to 8 by Race-Ethnicity and Year

Source: U.S. Bureau of the Census, Historical Statistics,
Table A-3, persons 6 to 8.
Figure 7
Percentage Enrolled Below Modal Grade at Ages 9 to 11 by Year Cohort Reached Ages 6 to 8 by Race-Ethnicity

Figure 8
Percentage Enrolled Below Modal Grade at Ages 12 to 14 by Year Cohort Reached Ages 6 to 8 by Race-Ethnicity

Figure 9
Percentage Enrolled Below Modal Grade or Dropping Out by Ages 15 to 17
By Year Cohort Reached Ages 6 to 8 by Race-Ethnicity

Source: U.S. Bureau of the Census, Historical Statistics,
Table A-3, persons 15 to 17.
Dropout is counted as age-grade retardation at ages 15-17.
Figure 10
Percentage Dropping Out by Ages 15 to 17
By Year Cohort Reached Ages 6 to 8 by Race-Ethnicity

Figure 11
Employment Rates of Persons Twenty-Five to Thirty-Four Years Old
By Sex and Educational Attainment

Source: Compiled by the author from March Current Population Surveys
Figure 12. Ratio of Median Annual Earnings of Twenty-Five to Thirty-Four Year-Old Wage and Salary Workers with Nine to Eleven Years of School to Earnings of Workers with Twelve Years of School: White, Black, and Hispanic Men

Source: Tabulated by the author from March Current Population Surveys (three year averages)
Figure 13. Ratio of Median Annual Earnings of Twenty-Five to Thirty-Four Year-Old Wage and Salary Workers with Nine to Eleven Years of School to Earnings of Workers with Twelve Years of School: White and Black Women

Source: Tabulated by the author from March Current Population Surveys (three year averages)
Figure 14
Annual (Event) Dropout Rate by Gender, 1967-2000

Note: Data are 2 year averages at end points, 3 year averages elsewhere.
Figure 15
Annual (Event) Dropout Rate from Grades 10 to 12
by Family Income

Note: Data are 2 year averages at end points, 3 year averages elsewhere.
Figure 16
Annual (Event) Dropout from Grades 10 to 12 by Race-Ethnicity

Source: U.S. Bureau of the Census, October Current Population Surveys, as reported by National Center for Education Statistics (2002), Table C-3.
Note: Data are 2 year averages at end points, 3 year averages elsewhere.
Figure 17
Dropout Status at Ages 16 to 24
by Race-Ethnicity

Source: U.S. Bureau of the Census, October Current Population Surveys, as reported by National Center for Education Statistics (2002), Table B-5.
Note: Data are 3-year averages.
Figure 18
High School Completion at Ages 20 to 24
by Race-Ethnicity

Note: Data are 2 year averages at end points, 3 year averages elsewhere.