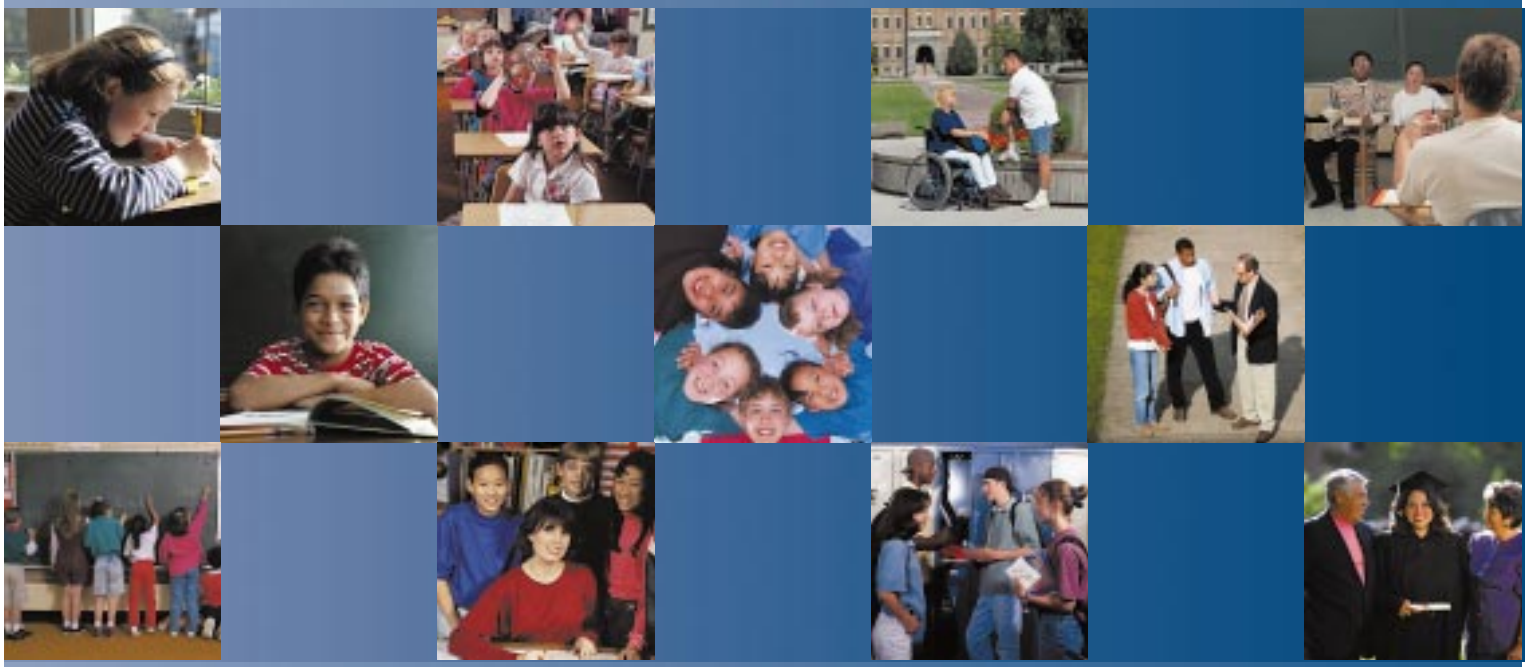
the condition of education 2001



NATIONAL CENTER FOR EDUCATION STATISTICS
U.S. Department of Education ■ Office of Educational Research and Improvement ■ NCES 2001–072

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John Wirt
Susan Choy
Debra Gerald
Stephen Provasnik
Patrick Rooney
Satoshi Watanabe
Richard Tobin
Mark Glander

Barbara Kridl
Managing Editor

Andrea Livingston
Senior Editor

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Commissioner's Statement

Introduction

Reliable data are critical in guiding efforts to improve education in America. When the original Department of Education was created in 1867, the law stated that it should "gather statistics and facts on the condition and progress of education in the United States and Territories." The National Center for Education Statistics (NCES) currently carries out this mission for the Department of Education through such work as *The Condition of Education*, a mandated annual report submitted to Congress on June 1 every year.

Drawing on numerous data sources, this annual report presents indicators of important developments and trends in American education. Recurrent themes underscored by the indicators include participation and persistence in education, student performance and other outcomes, the environment for learning, and societal support for education. In addition, this year's special feature focuses on the issue of providing equal educational opportunities to first-generation students (i.e., students whose parents did not attend college) and how academic preparation can increase the likelihood of these students' access to and persistence in postsecondary education.

Participation and Persistence in Education

Enrollments in the United States are growing at all levels of education, but for different reasons. At the preprimary level, growth is due to higher rates of enrollment; that is, larger percentages of 3- to 5-year-old children are enrolling in school. At the elementary and secondary levels, growth is due to demographic changes, which are also making the student body more diverse. At the postsecondary level, high enrollment rates and population growth are combining to swell enrollments. Among adults, rates of educational attainment and of continued participation in learning activities are on the rise.

- The preprimary enrollment rate of children ages 3–5 increased from 53 to 60 percent between 1991 and 1999 (*Indicator 1*).
- Public elementary and secondary enrollment is projected to reach 47.2 million in 2001, and to increase through 2005 before decreasing slowly. The West will experience the majority of this growth in the student population (*Indicator 2*).
- Private elementary and secondary school enrollment was higher in 1997–98 than in 1989–90. Despite increases in the West, private enrollment for grades K–12 was lowest in the West and higher in the South in 1997–98 (*Indicator 2*).
- Hispanic students are the fastest growing student group in the Nation's elementary and secondary schools (*Indicator 3*).
- The percentage of U.S. 16- to 24-year-olds who were high school dropouts (the status dropout rate) decreased from 1972 to 1999 for white and black young adults (*Indicator 23*).
- U.S. students' expectations for obtaining postsecondary credentials have increased substantially since 1983 (*Indicator 19*). The college enrollment rates for high school completers in the past decades have also risen for white and black students (*Indicator 26*). There has been no consistent growth for Hispanic students.
- Although part-time and 2-year enrollments in undergraduate education grew more rapidly than full-time and 4-year enrollments in the 1970s, future growth is expected to be greater in full-time and 4-year enrollments (*Indicator 5*).
- Participation in adult learning activities was higher in 1999 than in 1991. Rates of

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participation in credential programs in colleges and universities decline with age, while participation in all other types of adult learning activities, such as work-related learning and personal interest courses, remains about the same with age (*Indicator 7*).

Outcomes of Education

At the elementary and secondary levels, trends in student performance are mixed. Participation in advanced mathematics and science courses has increased, and there have been some improvements in mathematics and science performance. But issues of equal educational opportunity and international competitiveness remain.

- Children at risk begin kindergarten with markedly lower reading and mathematics skills than do more advantaged children. All children showed marked improvement in both reading and mathematics performance during the kindergarten year, but gaps persisted or grew for children at risk, particularly in more advanced skills (*Indicators 8* and *9*).
- Between 1971 and 1999, 9- and 13-year-olds improved their performance in reading, but there was no meaningful difference for 17-year-olds. The pattern of change has been similar for both 9- and 13-year-olds, with reading scores increasing in the 1970s and remaining stable since then (*Indicator 10*). The score gap between black and white students narrowed between the early 1970s and the late 1980s, but has remained fairly stable since then (*Indicator 11*). The relative performance of whites compared with Hispanics did not change significantly between the 1970s and 1999, except for a narrowing of the gap for 17-year-olds (NCES 2000–469).
- Between 1973 and 1999, 9-, 13-, and 17-year-olds all improved their performance in mathematics (*Indicator 12*).
- The trends in science performance are characterized by declines in the 1970s, increases during the 1980s and early 1990s, and mostly stable performance since then (*Indicator 13*).
- In both mathematics and science, the performance of U.S. students declined relative to the international average among those who were in the 4th grade in 1995 compared with those who were in the 8th grade in 1999 (*Indicator 14*).
- In 1995, U.S. 12th-graders who had taken physics and advanced mathematics courses scored lower than students in their final year of secondary school in most participating countries and no higher than their peers in any country (*Indicator 19, The Condition of Education 2000*).
- Despite the continued increase in the attainment rates of U.S. 25- to 29-year-olds across all racial/ethnic groups and all educational levels, gaps between whites versus blacks and Hispanics persisted between 1971 and 2000, except for the gap between black and white rates of high school completion, which declined (*Indicator 31*).
- Women earn more than half of all bachelor's degrees in the United States. They still trail men in certain fields but have made considerable progress over the past quarter century (*Indicator 30*).
- Attainment rates of secondary education in the other G-7 countries are approaching, matching, or surpassing U.S. rates. However, U.S. attainment rates of higher education remain relatively high (*Indicator 32*).

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Focus on First-Generation College Students

Reflecting the high value placed on postsecondary education, most high school graduates expect to continue their education, and many of them actually do so. However, first-generation students (those whose parents did not attend college) are less likely than their peers with a college-educated parent to enroll in postsecondary education.

- Nearly all 1992 high school graduates (97 percent) reported that they expected to continue their education at some point (Berkner and Chavez 1997).
- Over the past decade, the percentage of high school completers who enrolled in college immediately after finishing high school has ranged between 60 and 67 percent, but enrollment rates have varied considerably with parents' educational attainment (*Indicator 26*).
- In 1999, 82 percent of high school graduates whose parents had a bachelor's degree or higher enrolled in college immediately after finishing high school, compared with 54 percent of those whose parents had not gone beyond high school and 36 percent of those whose parents had not completed high school (*Indicator 26*).

Recent NCES studies have shown that high school graduates whose parents did not attend college remain at a disadvantage with respect to postsecondary access even after taking into account other important factors such as educational expectations, academic preparation, support from parents and schools, and family income. Also according to these studies, among those who overcome the barriers to access and do enroll in postsecondary education, students whose parents did not attend college remain at a disadvantage with respect to staying enrolled and attaining a degree, again controlling for other related factors. Academic preparation has a striking impact on the likelihood that first-generation students will enroll and persist in postsecondary education, but it does not completely close the gaps in postsecondary access and persistence between first-generation students and their peers with a college-educated parent.

- Taking advanced mathematics in high school increases the likelihood of enrollment in a 4-year institution, especially for first-generation students (*Indicator 24*).
- Taking rigorous coursework in high school increases the likelihood of persistence toward a bachelor's degree, especially for first-generation students (*Indicator 28*).

For those students who earn a bachelor's degree, labor market outcomes (but not rates of enrollment in graduate school) during the 4 years following graduation are similar regardless of parents' education.

Quality of the Environment for Learning

Student performance in elementary and secondary schools is undoubtedly shaped by the quality of the teaching staff and the climate for learning within and outside schools.

- The percentage of high school graduates who completed advanced academic levels of English and foreign language study doubled between 1982 and 1998, to about 30 percent in each subject (*Indicator 33*). The proportion of high school graduates who completed advanced levels of mathematics increased from 26 to 41 percent during this period, and the proportion who completed advanced levels of physical science rose from 31 to 60 percent (*Indicator 40, The Condition of Education 2000*).

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- However, the quality of the mathematical content of 8th-grade mathematics lessons was rated lower than that in Germany and Japan (*Indicator 36*).
- Between 1990 and 1998, student/teacher ratios declined in public elementary schools but rose slightly in public secondary schools (*Indicator 38*).
- Academically weak college graduates are more likely than those who are academically strong to prepare to teach and to remain in teaching (*Indicator 42*).
- U.S. 8th-grade students are less likely to be taught by a teacher whose field of study was mathematics or physics than their international peers (*Indicator 43*).
- The percentages of high school students carrying weapons and engaging in physical fights on school property have declined since 1993, while the percentage being threatened or injured with a weapon has not changed (*Indicator 44*).
- As hours at a job increased, high school seniors were less likely to spend 10 or more hours a week on homework (*Indicator 21*).
- A slightly higher percentage of students were somewhat more likely to participate in community service in 1999 than in 1996; a key variable in their participation appears to be whether the school arranged rather than simply required service activities (*Indicator 16*).

Different issues are raised about the context for learning at the postsecondary level.

- Part-time faculty provide postsecondary institutions with a flexible work force; however, part-time faculty may be less available to students and may not participate in institutional activities to the same extent as other faculty. In fall 1998, 4 out of 10 faculty worked part time (*Indicator 50*).
- Full-time instructional faculty at postsecondary degree-granting institutions worked an average of 53 hours weekly in fall 1998, devoting a majority of their time to teaching. The proportion of time faculty allocated to teaching and to research varied considerably depending on institution and academic rank, averaging 57 and 15 percent (*Indicator 51*).

Societal Support for Education

Society and its members—the family, the individual, employers, and government and private organizations—provide support for education in various ways, such as spending time on learning activities, providing encouragement to learners, and investing money in education.

- The levels of parental involvement in American elementary and secondary schools are relatively high, but the frequency of such participation depends on the child's grade in school as well as parental income and educational attainment (*Indicator 54*).
- In 1999, among children ages 3–5 who were not yet enrolled in kindergarten, those with multiple risk factors were generally less likely than those without risk factors or with only one risk factor to engage in literacy activities frequently with their families (*Indicator 52*).
- Average expenditures in public school districts were $5,700 per student in 1996–97. Between 1991–92 and 1996–97,

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average expenditures increased more in nonmetropolitan school districts than in metropolitan areas (*Indicator 56*).

- U.S. spending per student on primary and secondary education as a percentage of Gross Domestic Product (GDP) per capita was similar to the average for the Organisation for Economic Co-operation and Development (OECD) countries in 1997. In terms of expenditures per student at the postsecondary level, the United States spent more than twice as much as 15 other OECD countries (*Indicator 57*).
- In 1999, U.S. 6th- to 12th-graders and their parents overestimated the price of attending public 4-year institutions in their state (*Indicator 25*).
- Four years after they graduated, most 1992–93 bachelor's degree recipients earned enough to repay their loans without undue financial burden (*Indicator 59*).

Enduring Effects of Education

Education provides many lasting benefits to society as a whole and its members.

- Adults with a bachelor's degree are three times more likely than people with less than a high school diploma to report reading newspapers, magazines, or books regularly (*Indicator 15*).
- Better-educated adults report themselves in better health, regardless of income (*Indicator 17*).
- Young adults with higher levels of education earn more than their peers with less education (*Indicator 18*).

Conclusion

In examining trends in the condition of American education, some encouraging signs emerge. These include higher rates of educational participation in the overall population as well as increases in the mathematics performance of students, some increases in science performance in the 1980s (but with no further increases in the 1990s), and increased advanced course-taking of high school students in four major academic subject areas (mathematics, science, English, and foreign languages). But international comparisons of student performance and instructional quality raise concerns about how well the American educational system compares with the systems of other economically developed countries, especially at the middle school and secondary levels.

Also, disturbing gaps persist in academic performance and educational participation among different racial/ethnic and socioeconomic groups. These gaps exist when children enter kindergarten but show few signs of closing by the end of 1st grade or at higher grade levels. The parents of at-risk children are less likely to engage in early literacy activities and to enroll them in a preschool program of some kind.

A growing and increasingly diverse population of elementary and secondary students continues to increase the challenge of providing high-quality instruction and equal educational opportunities. At the postsecondary level, institutions must prepare for the record numbers of enrollments expected over the next few decades. U.S. spending per student is similar to that in other major industrialized countries at the elementary and secondary level but higher at the postsecondary level.

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NCES produces an array of reports each month presenting important findings about the U.S. education system. In April 2001, more than a dozen reports were released, including two major studies: *The Nation's Report Card: Fourth Grade Reading 2000* from the National Assessment of Educational Progress (NAEP) and *What Democracy Means to Ninth-Graders: U.S. Results From the International IEA Civic Education Study*. *The Condition of Education* represents the culmination of a year-long project and some material, such as the results from these two surveys, were not available in time to be included in this year's edition.

In the coming months many other reports and surveys informing us about education will also be released, including the NAEP *Report Cards for the Nation and States* on mathematics and on science, which will both include results on students' performance in the 4th, 8th, and 12th grades; the 1999–2000 Schools and Staffing Survey; and the Program for International Student Assessment.

Gary W. Phillips
Acting Commissioner of Education Statistics

Reader's Guide

The Condition of Education is available in two forms: this print volume for the year 2001 and a Web version on the NCES Web site (*http://nces.ed.gov*). Starting in summer 2001, the Web version will be expanded to include all the indicators from both the 2000 and 2001 print volumes of *The Condition of Education*. This will provide one convenient place where readers can view all the indicators and essays that have been published in *The Condition of Education* over the past 2 years. In succeeding years, new indicators will be added to the Web version of *The Condition of Education*, and those already there will be updated.

Each section of this print volume of *The Condition of Education* begins with an overview essay that summarizes the key points in the indicators to follow. All indicators contain a discussion, a single graph or table on the main indicator page, and one or more supplemental tables. All use the most recent national data available from the National Center for Education Statistics (NCES) or other sources. The icon to the side of the graph or table directs readers to supplemental tables, supplemental notes, or another source for more information. When the source is an NCES publication, such as NCES 2000–469, that publication can be viewed at the NCES Web site (*http://nces.ed.gov)*.

Supplemental notes provide information on the sources of data used, describe how an analysis was conducted, or provide explanations of categories used in an indicator. For example, *Supplemental Note 1* summarizes the categories used for race/ethnicity and explains how the Consumer Price Index (CPI) is used to compute dollar amounts that can be compared over time.

Supplemental tables provide more detailed breakouts for an indicator, such as household income, students' race/ethnicity, or parents' education. Tables of standard errors (see below) are also included for applicable indicators. A glossary of terms and a comprehensive bibliography of items cited in *The Condition of Education* appear at the end of the volume.

Data Sources

Data reported in this volume are primarily from two types of sources. Some indicators report data from entire populations, such as *Indicator 30* (bachelor's degrees earned by women). With these kinds of data, information is collected from every member of the population surveyed. This "universe" could be all colleges and universities in the country, every school district, or all secondary school teachers. Other indicators report data from a statistical sample of the entire population. When a sample is used, the effects of having information from a portion of the entire population must be considered in reporting estimates and making comparisons.

When data on the entire population are available, comparisons among different groups within that population can be made by calculating a total for each group and comparing the group totals. It is not necessary to consider the effects of collecting information on a sample of the population when comparing estimates from a universe survey. Although estimates derived from universe surveys are not affected by sampling, they are affected by a wide range of data collection errors such as coverage errors, response errors, coding errors, and data entry errors. These errors may be larger than the error due to collecting data on a sample rather than the entire population.

A universe survey is typically expensive and time consuming, so researchers often collect data from a small sample of the population of interest. Through random sampling and other methods, researchers seek to ensure that this sample accurately represents the larger population to which they wish to generalize. NCES's National Education Longitudinal Study, for example,

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surveyed a representative sample of nearly 25,000 8th-graders from among all 8th-graders across the country. Based on this sample, conclusions can be drawn about all 8th-graders, such as their family background, characteristics of the schools they attend, their mathematical achievement (as measured with a test administered as part of the survey), and their activities outside of school (NCES 90–458).

Most indicators in *The Condition of Education* summarize data from sample surveys conducted by NCES or the Bureau of the Census with support from NCES. Detailed explanations of NCES surveys can be obtained at the Web site noted above, under "Survey and Program Areas." Information about the Current Population Survey, another frequent source of survey data used in *The Condition of Education*, can be obtained at *http://www.bls.census.gov/cps/cpsmain.htm* (and also in *Supplemental Note 2*).

Data Analysis and Interpretation

Once data from a census or a sample survey are collected, it is necessary to summarize them in a meaningful way. Estimating the true population average, or mean, is a common way of summarizing data. The mean is obtained by adding together the values for all members of the sample population and dividing the sum by the sample size. An example of this is the annual mean salaries of professors at private 4-year universities. A second kind of estimate is the median, which is simply the "middle" value among all members of the population. Half of all values in the population are above the median, and half are below. The percentage of the population having a certain characteristic, such as the percentage of graduates who are female, provides still another kind of estimate.

Analysis of data from a sample of a population requires consideration of several factors before the analysis becomes meaningful. For example, however conscientious an organization may be in collecting data from a sample of a population, there will always be some margin of error in estimating the population mean, median, or any other such statistic from the data. Consequently, data from samples can provide only an estimate of the true or actual value. The margin of error or the range of the estimate depends on several factors, such as the amount of variation in the responses, the size and representativeness of the sample, and the size of the subgroup for which the estimate is computed.*

When data from samples are reported, as is the case with most of the indicators in *The Condition of Education*, the magnitude of this margin of error is measured by what statisticians call the "standard error" of an estimate. The standard errors for all the estimated means, medians, or percentages reported in the graphs and text tables of *The Condition of Education* can be found in appendix 3, Standard Error Tables. The corresponding standard errors for the supplemental tables can be viewed at the NCES Web site (*http://nces.ed.gov*).

As an illustration, *Indicator 4* reports on the educational level of the parents of 6- to 18-year-old students using data from the Current Population Survey of the Bureau of the Census. In 1999, this survey found that 35.2 percent of white and 37.1 percent of black students in this age range had mothers whose highest level of education was a high school diploma or the equivalent (e.g., a GED) (see supplemental table 4-1). In contrast to the similarity in these percentages, the standard errors were considerably different: 0.6 for whites and 1.6 for blacks.

The percentage or mean score with the smaller standard error provides a more reliable estimate of the true value than does the percentage or mean score with a higher standard error. Standard errors tend to diminish in size as the size

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of the sample (or subsample) increases. Consequently, for the same kinds of data, such as enrollment rates in postsecondary education sample surveys (like the National Postsecondary Student Aid Study) or scores on the National Assessment of Educational Progress, standard errors will almost always be larger for blacks and Hispanics than for whites, who represent a larger proportion of the population.

When data from samples are reported, some caution is warranted in making comparisons. Although one mean or percentage may be larger than another, a statistical test may find that there is no difference between estimates due to the precision of the estimates.

Whether differences in means or percentages are statistically significant can be determined using the standard errors of the estimates. When differences are statistically significant, the probability that the difference occurred by chance is usually small, occurring about 5 times out of 100. The method primarily used here for determining whether the difference between two means is statistically significant is described in the introduction to appendix 3, Standard Error Tables.

For all indicators in *The Condition of Education* based on samples, differences between means or percentages (including increases or decreases) are stated only when they are statistically significant. To determine whether differences reported are statistically significant, two-tailed *t*-tests, at the .05 level, are used. Bonferroni adjustments are made when more than two groups are compared simultaneously (e.g., blacks, whites, and Hispanics). The formula for determining statistical significance is also adjusted when the samples being compared are dependent.

Discussion of several indicators illustrates the consequences of these considerations. *Indicator 44*, for example, notes that the percentage of high school students who were involved in a physical fight on school property in the past 12 months decreased between 1993 and 1999 (from 16 to 14 percent). Although the decrease of 2 percent is relatively small, as are the standard errors associated with each estimate (0.6 and 0.3, respectively), the difference is statistically significant and supports the statement made.

In contrast, *Indicator 45* discusses severely overcrowded schools among regions of the United States. The data in supplemental table 45-1 indicate that 15 percent of schools in the West but only 8 percent of schools in the South were severely overcrowded (with enrollment exceeding capacity by more than 25 percent) in 1999. The difference of 7 percentage points is larger than that in the previous example, but the standard errors are also larger (2.7 and 1.6, respectively). The difference is not statistically significant; the data do not support a conclusion that schools in the West are more severely crowded than are those in the South.

Although values reported in the supplemental tables are often rounded to one decimal place (e.g., 76.5 percent), values reported in each indicator are typically rounded to whole numbers (with any value of 0.5 or above rounded to the next highest whole number). Due to rounding, cumulative percentages may sometimes equal 99 or 101 percent, rather than 100.

Standard Error Tables

The standard errors for each graph or table on the main indicator page can be found in appendix 3 of this volume. The standard errors for the supplemental tables can be found in the Web version of *The Condition of Education* on the NCES Web site (*http://nces.ed.gov*).

*If there are five racial/ethnic groups in a sample of 1,500, the researcher would have less confidence in the results for each group individually than in those for the entire sample because there are fewer people in the subgroup.

Acknowledgments

This volume of *The Condition of Education* was authored by a team of analysts under the general direction of John Wirt and Tom Snyder with technical review by Marilyn McMillen (Chief Statistician of NCES), Shelley Burns and William Hussar (Technical Advisors), and many others. Barbara Kridl of MPR Associates, Inc. (MPR) was the managing editor. Richard Tobin of the American Institutes for Research's (AIR) Education Services Statistics Institute (ESSI) and Mark Glander of Pinkerton Computer Consultants, Inc. (PCCI) helped in reviewing indicators as they were developed.

The key contributors to *The Condition of Education* are the authors of the individual indicators. As a matter of practice, the authorship of individual indicators is not given in the volume because each indicator reflects the joint effort of many analysts. Nonetheless, substantial expertise and analytical ability are required to craft an indicator from data to tell an important story in a compelling manner using text, graphs, and tables economically. Many indicators in this volume were originally conceived for *The Condition of Education* and involved extensive analyses of data. Others were adapted from existing NCES reports or analyses authored by others.

A section leader oversaw the content of each section and prepared the introductory essay: Debra Gerald (NCES) served as the section leader for Section 1, Patrick Rooney (NCES) for Section 2, Susan Choy (MPR) for Sections 3 and 5, Stephen Provasnik (AIR) for Section 4, and Satoshi Watanabe (AIR) for Section 6. Susan Choy of MPR authored the essay at the front of the volume that summarized the findings of NCES studies of the postsecondary access, persistence, and attainment of students whose parents did not attend college. Richard Tobin (ESSI) compiled and organized the supplemental notes and revised the Reader's Guide.

A large team of analysts authored individual indicators, including Debra Gerald, William Sonnenberg, and Patrick Rooney of NCES; Susan Choy, Ellen Bradburn, Xianglei Chen, Martha Alt, Laura Horn, Edward Warburton, Robert Fitzgerald, Karen Levesque, Peter Teitelbaum, and Lois-Lynn Deuel of MPR; Stephen Provasnik, Satoshi Watanabe, Naoko Kataoka, Jennifer R. Anderson, and Ben Young of AIR; Amanda Miller of ESSI; and Yupin Bae and Fujia Lu of PCCI.

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Barbara Kridl of MPR coordinated with the authors of the various indicators and sections, prepared the bibliography, and managed all tasks related to the editing and production of the volume. Andrea Livingston of MPR edited all the indicators, essays, and supporting materials. Harriette Judge of MPR proofread all the text and checked the numbers against their original sources. Wes Nations of MPR did the desktop publishing of the publication and prepared it for printing. Julia Marshall of ESSI prepared the index.

The design and format of the volume were developed last year for *The Condition of Education 2000* by Mark Ricks, Allison Pinckney, and Rebecca Pratt of PCCI, with suggestions by Leslie Retallick and Barbara Kridl of MPR and many others. This year's cover and title

Acknowledgments

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Students Whose Parents Did Not Go to College: Postsecondary Access, Persistence, and Attainment

Susan P. Choy

Participation in postsecondary education has positive benefits for individuals and society. Although researchers struggle to define and measure these benefits and policymakers debate who should be targeted and how much to spend, programs and practices designed to broaden access to postsecondary education typically receive strong support (Hossler, Schmit, and Vesper 1999; Tinto 1993).

Reflecting the value placed on postsecondary education, nearly all 1992 high school graduates (97 percent) reported in 12th grade that they expected to continue their education at some point, and 79 percent planned to enroll immediately after finishing high school (Berkner and Chavez 1997). Sixty-five percent of this cohort had carried out these plans by October 1992. Over the last decade, the percentage of high school completers who were enrolled in college the October after finishing high school has ranged between 60 and 67 percent, up from 49 percent in 1972 (*Indicator 26*).

College enrollment rates vary considerably with parents' educational attainment. In 1999, 82 percent of students whose parents held a bachelor's degree or higher enrolled in college immediately after finishing high school. The rates were much lower for those whose parents had completed high school but not college (54 percent) and even lower for those whose parents had less than a high school diploma (36 percent) (*Indicator 26*). Because of the difference in enrollment rates, students whose parents did not go to college are one of the most frequently targeted groups (along with minorities and low-income students) for outreach programs designed to raise the level of student preparation and readiness for postsecondary work (Swail and Perna 2000).

This essay summarizes the findings of a series of recent NCES studies about the experiences of high school graduates and postsecondary students whose parents did not attend college. These studies show that such students are at a distinct disadvantage when it comes to postsecondary access—a disadvantage that persists even after controlling for other important factors such as educational expectations, academic preparation, support from parents and schools in planning and preparing for college, and family income. Also according to these studies, among those who overcome the barriers to access and enroll in postsecondary education, students whose parents did not attend college remain at a disadvantage with respect to staying enrolled and attaining a degree (referred to as persistence and attainment throughout this essay), again controlling for other related factors. Rigorous high school coursetaking mitigates, but does not completely close, the gaps in access and persistence. For those who earn a bachelor's degree, labor market outcomes in the short term (but not enrollment in graduate school) are similar regardless of parents' education.

Data and Terminology

The data presented here come from three nationally representative longitudinal studies conducted by NCES:

- The National Education Longitudinal Study (NELS), which studied a cohort of 1988 8th-graders every 2 years until 1994, 2 years after most of them finished high school, and then again in 2000.[1]
- The Beginning Postsecondary Students Longitudinal Study (BPS), which included students (of all ages) who enrolled in postsecondary education for the first time in either 1989–90 or 1995–96.[2] The first group was surveyed again in 1992 and 1994, and the second group in 1998.

Students Whose Parents Did Not Go to College: Postsecondary Access, Persistence, and Attainment

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- The Baccalaureate and Beyond Longitudinal Study (B&B), which conducted follow-ups on 1992–93 bachelor's degree recipients in 1994 and 1997.

In the tables and figures that follow, "parents' highest education" refers to the highest level of education attained by either parent. "High school diploma or less" means that neither parent had any postsecondary education. "Some college, including vocational/technical" means that at least one parent attended college or a vocational/technical program, but neither earned a bachelor's or advanced degree. "Bachelor's degree or higher" means that at least one parent earned a bachelor's or advanced degree. An advanced degree is a master's, doctoral, or first-professional degree.[3]

A number of complex measures of college qualification, mathematics proficiency and coursetaking, and high school curriculum were used in the NCES studies. The technical note at the end of the essay provides complete descriptions of these variables.

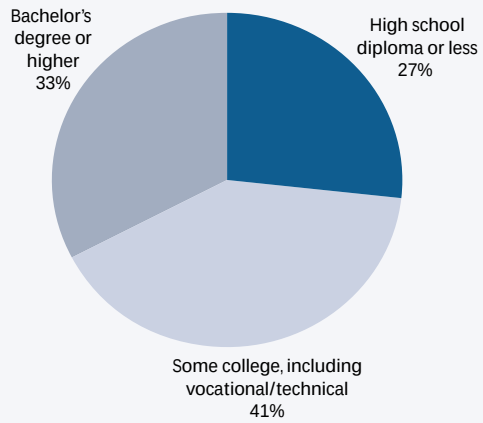
Access

NELS:1988/1994 followed students through high school and 2 years afterward. This survey thus provides a rich source of information on how student and family background characteristics and students' high school experiences are related to their access to postsecondary education immediately after high school.

Characteristics of students whose parents did not go to college

Among 1992 high school graduates, 27 percent were from families in which neither parent had any postsecondary education (figure 1). Compared with their peers whose parents held bachelor's or advanced degrees, these gradu-

Figure 1.—Percentage distribution of 1992 high school graduates according to parents' highest level of education



NOTE: Percentages may not add to 100 due to rounding.

SOURCE: Horn and Nuñez (2000), figure 1. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994).

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ates were more likely to be black or Hispanic and to be from families in the lowest income quartile (figure 2). Thus, policies or programs that increase access for students whose parents did not go to college may also do the same for low-income and minority students.

Enrollment rates

Enrollment in postsecondary education represents the culmination of a process that typically begins years earlier. How students move through this process varies greatly (Hossler et al. 1999). Some students grow up expecting to go to college, take appropriate courses in high school, and concentrate on choosing a specific institution, often soon after they begin high school. Others plan to attend college as they progress through high school but then change their goals or even decide not to enroll. Others decide late in their high school careers that they want to go to college and then find their options limited because they have not taken appropriate courses or met other admission requirements.

■ *The likelihood of enrolling in postsecondary education is strongly related to parents' education even when other factors are taken into account.*

As parents' education increases, so does students' likelihood of enrolling in postsecondary education. Among 1992 high school graduates whose parents did not go to college, 59 percent had enrolled in some form of postsecondary education by 1994 (table 1). The enrollment rate increased to 75 percent among those whose parents had some college experience, and to 93 percent among those whose parents had at least a bachelor's degree.

Parents' education mattered even for graduates who as seniors had *planned* to enroll in a 4-year institution immediately after high school. Among these college-bound seniors, 65 percent of those whose parents did not attend college had enrolled in a 4-year institution by 1994, compared with 87 percent of those whose parents had bachelor's degrees or higher. In addition, rather than pursuing their plans to attend a 4-year institution, graduates whose parents did not attend college were about twice as likely as their peers whose parents had attained bachelor's or advanced degrees to attend public 2-year institutions instead (20 versus 9 percent).

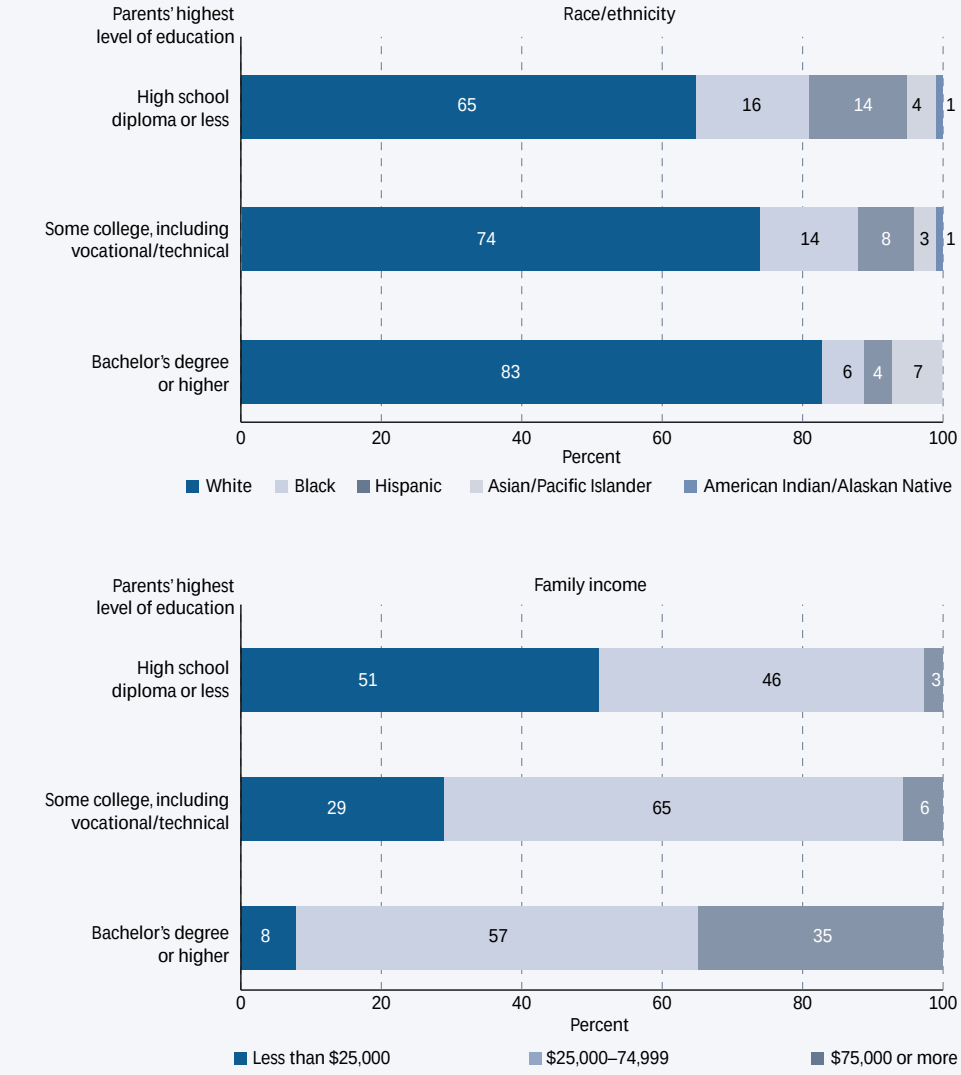
Parents' education is only one of many factors linked to postsecondary enrollment. In fact, multivariate analyses have shown that family income, educational expectations, academic preparation, parental involvement, and peer influence also independently affected graduates' likelihood of enrolling in a 4-year institution by 1994 (Horn and Nuñez 2000). Nonetheless, parents' education—specifically, having a parent with a bachelor's degree—remained significant even after controlling for these other factors. Students whose parents had some college experience, but not a bachelor's degree, did not appear to have an advantage over those whose parents had no postsecondary education.

Among 1992 high school graduates who had not enrolled in a 4-year institution by 1994, the likelihood of enrolling in any other postsecondary education increased with parents' education—starting with 43 percent of those whose parents had no postsecondary education, increasing to 59 percent of those whose parents had some college experience, and to 74 percent of those whose parents had bachelor's degrees or higher (Horn and Nuñez 2000). This relationship held after controlling for the factors mentioned above that were associated with 4-year enrollment, although family income and high school coursetaking did not independently affect the likelihood of enrolling in less-than-4-year institutions.

Access, Persistence, and Attainment

Continued

Figure 2.—Percentage distribution of 1992 high school graduates according to race/ethnicity and family income, by parents' highest level of education



NOTE: Percentages may not add to 100 due to rounding.

SOURCE: Horn and Nuñez (2000), table 1. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994).

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Continued

Table 1.—Percentage of all 1992 high school graduates who had enrolled in postsecondary education by 1994, and percentage of those who planned to attend a 4-year institution immediately after high school who had enrolled in postsecondary education by 1994, by institution type and parents' highest level of education

	All high school graduates			Planned to attend a 4-year institution immediately after high school		
Parents' highest level of education	Total*	4-year	Public 2-year	Total*	4-year	Public 2-year
Total	**75.2**	**45.9**	**25.7**	**94.0**	**77.8**	**15.1**
High school diploma or less	59.0	26.9	27.3	86.7	65.3	19.8
Some college, including vocational/technical	74.7	41.6	29.5	93.4	73.7	18.5
Bachelor's degree or higher	92.5	70.8	18.0	97.5	87.3	9.4

*Includes other types of institutions not shown here: private, for-profit; private, not-for-profit less-than-4-year; and public less-than-2-year-institutions.

SOURCE: Horn and Nuñez (2000), table 9 and Berkner and Chavez (1997), table 10. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders,"Third Follow-up" (NELS:1988/1994).

While the data indicate that postsecondary enrollment is linked to parents' education, increasing access to postsecondary education for these students by changing their parents' education is not feasible. Therefore, examining parents' education in relation to students' behaviors and academic experiences as they plan and prepare for college during high school may produce insights into how the influence of parents' education might be reduced.

The path to college

The path to college enrollment consists of five somewhat sequential steps (Berkner and Chavez 1997), although students do not always think of the process in these terms (Hossler et al. 1999). First, students must decide that they want to pursue postsecondary education and what type. Second, they must prepare academically for college-level work. Third, if they want to attend a 4-year institution, they must usually take the SAT or ACT entrance examinations. Fourth, they must choose one or more institutions and file applications. Finally, they must gain acceptance and make the financial and other arrangements necessary to enroll.

Figure 3 displays the percentage of 1992 high school graduates who completed each step (and all previous steps) toward enrollment in a 4-year institution. Graduates whose parents did not go to college were much less likely than their peers with more educated parents to complete each step. Compared with graduates whose parents had earned bachelor's degrees, they were about half as likely to aspire to a bachelor's degree in 10th grade (46 versus 86 percent), and, having completed all the other steps in the pipeline, about a third as likely to enroll in a 4-year institution (21 versus 65 percent).

As will be described, the findings from the NELS survey indicate that high school graduates whose parents did not go to college tended to report lower educational expectations, be less prepared academically, and receive less support from their families in planning and preparing for college than their peers whose parents attended college. The following discussion addresses each step to college enrollment in more detail.

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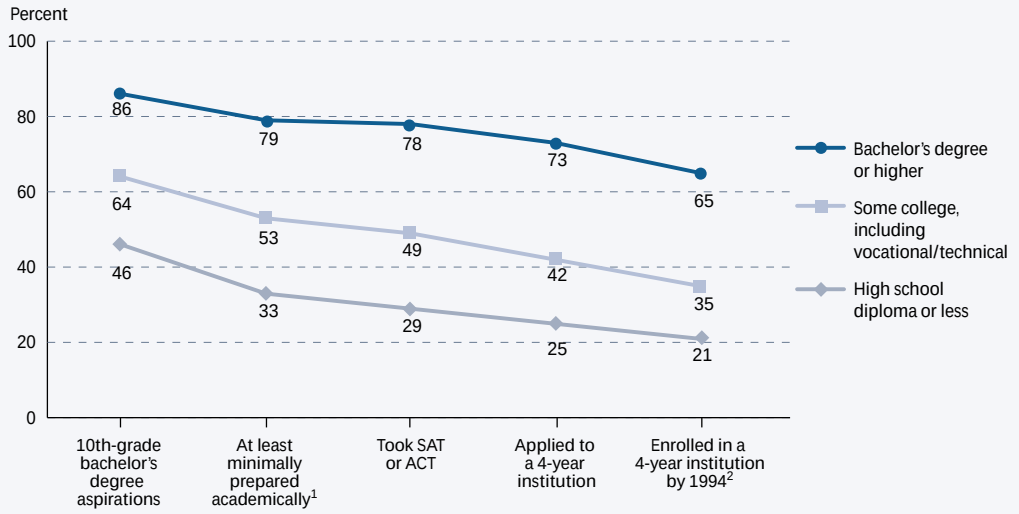
Figure 3.—Percentage of 1992 high school graduates who progressed through each step to enrollment in a 4-year institution, by parents' highest level of education



[1]See the technical note at the end of this essay for the definition of "at least minimally prepared."

[2]Percentages differ from those shown in table 1 because the graduates who enrolled in a 4-year institution but did not have a bachelor's degree goal in 10th grade or skipped other steps (5 percent) are not included here.

NOTE: To be included in each of the second through fifth steps, students must have been included in all previous steps.

SOURCE: U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994).

Educational expectations

Most high school students formalize their educational plans between 8th and 10th grades, suggesting that interventions to influence students' educational aspirations are most likely to succeed if they take place by 8th or 9th grade (Hossler et al. 1999). Among 1992 high school graduates, educational expectations in both 8th and 12th grades varied considerably with parents' education.

■ *High school graduates whose parents did not go to college tend to report lower educational expectations than their peers as early as 8th grade.*

Lower educational expectations figure prominently in the lower postsecondary enrollment rates of students whose parents did not go to college. In the NELS survey, students were asked the following question in both 8th and 12th grades: "As things stand now, how far in school do you think you will get?" Overall, expectations were high, with all but 7 percent of 1992 high school graduates reporting in 8th grade that they expected to continue their education beyond high school (table 2). Seventy-three percent reported that they expected to earn at least a bachelor's degree, and another 20 percent expected to complete some college or vocational training. Students' expectations of earning a bachelor's degree or higher increased sharply as their parents' education rose—from 55 percent for those whose parents had no postsecondary education, to 71 percent for those whose parents had some college experience, to 91 percent for those whose parents had bachelor's degrees or higher.

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Continued

Table 2.—Percentage distribution of 1992 high school graduates according to their educational expectations in 1988 and 1992, by parents' highest level of education

Parents' highest level of education	Expectations in 1988			Expectations in 1992		
	No post-secondary education	Some post-secondary education	Bachelor's or advanced degree	No post-secondary education	Some post-secondary education	Bachelor's or advanced degree
Total	**7.3**	**19.9**	**72.8**	**4.5**	**24.8**	**70.8**
High school diploma or less	15.6	29.6	54.9	8.3	38.4	53.3
Some college, including vocational/technical	6.2	23.1	70.7	4.5	27.2	68.3
Bachelor's degree or higher	1.4	7.6	91.0	1.0	9.5	89.5

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: Berkner and Chavez (1997), table 8. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994).

Regardless of parental education level, the percentage of students expecting to earn a bachelor's or advanced degree did not change much between 8th and 12th grades (although it was not necessarily the same individuals reporting this expectation in both years). Among students whose parents had less than a bachelor's degree, the percentage who expected to complete some postsecondary education (but less than a bachelor's degree) increased between 8th and 12th grades. The percentage of these students who did not expect to continue their education beyond high school decreased.

Academic preparation

Taking appropriate courses in high school is an important step in preparing for college. In discussing academic preparation, this essay emphasizes preparation for 4-year colleges or universities. Lack of academic preparation is not necessarily a barrier to entry into a less-than-4-year institution, but it may be associated with students' success once there.

■ *High school graduates whose parents did not go to college are less likely than those whose parents earned bachelor's or advanced degrees to be academically prepared for admission to a 4-year college.*

Low academic qualifications as well as lower expectations contributed to the lower enrollment rates of 1992 high school graduates whose parents had no postsecondary education. About half (49 percent) of this group were only "marginally or not qualified" for admission to a 4-year college (figure 4).[4] Considerably smaller proportions of those with more educated parents lacked qualifications (33 percent of those whose parents had some college experience and 15 percent of those whose parents had at least bachelor's degrees). At the other end of the preparation scale, those whose parents had no postsecondary education were less likely than others to be in the "highly qualified" category.

Academic qualifications alone do not fully explain the observed variation in enrollment rates. Parents' education made a difference even among the most highly qualified graduates. Of this group, 92 percent of those whose parents had bachelor's degrees or higher had enrolled in a 4-year institution by 1994, but just 76 percent of those whose parents had no postsecondary education had done so (figure 5).

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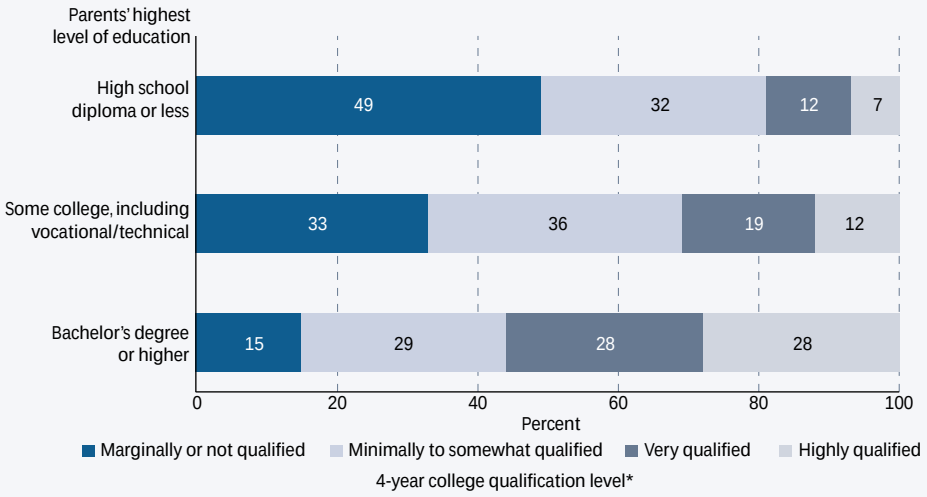
Continued

Figure 4.—Percentage distribution of 1992 high school graduates according to their 4-year college qualification index level, by parents' highest level of education

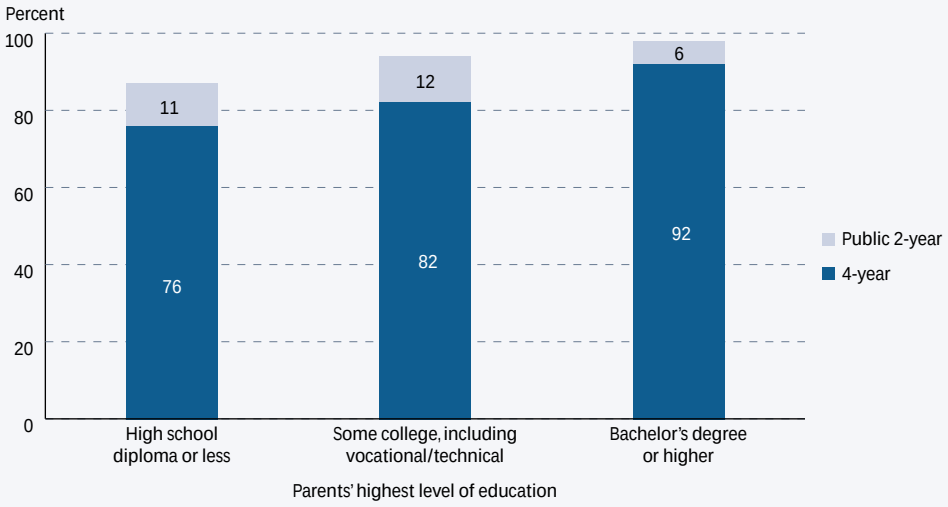


*See the technical note at the end of this essay for a description of the college qualification index.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: Horn and Nuñez (2000), table 7. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994).

Figure 5.—Percentage of "highly qualified" 1992 high school graduates who had enrolled in 4-year and public 2-year institutions by 1994, by parents' highest level of education



NOTE: See the technical note at the end of this essay for a description of the college qualification index.

SOURCE: Horn and Nuñez (2000), table 9. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994).

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Continued

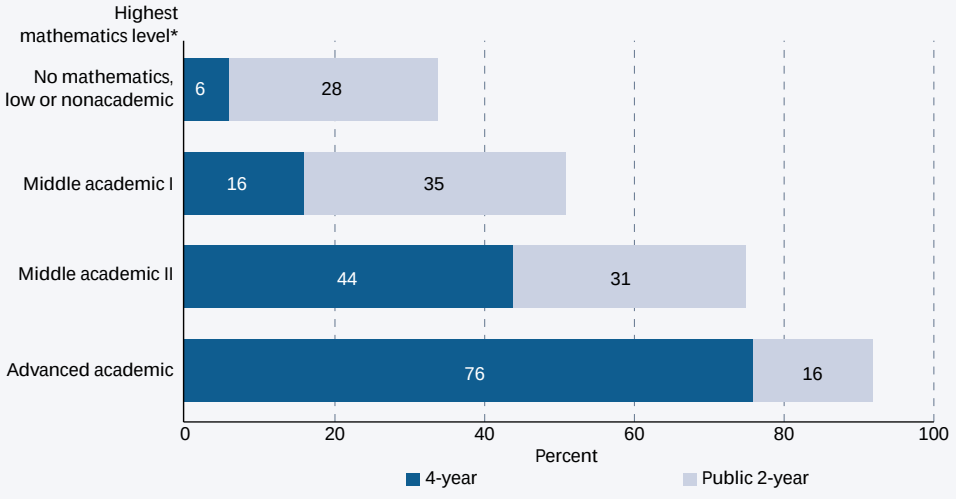
■ *High school mathematics coursetaking is strongly associated with eventual enrollment in a 4-year institution, and mathematics coursetaking is related to parents' education.*

The relationship between mathematics coursetaking and enrollment in a 4-year institution is striking. Seventy-six percent of 1992 high school graduates who took advanced academic mathematics[5] in high school had enrolled in a 4-year institution by 1994 (figure 6). The enrollment rate declined to 44 percent for those at the Middle Academic II level (did not go beyond algebra II), to 16 percent for those at the Middle Academic I level (only algebra and geometry), and to 6 percent for those with no mathematics or low-level or nonacademic mathematics.

Mathematics coursetaking is strongly related to parents' education, even when considering only students with comparatively high mathematics skills. Among high school graduates who had achieved the highest level of mathematics proficiency tested in the 8th grade,[6] those whose parents did not attend college were much less likely than those whose parents had bachelor's degrees or higher to take algebra in 8th grade (34 versus 55 percent) (figure 7). They were also much less likely to complete any advanced mathematics in high school (63 versus 83 percent). However, if they took algebra in 8th grade, the percentage taking advanced mathematics in high school rose to 83 percent, narrowing the gap with those students whose parents had bachelor's degrees.

Taking advanced mathematics in high school, in turn, is associated with a higher rate of enrollment in a 4-year institution. Among graduates whose parents had no postsecondary education, the enrollment rate of those who took advanced mathematics (64 percent) greatly exceeded the enrollment rates of their peers who

Figure 6.—Percentage of 1992 high school graduates who had enrolled in 4-year and public 2-year institutions by 1994, by highest mathematics level completed in high school



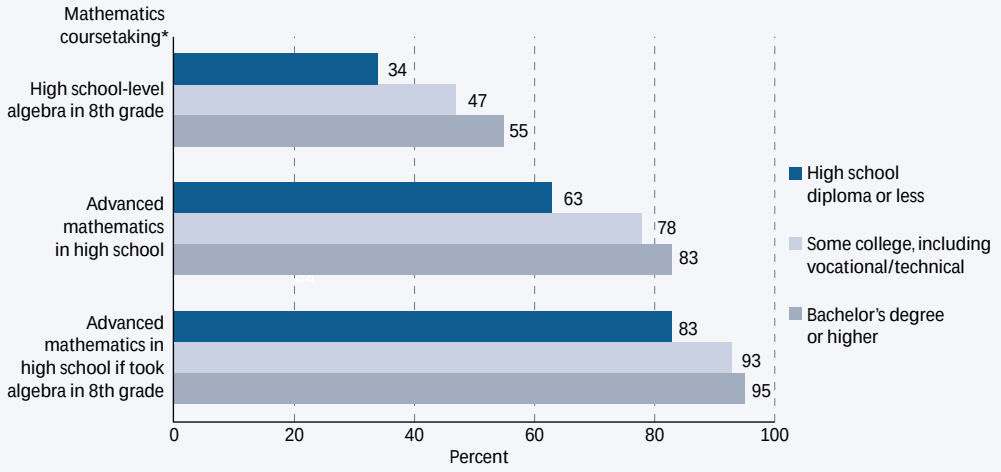
*See the technical note at the end of this essay for a description of mathematics levels.

SOURCE: Horn and Nuñez (2000), table 8. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994).

Access, Persistence, and Attainment

Continued

Figure 7.—Percentage of 1992 high school graduates with the highest mathematics proficiency in 8th grade who took algebra in 8th grade and advanced mathematics in high school, by parents' highest level of education



*See the technical note at the end of this essay for a description of the levels of mathematics proficiency tested and mathematics coursetaking.

SOURCE: Horn and Nuñez (2000), tables 4–6. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders,"Third Follow-up" (NELS:1988/1994).

did not take advanced mathematics (4 to 34 percent, depending on the level completed; figure 8). First-generation status still mattered, however, because even if they took advanced mathematics in high school, graduates whose parents had no postsecondary education were considerably less likely than those whose parents had at least bachelor's degrees to enroll in 4-year institutions (64 versus 85 percent).

In sum, students whose parents did not go to college remained at a disadvantage in terms of access to postsecondary education, even when taking into account academic ability and mathematics coursetaking. However, if they took advanced mathematics in high school, and particularly if they started with algebra in 8th grade, they greatly increased their chances of enrolling in a 4-year institution. These findings are consistent with those of Adelman (1999), who, using more sophisticated measures and statistical tools than those used for the studies summarized here, found that students' high school curriculum was the most influential determinant of their attainment of a bachelor's degree. He also found that of all precollege curricula, the highest level of mathematics that students took had the strongest continuing influence on their completing a bachelor's degree.

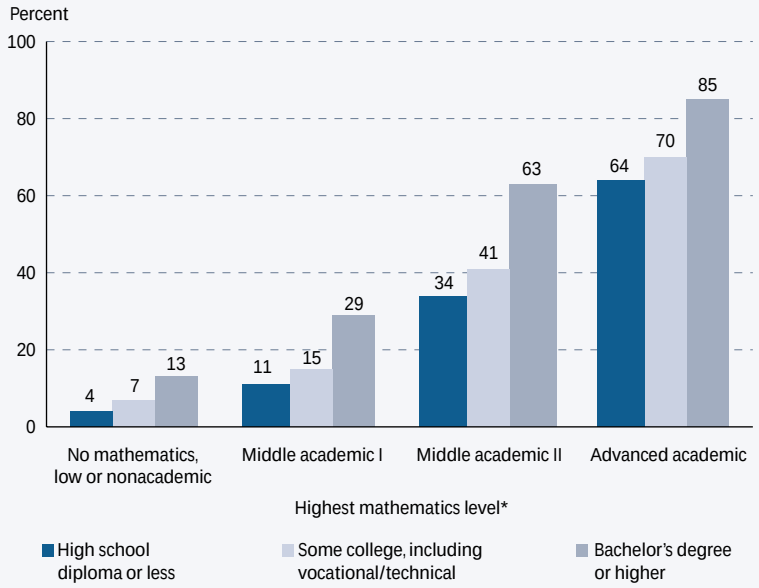
■ *Parents' involvement in their children's curricular choices increases with their education.*

Considering only students with comparatively high mathematics skills in 8th grade (those who scored at the highest level tested), the frequency with which students reported that their parents had encouraged them to take algebra in 8th grade increased with parents' education—from 52 percent of those whose parents had no

Access, Persistence, and Attainment

Continued

Figure 8.—Percentage of 1992 high school graduates who had enrolled in a 4-year institution by 1994, by parents' level of education and highest mathematics level completed in high school



*See the technical note at the end of this essay for a description of mathematics levels.

SOURCE: Horn and Nuñez (2000), figure 7. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders,"Third Follow-up" (NELS:1988/1994).

postsecondary education, to 59 percent of those whose parents had some college experience, to 70 percent of those whose parents had bachelor's degrees or higher (Horn and Nuñez 2000).

Whether students received help in choosing a high school program was also related to their parents' education. High school graduates whose parents had no postsecondary education were less likely than those whose parents had bachelor's degrees or higher to report in 12th grade that they chose their high school program with their parents' help (34 versus 48 percent), and more likely to report that they chose it by themselves (28 versus 22 percent) (Horn and Nuñez 2000). Teachers and counselors do not appear to serve as surrogates for parents who are not involved in their students' curricular choices. At each level of parental education, 43 percent of students reported that they chose their high school program with the help of teachers or counselors.

Taking tests and preparing applications

The final steps in applying to a 4-year college include taking admissions tests (SAT or ACT) if required, selecting specific colleges, and preparing applications for admission. If financial aid is needed, relevant information must be gathered and the appropriate applications completed. Students sometimes receive help from parents, teachers, counselors, or others as they go through these steps.

Access, Persistence, and Attainment

Continued

■ *Students whose parents did not go to college receive less assistance from their parents in applying to colleges.*

Among 1992 high school graduates who were "college qualified," the likelihood of receiving assistance in applying to college increased with their parents' education. When the graduates were seniors, those whose parents did not attend college were considerably less likely than their peers whose parents had bachelor's degrees or higher to report that they often discussed SAT or ACT preparation (16 versus 27 percent) or postsecondary plans (42 versus 61 percent) with their parents (table 3). Furthermore, the percentage of students whose parents reported that they had participated in various planning activities—such as attending programs on educational opportunities, seeking information on financial aid, and accompanying their child on a school visit to decide about application or enrollment—was notably higher if the parents had bachelor's or advanced degrees than when they had no postsecondary education.

■ *Students whose parents did not go to college are not more likely to receive help from their schools in applying to colleges.*

Some students receive help with the college application process from their schools. Among college-qualified 1992 high school graduates, 52 percent reported receiving help with completing their college applications, 33 percent with preparing an admissions essay, and 46 percent with arranging days off to visit colleges (Horn and Nuñez 2000). Although one might expect students whose parents had no postsecondary education to receive help more often in these areas, there were no significant differences by parents' education. Students whose parents had no postsecondary education or some college were more likely to report that they received help with a financial aid application (51 and 47 percent, respectively) than were those whose parents had bachelor's degrees (34 percent); however, they were probably also more likely to be applying for aid.

Multivariate analysis confirms the importance of parental involvement and school support in preparing for college. Parental involvement in curricular decisions and college planning activities was associated with higher enrollment rates even after controlling for parents' income and education and for students' mathematics curriculum and level of college qualification (Horn and Nuñez 2000).

Table 3.—Percentage of "college-qualified" 1992 high school graduates who planned for college with their parents, by parents' highest level of education

Parents' highest level of education	Students and parents discussed often in 12th grade		Parents reported that they		
	SAT or ACT preparation	Postsecondary plans	Attended programs on educational opportunities	Sought financial aid information	Visited a postsecondary institution at least once
Total	**22.1**	**50.7**	**41.9**	**80.7**	**74.2**
High school diploma or less	16.2	42.0	28.9	71.6	61.0
Some college, including vocational/technical	20.4	47.1	38.6	82.6	70.9
Bachelor's degree or higher	27.1	60.6	50.7	82.8	82.0

NOTE: See the technical note at the end of this essay for a description of the college qualification index.

SOURCE: Horn and Nuñez (2000), tables 14–17. Data from U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994).

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Continued

■ *In families with the lowest incomes and least educated parents, students and parents know the least about the price of attending college.*

Although all students must make decisions about how to finance their postsecondary education and many need financial aid, students and their parents are not well informed about the price of attending. Among students approaching college age (i.e., 11th-and 12th-graders) and planning to attend some form of postsecondary education, 37 percent of students and 28 percent of their parents could not estimate what the price of tuition and fees might be (*Indicator 25*). For both students and their parents, the likelihood of such uncertainty declined as family income and parents' education increased.

Deciding to enroll

Although most high school graduates who complete the college application process and are accepted at a 4-year institution enroll, not all do. Some delay enrollment or decide not to enroll.

■ *Among students who are accepted at a 4-year institution, the enrollment rate does not vary with parents' education.*

If students took all the necessary steps leading to college enrollment, including preparing academically, taking college entrance examinations (SAT or ACT), applying to a 4-year institution, and being accepted for admission to at least one college, parents' education ceased to be important in enrollment. Among 1992 high school graduates who made it to this point, 89 percent had enrolled in a 4-year college by 1994, with no measurable differences by parental education (Berkner and Chavez 1997). This suggests that students who get this far somehow find the necessary financial resources (including financial aid, if necessary) and other support they need to enroll; however, the analysis could not take into account the extent to which students were deterred along the way by the price of college, availability of financial aid, or other factors.

Persistence and Attainment

To reap the full benefits of postsecondary education, students must attain a degree. Enrolling and then leaving without a degree has negative monetary, occupational, and other consequences for individuals (Tinto 1993). If leavers have borrowed to finance their education, they may be burdened with substantial loans to repay without the benefit of the higher salaries that often come with a degree.

The NELS 1988 8th-grade cohort was surveyed again in 2000 (8 years after most had finished high school). When the data from this survey are available for analysis, it will be possible to study this cohort's postsecondary persistence and attainment. For now, the most useful sources of data on persistence and attainment are the BPS longitudinal studies, which include postsecondary students of all ages rather than a single high school cohort as in NELS. About two-thirds of those in BPS, however, were 19 years or younger (Kojaku and Nuñez 1998) so findings from future analyses of the NELS data may be similar to those from analysis of the BPS data.

In 1995–96, 47 percent of all beginning postsecondary students were first generation—that is, neither of their parents had more than a high school education (figure 9). The proportion of students who were first generation declined as institution level increased—from 73 percent at less-than-2-year institutions, to 53 percent at 2-year institutions, to 34 percent at 4-year institutions (Kojaku and Nuñez 1998).

Characteristics of first-generation students

■ *First-generation students differ from other students in terms of age and enrollment characteristics.*

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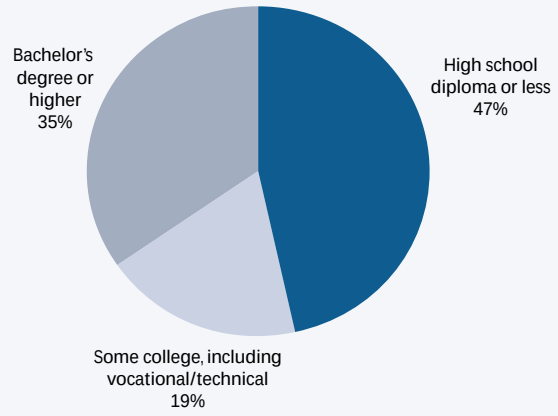
Continued

Figure 9.—Percentage distribution of beginning postsecondary students according to parents' highest level of education: 1995–96



NOTE: Percentages may not add to 100 due to rounding.

SOURCE: Kojaku and Nuñez (1998), table 3.5. Data from U.S. Department of Education, NCES. National Postsecondary Student Aid Study (NPSAS:1996).

Among students who began their postsecondary education in 1995–96, first-generation students were more likely than others to be 24 years or older (table 4). If they were younger than 24 and financially dependent on their parents (as most students that age are), they were more likely than others to be in the lowest family income quartile. They were less likely than other students to have taken the SAT or ACT tests (which reflects the fact that they were also less likely to enroll in 4-year institutions; see table 5). If they did take one of these tests, they were more likely than those whose parents had bachelor's degrees or higher to have scored in the lowest quartile (table 4).

Compared with other students, first-generation students were more likely to enroll in 4-year institutions, and to attend full time over a full year (table 5). In addition, first-generation students who worked while enrolled (as 70 percent did) were more likely than others to consider themselves to be primarily employees who were enrolled in school (as opposed to being primarily students) (Kojaku and Nuñez 1998).

■ *As a group, first-generation students at 4-year institutions appear to begin college less academically prepared than other students.*

Based on what is known about their high school experiences, there is some evidence that first-generation students who began at 4-year institutions in 1995–96 were less well prepared academically than their peers whose parents had bachelor's or advanced degrees. In high school, they were less likely to follow a rigorous curriculum, take calculus, SAT or ACT examinations, or take an advanced placement test (table 6).

Persistence and performance in the first year

Completing the first year in postsecondary education is related to timely attainment of a degree. Whereas about half of all students who

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Continued

Table 4.—Percentage distribution of 1995–96 beginning postsecondary students according to selected student characteristics, by parents' highest level of education

Student characteristics	Total	Parents' highest level of education			
		High school diploma or less	Some college, including vocational/ technical	Bachelor's degree	Advanced degree
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Age as of 12/31/95					
18 and under	44.5	35.6	49.3	55.4	59.1
19	22.8	18.7	26.4	28.1	27.7
20–23	12.4	14.5	11.5	11.7	8.0
24 and above	20.3	31.2	12.9	4.8	5.2
Family income quartile (Dependent students only)					
Lowest (less than $25,000)	26.1	41.5	21.5	18.4	7.9
Second ($25,000–44,999)	24.5	27.0	28.4	23.5	16.8
Third ($45,000–69,999)	24.8	21.7	29.5	28.1	24.7
Highest ($70,000 or more)	24.6	9.8	20.7	30.0	50.6
Took SAT or ACT					
Yes	55.9	41.9	61.0	74.2	85.3
No	44.1	58.1	39.0	25.8	14.7
SAT percentile rank					
Lowest quartile	25.7	34.7	32.6	17.7	13.0
Middle quartiles	49.4	50.8	51.3	53.5	41.5
Highest quartile	24.9	14.5	16.1	28.8	45.5

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: Kojaku and Nuñez (1998), tables 3.2, 3.3, and 4.3. Data from U.S. Department of Education, NCES. National Postsecondary Student Aid Study (NPSAS:1996).

entered postsecondary education in 1989–90 completed a certificate or degree within 5 years, about two-thirds of students who completed their first year attained within 5 years (Horn 1998).

■ *First-generation status is associated with leaving a 4-year institution (but not a 2-year institution) before the second year.*

Overall, 16 percent of those who began their postsecondary education in a 4-year institution in 1989–90 left before their second year—that is, they either dropped out for at least 4 months during their first year or failed to return for their second year (Horn 1998). First-generation students were about twice as likely as those whose parents had bachelor's degrees to do so (23 versus 10 percent). Other characteristics associated with higher rates of leaving were having low grades (GPA under 2.0), delaying enrollment after high school, working 35 or more hours per week, and having low or moderate participation in campus activities.[7] After adjusting for these factors and also taking into account others—such

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Continued

Table 5.—Percentage distribution of 1995–96 beginning postsecondary students according to selected enrollment characteristics, by parents' highest level of education

Enrollment characteristics	Total	Parents' highest level of education: High school diploma or less	Some college, including vocational/ technical	Bachelor's degree	Advanced degree
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Level of institution					
Less-than-2-year	9.6	14.0	7.0	4.4	1.8
2-year	50.1	56.1	56.1	44.4	27.8
4-year	40.3	29.9	36.9	51.2	70.4
Attendance status					
Full-time, full-year	51.8	43.5	51.8	61.8	73.0
Full-time, part-year	17.7	20.2	17.3	14.1	11.2
Part-time, full-year	14.5	17.4	15.6	13.9	6.3
Part-time, part-year	15.9	18.9	15.3	10.2	9.6
Primary role if working					
Student working to meet expenses	71.1	61.7	75.1	82.4	84.7
Employee enrolled in school	28.9	38.3	24.9	17.6	15.3

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: Kojaku and Nuñez (1998), tables 1.1, 1.3, and 5.6. Data from U.S. Department of Education, NCES. National Postsecondary Student Aid Study (NPSAS:1996).

Table 6.—Percentage of 1995–96 beginning postsecondary students at 4-year institutions who took various steps to prepare academically for college, by parents' highest level of education

Parents' highest level of education	Took a rigorous high school curriculum*	Took calculus in high school	Took SAT or ACT	Took advanced placement test
Total	**18.6**	**28.2**	**90.5**	**16.1**
High school diploma or less	9.2	19.8	82.9	8.2
Some college, including vocational/technical	12.9	24.0	93.0	14.3
Bachelor's degree or higher	25.0	33.8	96.4	22.0

* See the technical note at the end of this essay for a description of curriculum levels.

SOURCE: Warburton, Bugarin, and Nuñez (2001), figure 1 and tables 4 and 5. Data from U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998).

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as financial aid, attendance status when first enrolled (full- or part-time), race/ethnicity, sex, socioeconomic status, institutional control, and satisfaction with campus life—first-generation status was still a significant indicator of leaving before the second year. In addition, first-generation students were less likely than others to return to a 4-year institution once they left. They represented a larger proportion of those who had left and not returned to a 4-year institution as of 1994 (55 percent) than of those who had left and returned (35 percent) (Horn 1998).

The situation was somewhat different for those who began at public 2-year institutions in 1989–90. Although first-generation students left during or after their first year at a higher rate than those whose parents had bachelor's degrees or higher (48 versus 33 percent), this difference disappeared when other factors were considered. Only low GPAs, low academic integration index scores,[8] and having no degree objective were significantly related to leaving before the second year.

■ *A rigorous high school curriculum helps mitigate the disadvantage of first-generation status.*

Among 1995–96 beginning postsecondary students, academic performance in the first year varied with parents' education under some, but not all circumstances. Specifically, students' high school curriculum was an intervening factor.[9]

Among 1995–96 beginning postsecondary students at 4-year institutions whose high school curriculum did not exceed the core New Basics, first-generation students earned a lower average GPA in their first year (2.4) than their peers whose parents had bachelor's or advanced degrees (2.7) (Warburton, Bugarin, and Nuñez 2001). A similar relationship held if the high school curriculum was Beyond Core New Basics I—first-generation students had an average GPA of 2.5, and students whose parents had bachelor's or advanced degrees had an average GPA of 2.8. This difference did not extend to those who had taken more challenging curricula. Regardless of parents' education, students earned an average GPA of about 2.7 when their high school curriculum was Beyond Core New Basics II and an average of about 3.1 when it was in the Rigorous category.

Persistence and attainment after 3 years

To make meaningful comparisons between first-generation and other students, it is important to separate them by degree goal. After 3 years, it is reasonable to expect some of those seeking certificates or associate's degrees to have completed them. Although few will have earned bachelor's degrees during this time frame, it is useful to determine if the rest are still on track toward this goal.

■ *After 3 years, first-generation students are as likely as others with certificate or associate's degree goals to persist and attain.*

Among 1995–96 beginning postsecondary students with certificate or associate's degree goals, there were no meaningful differences between first-generation and other students in either the percentage who had attained degrees or certificates by 1998 or the percentage who had left without attaining (table 7). Apparent differences were not statistically significant.

■ *After 3 years, first-generation students with bachelor's degree goals are less likely than their counterparts whose parents have bachelor's or advanced degrees to remain enrolled in 4-year institutions.*

As parents' education increased, so did the likelihood of beginning postsecondary students with bachelor's degree goals remaining enrolled in 4-year institutions after 3 years. About half of those whose parents had no postsecondary education or only some college (52 percent in each case)

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Continued

Table 7.—Percentage distribution of 1995–96 beginning postsecondary students according to degree attainment by 1998, by initial goal and parents' highest level of education

Parents' highest level of education	Highest degree attained by 1998			No degree		
				Still enrolled		
	Certificate	Associate's	Bachelor's	Less-than 4-year	4-year	Not enrolled
				Certificate goal		
High school diploma or less	51.3	2.0	(*)	8.2	1.1	37.3
Some college, including vocational/technical	50.6	0.9	(*)	7.2	2.3	39.0
Bachelor's degree	40.1	7.1	(*)	14.8	4.9	33.1
Advanced degree	—	—	—	—	—	—
				Associate's degree goal		
High school diploma or less	6.6	12.6	(*)	33.3	4.2	43.4
Some college, including vocational/technical	5.3	13.0	(*)	30.9	7.9	42.9
Bachelor's degree	6.0	25.2	0.4	28.2	5.1	35.2
Advanced degree	0.9	10.8	(*)	22.9	33.3	32.1
				Bachelor's degree goal		
High school diploma or less	2.0	2.9	1.1	13.9	52.0	28.2
Some college, including vocational/technical	1.3	4.8	0.6	16.5	52.4	24.6
Bachelor's degree	1.6	2.4	0.5	14.8	67.2	13.5
Advanced degree	1.1	1.5	0.7	6.3	82.9	7.7

—Sample size too small for a reliable estimate.

*Value less than 0.05 percent.

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: Berkner, Horn, and Clune (2000), tables 5.1c, 5.2c, and 5.3c. Data from U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998).

were still enrolled, compared with 67 percent of those whose parents had bachelor's degrees and 83 percent of those whose parents had advanced degrees (table 7).

■ *After 3 years, first-generation students are less likely than those whose parents have bachelor's or advanced degrees to remain on a persistence track to a bachelor's degree.*

First-generation students who started at 4-year institutions in 1995–96 were less likely than their counterparts whose parents had bachelor's or advanced degrees to remain on a persistence track[10] to a bachelor's degree in 1998 (58 versus 77 percent) (Warburton et al. 2001). This relationship held after taking into account other factors that were associated with lower persistence rates, including less than rigorous high school coursetaking, having a first-year GPA in the lowest quartile (2.11 or less), enrolling part time, working full time, and being married.[11]

When first-generation students reported taking a rigorous curriculum in high school, the per-

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sistence gap narrowed. Among students who did not exceed the Core New Basics curriculum in high school, first-generation students persisted at a lower rate than students whose parents had bachelor's degrees (55 versus 69 percent) (figure 10). Among those who took a rigorous high school curriculum, however, the difference was not statistically significant (81 and 89 percent).

Persistence and attainment after 5 years

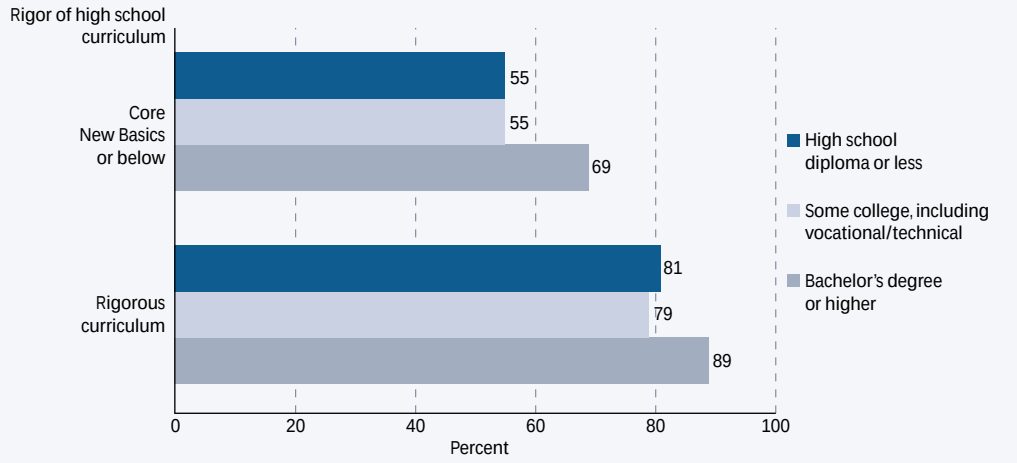
The second follow-up of students who began their postsecondary education in 1989–90 provides an opportunity to examine persistence and degree attainment after approximately 5 years, by which time rates of attainment for a bachelor's degree become meaningful.

■ *After 5 years, first-generation students are less likely than others to have stayed enrolled and attained a degree.*

Overall, half of all 1989–90 beginning postsecondary students had earned some type of degree by 1994. Another 13 percent were still enrolled, and the remaining 37 percent had left without attaining and were not enrolled in 1994 (Nuñez and Cuccaro-Alamin 1998). First-generation students were less likely than other students to have earned a bachelor's degree (13 versus 33 percent), about as likely to have earned an associate's degree (13 and 14 percent, respectively), and more likely to have earned a vocational certificate (18 versus 9 percent). First-generation students were also more likely than others to have left without a degree (45 versus 29 percent).

Multivariate analysis confirms that, among those who intended to earn a degree or certificate, first-generation students were less likely to reach their goals even after controlling for other factors also related to persistence and attainment, including socioeconomic status, age, enrollment status, sex, race/ethnicity, type of institution, and academic and social integration. In other words, first-generation status appears to be a disadvantage

Figure 10.—Percentage of 1995–96 beginning postsecondary students at 4-year institutions who stayed on the persistence track to a bachelor's degree, by rigor of high school curriculum and parents' highest level of education: 1998



SOURCE: Warburton, Bugarin, and Nuñez (2001), table 15. Data from U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998).

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throughout postsecondary education that is independent of other background and enrollment factors. For this cohort, information on their financial aid history and high school coursetaking is not available. Thus their effects on persistence cannot be determined.

After College

Once students whose parents did not go to college overcome the barriers to access, persistence, and attainment, are they in the same position as other graduates? The data available to address this question are limited. Nevertheless, the answer in the short term seems to be a qualified yes, at least in terms of easily measured early labor market outcomes.

Labor market outcomes

■ *Among postsecondary completers, short-term labor market outcomes appear to be similar regardless of first-generation status.*

Among those who completed a degree or certificate and entered the workforce, first-generation and other students were generally distributed similarly among broad occupation groups (table 8). This was true whether they earned a certificate, an associate's degree, or a bachelor's degree.

Average salaries did not differ either. Among 1992–93 bachelor's degree recipients who were employed full time in April 1994, the average

Table 8.—Percentage distribution of employed 1989–90 beginning postsecondary students according to occupation in 1993 or 1994, by highest degree earned and parents' highest level of education

Parents' highest level of education	Clerical	Craftsman	Manager	Professional	Sales	Service	Technical	Other
				Certificate recipients				
Total	**24.3**	**20.8**	**9.5**	**6.8**	**4.6**	**24.3**	**6.6**	**3.2**
High school diploma or less	26.8	21.6	9.5	7.3	4.4	22.7	5.6	2.0
Some college, including vocational/technical	20.4	21.8	12.0	5.6	7.4	24.3	8.3	0.2
Bachelor's degree or higher	23.3	12.9	9.3	6.7	4.2	27.0	6.9	9.6
				Associate's degree recipients				
Total	**28.7**	**8.3**	**14.6**	**12.4**	**6.0**	**16.2**	**8.3**	**5.5**
High school diploma or less	28.8	6.9	19.2	10.0	3.6	16.8	7.8	7.0
Some college, including vocational/technical	29.7	9.1	18.6	10.6	8.8	13.3	8.2	1.7
Bachelor's degree or higher	29.2	8.0	4.9	17.0	7.3	18.6	8.8	6.3
				Bachelor's degree recipients (1 year after degree)				
Total	**17.9**	**3.2**	**19.6**	**26.2**	**7.1**	**17.4**	**7.8**	**0.9**
High school diploma or less	18.6	3.0	19.4	25.4	6.4	18.3	8.3	0.7
Some college, including vocational/technical	17.2	2.7	21.5	26.1	8.4	15.9	7.1	1.1
Bachelor's degree or higher	17.7	3.4	19.0	26.6	7.0	17.6	8.0	0.8

NOTE: Data for certificate and associate's degree recipients are based on the primary 1993 occupation of 1989–90 beginning postsecondary students who received their certificate or degree by 1994, and data for bachelor's degree recipients are based on the April 1994 occupation of 1992–93 bachelor's degree recipients. Percentages may not add to 100.0 due to rounding.

SOURCE: Nuñez and Cuccaro-Alamin (1998), table 22. Data from U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study, "Second Follow-up" (BPS:1990/1994) and Baccalaureate and Beyond Longitudinal Study (B&B:1993/1994).

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salary was about $23,000 for both first-generation graduates and others (Nuñez and Cuccaro-Alamin 1998). On average, males earned higher salaries than females ($26,000 versus $21,000), but there was no difference according to first-generation status for either males or females.

Salary parity continued for at least 3 more years. In April 1997, the average salary for 1992–93 bachelor's degree recipients who had not enrolled in graduate education and who were employed full time was about $34,000 (Horn and Zahn 2001).[12] A multivariate analysis showed that salary was related to undergraduate major, sex, GPA, and type of institution attended, but not to parents' education.[13]

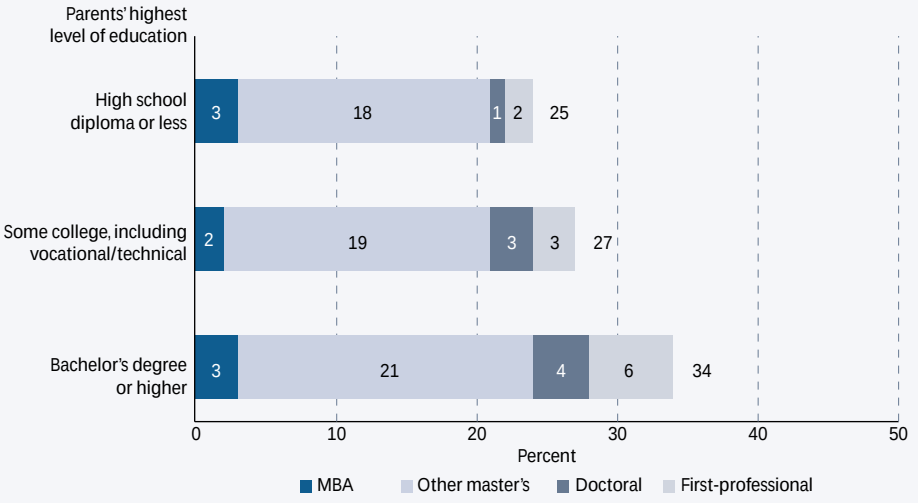
Graduate enrollment

Graduate enrollment allows individuals to pursue their intellectual interests in greater depth. It also provides them with access to careers that require an advanced degree, such as law, medicine, and university-level teaching.

■ *First-generation status is a factor in graduate enrollment.*

Overall, 30 percent of 1992–93 bachelor's degree recipients had enrolled in a graduate or first-professional program by 1997, but first-generation students were less likely than their peers whose parents had bachelor's or advanced degrees to have done so (25 versus 34 percent) (Choy 2000). This relationship held even after controlling for other factors significantly related to graduate enrollment including age, undergraduate major, GPA, and race/ethnicity, and also after controlling for selected other factors including sex, amount borrowed as an undergraduate, and control of institution attended. First-generation students were as likely as others to enroll in MBA or other master's degree programs, but less likely to enroll in doctoral degree programs (figure 11). They were less likely than those whose parents' had a bachelor's degree or higher to enroll in a first-professional degree program.

Figure 11.—Percentage of 1992–93 bachelor's degree recipients who had enrolled in a graduate or first-professional degree program by 1997, by parents' highest level of education



SOURCE: U.S. Department of Education, NCES. Baccalaureate and Beyond Longitudinal Study, "Second Follow-up" (B&B:1993/1997).

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SUMMARY AND CONCLUSIONS

Whether high school graduates enroll in postsecondary education and whether postsecondary students reach their degree goals depend on many factors, but those whose parents have no education beyond high school are considerably less likely to succeed than those whose parents have completed a bachelor's degree. Students who are nonwhite or from low-income families tend to be disproportionately represented among those whose parents have low education. Multivariate analysis confirms that parents' education remains significant for gaining access to postsecondary education and for persistence and bachelor's degree attainment at 4-year institutions even after controlling for other factors such as income, educational expectations, academic preparation, parental involvement, and peer influence.

Readers should not interpret the findings in this essay as implying that the availability of student financial aid has no effect on the postsecondary enrollment and persistence of first-generation students. The availability and awareness of financial aid help remove the barriers to enrolling in college and remaining there. The independent effects of financial aid on the enrollment and persistence of first-generation students have not been explicitly considered in this analysis.

Over time, increases in educational attainment among young adults (who may eventually become parents themselves) may reduce the proportion of students disadvantaged by low parental education. Between 1971 and 1998, the proportion of 25- to 29-year-olds who earned a bachelor's degree or higher rose (from 22 to 31 percent), as did the proportion who attended some college (from 44 to 66 percent) (*Indicator 59, The Condition of Education 1999*). Whether this will result in a net decline in the percentage of children whose parents did not attend college will depend on the balance between the trend toward a more highly educated population and demographic trends related to marriage, childbearing, and immigration.

In the meantime, evidence from the studies summarized here suggests that programs and practices that encourage first-generation students to take academically challenging courses in high school and counsel students and their parents about preparing for college may hold promise for broadening the access of these students to postsecondary education and helping them succeed once enrolled.

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NOTES

[1]The data from the most recent survey are just becoming available for analysis.

[2]The BPS samples are composed of students who participated in the 1989–90 and 1995–96 National Postsecondary Student Aid Studies (NPSAS) and who were identified as enrolling in postsecondary education for the first time in those years.

[3]First-professional degrees include the following: medicine (MD), chiropractic (DC or DCM), dentistry (DDS or DMD), optometry (OD), osteopathic medicine (DO), pharmacy (DPharm), podiatry (PodD or DPM), veterinary medicine (DVM), law (LLB or JD), and theology (MDiv, MHL, or BD).

[4]Berkner and Chavez (1997) developed an index of college qualification based on a number of factors related to performance in high school. The index is described in detail in the technical note to this essay.

[5]Levels of mathematics coursetaking are described in the technical note to this essay.

[6]Levels of mathematics proficiency are described in the technical note to this essay.

[7]These activities include: attending career-related lectures, participating in study groups, talking over academic matters with faculty, and meeting with an advisor concerning academic plans. An index was developed based on the number of times students participated in each of these activities during 1989–90.

[8]This index was based on how frequently students did the following in 1989–90: attended career-related lectures, participated in study groups, discussed academic matters with faculty, and met with an advisor.

[9]The measures of high school curriculum are described in the technical note to this essay.

[10]Persistence track means continuous enrollment (no break for more than 4 months) toward a bachelor's degree in any 4-year institution.

[11]When all these other factors were taken into account, family income, scores on college entrance examinations, and whether they took remedial courses in their first year were not associated with persistence.

[12]Among 1992–93 bachelor's degree recipients, 70 percent had not enrolled in graduate education by 1997, and 86 percent of those who had not enrolled were employed full time in April 1997.

[13]For this particular analysis the categories for parents' education were "bachelor's degree" and "less than a bachelor's degree."

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Technical Note

College qualification index

The college qualification index is based on five measures—high school GPA, senior class rank, NELS 1992 test scores, SAT scores, and ACT scores. Students were classified according to the *highest* level they had achieved on *any* of the criteria. Thus, the qualification of students who were missing data on any of the measures were categorized based on nonmissing data. The "highly qualified" students were in the top 10 percent of those who attended a 4-year institution on at least one measure; "very qualified" students were in the top 25 percent; "minimally to somewhat qualified" were in the top 75 percent; and "marginally or not qualified" students had no value on any of the five measures that would place them in the top 75 percent. Some adjustments were made for curriculum, moving students up one level higher if they had taken a program of rigorous high school courses, and down from "highly to "very" qualified if they had not. See Berkner and Chavez (1997) for more detail.

Level of mathematics in high school

No mathematics or low or nonacademic mathematics: Student took no mathematics courses or took nonacademic or low academic courses including those classified as "general mathematics" or "basic skills mathematics," preliminary (e.g. prealgebra) or reduced rigor/paced mathematics courses (algebra 1 that is spread over 2 academic years and "informal geometry").

Middle academic I: Student completed 2 years of mathematics including algebra 1 and geometry, or 2 years of a unified mathematics sequence covering algebra 1, geometry, and algebra 2.

Middle academic II: Student completed 3 years of mathematics, including algebra 2 or a third year of a unified mathematics program.

Advanced academic: Student completed at least one class beyond algebra 2 labeled as "advanced," including courses such as algebra 3, precalculus, trigonometry, probability, statistics, or calculus.

NELS mathematics proficiency test level

Level 1: Can perform simple arithmetical operations on whole numbers.

Level 2: Can perform simple operations with decimals, fractions, and roots.

Level 3: Can perform simple problem solving requiring conceptual understanding or the development of a solution strategy.

Rigor of high school curriculum

The overall difficulty of students' coursework in high school is an indicator of their academic preparation for postsecondary education. Using previous research as a guide (Adelman 1999; Burkam, Lee, and Smerdon 1997), the variable "academic rigor" was created to reflect the following:

- the number of courses students had completed in academic subjects in mathematics, science, English, social studies, and foreign language;
- the level or intensity of courses that students had taken in mathematics and science; and
- whether students had taken any honors or AP courses.

When information on honors/AP coursetaking was missing, AP test-taking was used to pro-

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vide supplementary data. It was assumed that, if AP records indicated that students had taken an AP test, students had taken a honors/AP course.

Coursetaking was compared with the New Basics curriculum recommended by the National Commision on Excellence in Education (NCEE) in 1983 that consists of 4 years of English, 3 years each of mathematics, science, and social studies, and one-half year of computer science. The Core New Basics is the most commonly implemented form of this curriculum and excludes the computer science requirement.

- *Core New Basics or below:* Student completed no more than 4 years of English and 3 years each of mathematics, science, and social studies.
- *Beyond Core New Basics I*: Student completed at least 4 years of English and 3 years each of mathematics (including algebra 1 and geometry), science (including 2 years of biology, chemistry, or physics), and social studies.
- *Beyond Core New Basics II:* Student completed at least 4 years of English and 3 years each of mathematics (including algebra 2), science (including biology, chemistry, and physics), and social studies.
- *Rigorous:* Student completed at least 4 years each of English and mathematics (including precalculus), 3 years each of science (including biology, chemistry, and physics) and social studies, 3 years of foreign language, and 1 honors/AP course or AP test score.

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Section I

Participation in Education

Contents

Summary: Participation in Education

Many educational opportunities are available to children and adults in the United States. Preprimary education prepares children socially and academically for formal schooling; elementary and secondary education provide skills that prepare students to become productive members of society; and postsecondary education gives individuals opportunities to gain advanced knowledge and skills either immediately after high school or later in life. In addition, many adults participate in learning activities to upgrade work-related skills, change their careers, or expand their personal interests.

The contributions of formal education are related to the degree of participation, as shown in earnings of young adults *(Indicator 18)*, adult literacy and media use *(Indicator 15)*, and even personal health *(Indicator 17)*. Thus, it is important to monitor the extent to which individuals and groups have access to educational opportunities and how they progress through various levels.

Enrollment in education changes as a result of fluctuations in the size of the population and rates of enrollment in a population group. Such change can affect the resources, such as qualified teachers, physical facilities, and funding levels, required to provide a quality education for the Nation's students. In addition, differences in enrollments among racial/ethnic or family income groups can provide insight into inequality of access and participation, issues that are of national concern.

Early Childhood Programs

Participation in early childhood programs, such as nursery school, prekindergarten, or Head Start, prepare children for formal schooling. Enrollment rates in center-based early childhood care and education programs rose from 53 percent of the population ages 3–5 in 1991 to 60 percent in 1999 *(Indicator 1)*. This increase may be attributed to a combination of factors, including increases in the percentage of working mothers of preschoolers (Hayghe 1997).

Rates of enrollment in preprimary programs vary by children's race/ethnicity and the relative poverty of their families. In 1999, 73 percent of black children, 60 percent of white children, and 44 percent of Hispanic children ages 3–5 were enrolled in preprimary programs. Children living in poverty were less likely to attend programs than those living in families at or above poverty (52 versus 62 percent).

Elementary and Secondary School Enrollment

Enrollment at the elementary and secondary levels is mandatory, so changes in enrollment are driven by shifts in the size of the school-age population. This population fluctuates due to changes in birth rates, immigration, and other factors. In the aftermath of the baby boom era, for example, total enrollments declined in the 1970s and early 1980s but have increased since then as a result of the "baby boom echo" (NCES 2000–071). Enrollments in public elementary and secondary schools reached an estimated 47.0 million in 2000. Projections through 2010 suggest that enrollments for grades K–8 will decrease slightly but will increase by 4 percent for grades 9–12 *(Indicator 2)*. Private school enrollment for grades K–12 increased between 1989–90 and 1997–98. Between these years, enrollment in private schools rose in both the South and the West.

Growth in elementary and secondary enrollments will not be uniform across regions of the country. Public schools in the Midwest and Northeast will experience declines in their share of total enrollment in the present decade, while schools in the South and West will increase their share *(Indicator 2)*. In addition to facing an all-time high in student enrollment, schools in the West serve an increasingly heterogeneous student body. Between 1972 and 1999, for instance, the percentage of students in the West

Summary: Participation in Education

Continued

who were Hispanic rose from 15 to 31 percent of the total. In 1999, 47 percent of students in public elementary and secondary schools in the West were minority students *(Indicator 3)*.

Undergraduate Enrollment in Postsecondary Education

Because postsecondary education is voluntary, changes in total undergraduate enrollments reflect shifts in enrollment rates and the perceived availability and value of postsecondary education as well as the size of the traditional college-age population. Total undergraduate enrollments in degree-granting postsecondary institutions have generally risen over the past 3 decades. These increases have been accompanied by changes in the attendance status of students, the types of institutions attended, and the proportion of students who are women *(Indicator 5)*. Recent growth in undergraduate enrollment may be associated with the increasing importance of postsecondary education in the job market. Over this decade, the strongest job growth is expected to occur in occupations requiring at least an associate's degree (Braddock 1999). Undergraduate enrollment in degree-granting postsecondary institutions is also projected to continue to climb during this decade.

Projections for this decade suggest that changes in undergraduate enrollments will not be uniform for all groups. The rate of growth for full-time undergraduate enrollment is expected to increase at a faster rate than part-time undergraduate enrollment; undergraduate enrollment at 4-year institutions is expected to grow faster than undergraduate enrollment at 2-year institutions. In addition, the undergraduate enrollment of women, which now exceeds that of men, is projected to continue to grow faster than men's undergraduate enrollment (*Indicator 5*).

Participation in Adult Learning

During the past decade, the rate of participation in adult education has increased. The total proportion of adults ages 18 and above who participated in adult education in the previous 12 months increased from 38 to 48 percent between 1991 and 1999. Most of the enrollments in adult learning occur outside the formal education system, particularly among older adults *(Indicator 7)*.

Conclusions

Education plays an increasingly important role in people's lives. For those not already participating in mandatory educational programs, enrollment rates have increased. Nonetheless, growth has not been uniform, and some differences remain. Although preprimary enrollments have been expanding, not all groups are well represented. For elementary and secondary schools, one of the largest increases in the number and diversity of students has occurred, and is projected to continue, in the West. In degree-granting postsecondary institutions, growth is expected to continue during this decade, but not for all types of institutions or groups: 4-year institutions and full-time programs will experience these increases to a greater extent. While adult education has grown across different age, sex, and racial/ethnic groups, the gap between men and women in postsecondary education is expected to widen, favoring women.

Preprimary Education

Enrollment in Preprimary Education

Preprimary enrollment rates for 3- to 5-year-olds were higher in 1999 than in 1991. Black children enrolled in preprimary education programs at higher rates than did white and Hispanic children.

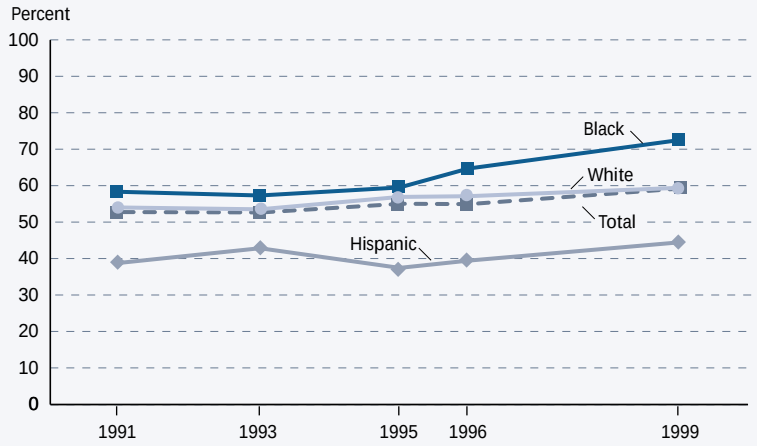
Participation in preprimary education programs such as Head Start, nursery school, or prekindergarten can help a child prepare for elementary school or serve as child care for working parents. Between 1991 and 1999, the percentage of children ages 3–5 who had not yet entered kindergarten and who attended center-based early childhood care and education programs rose from 53 to 60 percent.

Most groups of children had higher participation rates in preprimary education programs in 1999 than in 1991. The participation rates of children living in poverty increased from 44 to 52 percent. Those of children with mothers who were not in the labor force rose from 45 to 52 percent. Black children's rates increased from 58 to 73 percent. Despite these increases, children living in poverty were still less likely to attend programs than those above poverty in 1999 (52 versus 62 percent) (see supplemental table 1-1).

Black children were more likely than white or Hispanic children to participate in center-based early childhood care and education programs. In 1999, 73 percent of black children ages 3–5 attended such programs, compared with 60 percent of white children and 44 percent of Hispanic children.

Children with more highly educated mothers were more likely to participate in center-based early childhood and education programs than other children. Seventy-four percent of children whose mothers had completed college attended such programs in 1999, compared with 40 percent whose mothers had less than a high school education.

ENROLLMENT IN PREPRIMARY EDUCATION: Percentage of children ages 3–5 who were enrolled in center-based early childhood care and education programs, by race/ethnicity: Selected years 1991–99



NOTE: Estimates are based on children who have yet to enter kindergarten. Center-based programs include day care centers, Head Start programs, preschool, nursery school, prekindergarten, and other early childhood programs.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), and Federal Interagency Forum on Child and Family Statistics, *America's Children: Key National Indicators of Well-Being*, 2000.

FOR MORE INFORMATION

Supplemental Notes 1, 3

Supplemental Table 1-1

Elementary/Secondary Education

Past and Projected Elementary and Secondary School Enrollment

Public elementary and secondary enrollment is projected to reach 47.2 million in 2001, and to increase through 2005 before decreasing slowly. The West will experience the majority of this growth in the student population.

The baby boom echo—the 25 percent increase in the Nation's birthrate that began in the mid-1970s and peaked in 1990—and rising immigration have boosted school enrollment. Growing enrollments, in turn, increase the need for new schools, teachers, and money to fund education.

After declining during the 1970s and early 1980s, enrollment in public schools for grades K–12 increased in the latter part of the 1980s and the 1990s, reaching an estimated 47.0 million in 2000. This enrollment is projected to be 47.2 million in 2001. Through the first half of this decade, public enrollment for grades K–12 is projected to continue increasing to an all-time high of 47.5 million in 2005, and then to begin declining slightly. Between 2000 and 2010, public enrollment in grades K–8 is projected to decrease slightly, whereas public enrollment in grades 9–12 is projected to increase 4 percent (see supplemental table 2-1).

The regional distribution of students in public schools has changed since the 1970s, with the West increasing its total share of enrollment. Between 2000 and 2010, public enrollment in grades K–12 is expected to decrease in the Northeast and Midwest, and to increase in the South and West (see supplemental table 2-2).

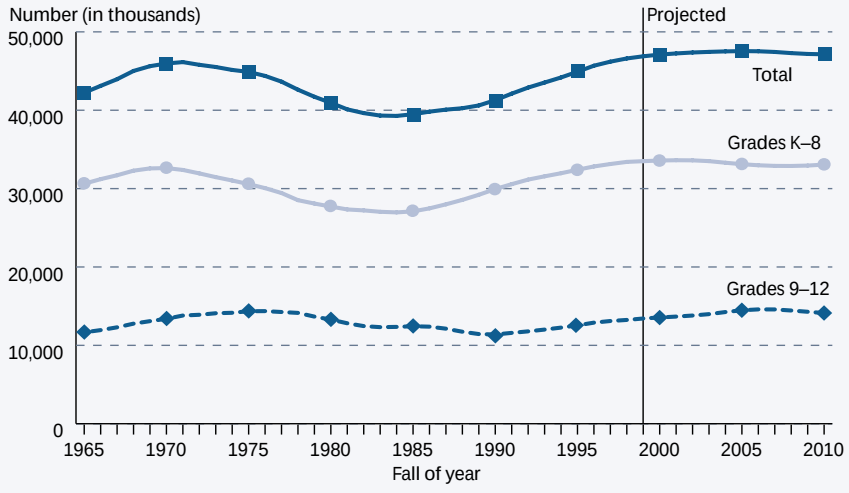
Private school enrollment for grades K–12 was higher in 1997–98 than in 1989–90. Between these years, enrollments in private schools rose in both the South and West. Despite increases in enrollment in the West, private enrollment for grades K–12 was lowest in the West and higher in the South in 1997–98 (see supplemental table 2-3).

NOTE: Includes most kindergarten and some nursery school enrollment. For information about projected enrollment, see the introduction to Appendix 3, Standard Error Tables.

SOURCE: U.S. Department of Education, NCES. Common Core of Data, various years, and *Projections of Education Statistics to 2010* (NCES 2000–071), 2000.

FOR MORE INFORMATION:
Supplemental Notes 1, 8
Supplemental Tables 2-1, 2-2, 2-3

SCHOOL ENROLLMENT: Public elementary and secondary school enrollment in grades K–12 (in thousands), by grade level, with projections: Fall 1965–2010



Elementary/Secondary Education

Racial/Ethnic Distribution of Public School Students

Hispanic students are the fastest growing student group in the Nation's elementary and secondary schools.

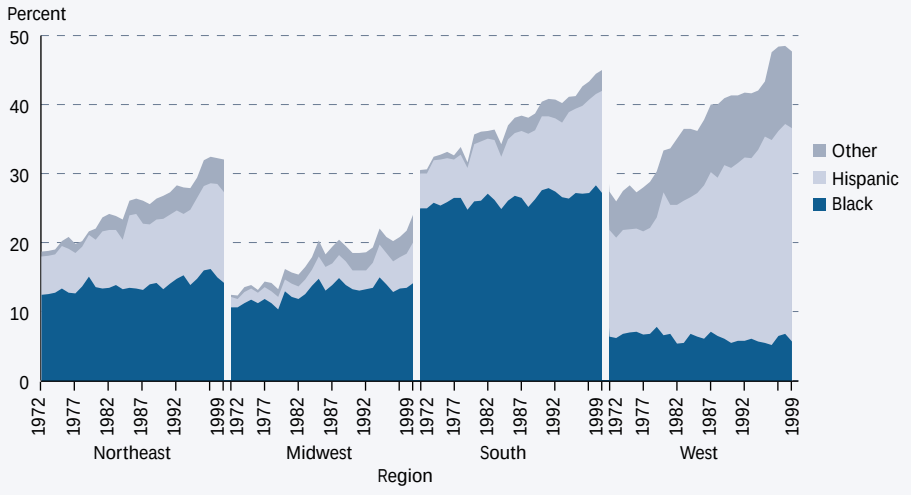
Changes in the racial/ethnic composition of student enrollments can alter the diversity of language and culture in the Nation's schools. Although variety in student backgrounds can enhance the learning environment, it can also create or increase challenges for schools. Knowledge of the shifting racial/ethnic distribution of public school students in grades K–12 can be helpful to schools in planning for this change.

In 1999, 38 percent of public school students were considered to be part of a minority group, an increase of 16 percentage points from 1972. This increase was largely due to the growth in the proportion of students who were Hispanic. In 1999, black and Hispanic students accounted for 16.5 and 16.2 percent of the public school enrollment, up by 2 and 10 percentage points, respectively, from 1972. The percentage of students from other racial/ethnic groups also increased, from 1 percent in 1972 to 6 percent in 1999 (see supplemental table 3-1).

Although minority students comprised 38 percent of the total public school enrollment in 1999, their enrollment differed by region. In that year, there were large concentrations of minority students in the West and South, where 47 and 45 percent of students in public elementary and secondary schools were minority, respectively. The Midwest had the lowest proportion of minority students (24 percent) (see supplemental table 3-2).

Among all public school students in 1999, the proportion of students in the South who were black (27 percent) was higher than the proportion of students who were black in other regions (6 to 14 percent). In the West, Hispanic students accounted for 31 percent of the student body (up from 15 percent in 1972). In contrast, in 1999, Hispanic students represented 6 percent of all students in public elementary and secondary schools in the Midwest (see supplemental table 3-2).

ENROLLMENT: Percentage of public school students enrolled in grades K–12 who were minorities, by region: October 1972–99



SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, 1972–99.

FOR MORE INFORMATION:
Supplemental Notes 1, 2
Supplemental Tables 3-1, 3-2

Elementary/Secondary Education

Parental Education, by Race/Ethnicity

The gap in the percentages of white and black children whose parents have at least a high school education has narrowed over the past 25 years.

Parents' educational attainment is related to student achievement and other dimensions of educational participation and outcomes (Grissmer et al. 1994). In 1999, a higher percentage of white children than black and Hispanic children ages 6–18 had parents who attained at least a high school education. The same is true for the percentage who attained at least a bachelor's degree.

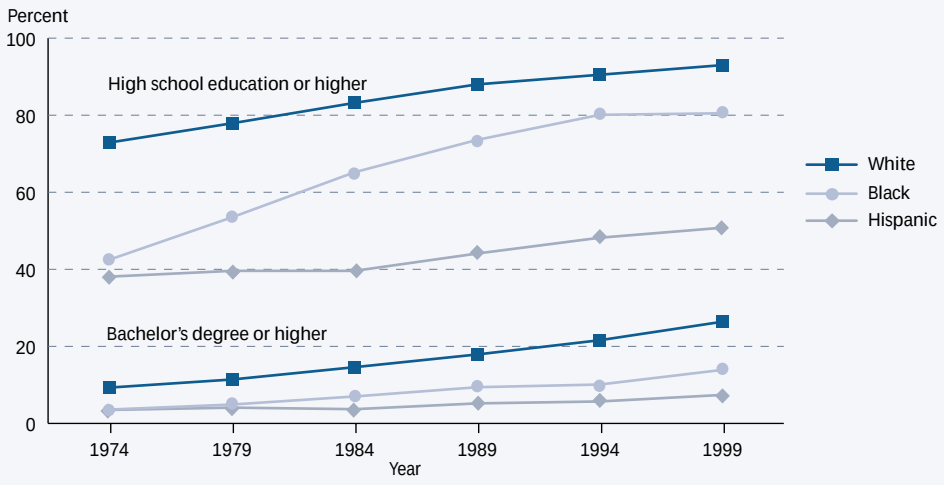
Between 1974 and 1999, the percentage of children ages 6–18 whose parents had at least a high school education increased among all racial/ethnic groups. However, the rates of increase differed by racial/ethnic groups. While fewer black children ages 6–18 had parents who completed at least a high school education compared with their white peers, the attainment gap between the percentage of white and black children whose parents attained this level of education narrowed considerably between 1974 and 1999. This large reduction in the gap was due to a large increase in the percentage of black children with parents who attained at least a high school education compared with their white peers. In contrast, the gap between the percentages of white and Hispanic children whose mothers attained at least a high school education did not change, while the gap between the percentages of white and Hispanic children whose fathers attained this level of education increased (see supplemental table 4-1).

Patterns in the bachelor's degree attainment of parents are different from those in high school attainment. Although more black and Hispanic 6- to 18-year-olds had mothers who attained at least a bachelor's degree in 1999 than in 1974, the gap in the percentages of white and black and white and Hispanic 6- to 18-year-olds whose parents had at least a bachelor's degree has increased in the past 25 years, with the exception of the gap between the fathers of black and white children, which has not changed (see supplemental table 4-1).

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey methodology for the CPS was changed and weights were adjusted. Information on parents' educational attainment is available only for those parents who live in the same household with their child.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

PARENTAL EDUCATION: Percentage of 6- to 18-year-olds with mothers who completed at least high school or a bachelor's degree or more: 1974–99



FOR MORE INFORMATION:
Supplemental Notes 1, 2
Supplemental Table 4-1
Grissmer et al. 1994

Undergraduate Education

Past and Projected Undergraduate Enrollments

Although part-time and 2-year enrollments displayed more rapid growth than full-time and 4-year enrollments in the 1970s, future growth is expected to be greater in full-time and 4-year enrollments. Women's enrollment is expected to continue increasing faster than that of men.

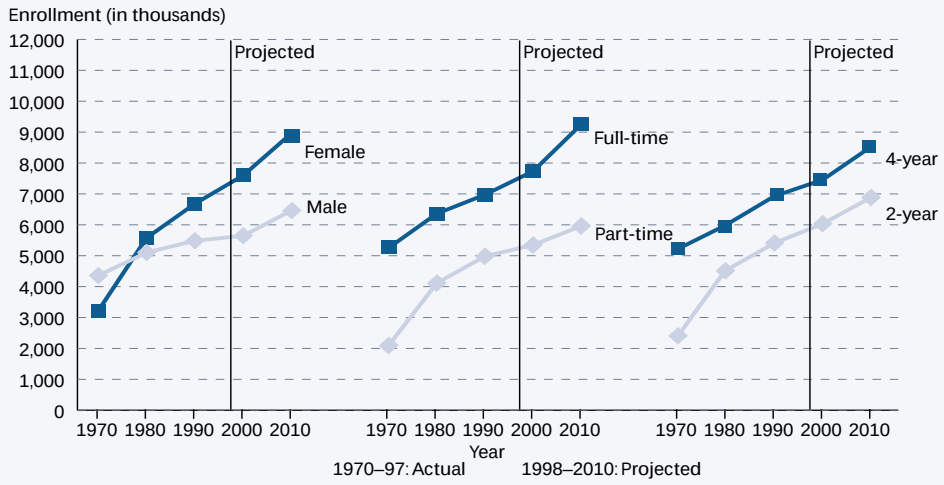
Total undergraduate enrollments in degree-granting postsecondary institutions generally increased in the past 3 decades and are projected to increase throughout this decade. These increases have been accompanied by changes in the enrollment status of students, the type of institution attended, and the proportion of students who are women.

In the past, more undergraduate students were enrolled full time than part time in degree-granting 2- and 4-year postsecondary institutions. This pattern is expected to continue in the future. In the 1970s, part-time undergraduate enrollment increased at a faster rate than full-time undergraduate enrollment, but the majority of students were still enrolled full time. During the 1980s and 1990s, growth slowed for both groups. In the present decade, the rate of growth for full-time undergraduate enrollment is expected to increase at a faster rate than part-time undergraduate enrollment (see supplemental table 5-1).

More undergraduate students attend 4-year institutions than 2-year institutions. After strong growth in the 1970s, the rate of increase in 2-year undergraduate enrollment slowed and is expected to grow at that slower rate in the present decade. Four-year undergraduate enrollment has consistently increased over the past 3 decades and is expected to increase at a faster rate than 2-year undergraduate enrollment in the present decade (see supplemental table 5-1).

The number of undergraduate women in degree-granting 2- and 4-year institutions had exceeded the number of undergraduate men by 1978. Since the 1970s, women's enrollment has increased faster than men's, which fluctuated in the 1980s and 1990s. Men's undergraduate enrollment is projected to increase in the 2000s, but women's enrollment is projected to grow at a faster rate. As a result, the number of women undergraduates is projected to reach a new high throughout this decade.

UNDERGRADUATE ENROLLMENT: Total enrollment in degree-granting 2- and 4-year postsecondary institutions (in thousands) by sex, enrollment status, and type of institution, with projections: Fall 1970–2010



NOTE: Projections are based on the middle alternative assumptions concerning the economy.

SOURCE: U.S. Department of Education, NCES. *Digest of Education Statistics 2000* (NCES 2001–034), 2001, and *Projections of Education Statistics to 2010* (NCES 2000–071), 2000.

FOR MORE INFORMATION:
Supplemental Note 10
Supplemental Table 5-1

Graduate and Professional Education

Graduate/Professional Enrollment and Employment

Graduate and first-professional students in different degree programs combine school and work in very different ways.

Graduate and first-professional programs form an important segment of higher education, with 2.8 million students enrolled during the 1995–96 academic year. Just over half of them (56 percent) were enrolled in master's degree programs. Another 12 percent each were enrolled in doctoral and first-professional degree programs, and the remaining 20 percent in post-baccalaureate certificate or nondegree programs (NCES 98–083). Attendance patterns and focus on school or work as the primary activity varied considerably with level and specific degree program.

Graduate study at the master's level is primarily a part-time activity. Most students enrolled less than full time for the full year and worked while enrolled (many full time). Among MBA and education master's students who worked, most considered themselves primarily employees rather than students (85 and 75 percent, respectively). Students in other master's-level programs were just as likely to work, but more likely to consider themselves primarily students (57 percent).

About half of Ph.D. students enrolled full time for the full year. Although the majority of all Ph.D. students worked while enrolled, 80 percent of those who worked nevertheless considered themselves primarily students. The pattern for Ed.D. students was different. Relatively few Ed.D. students enrolled full time, full year (16 percent), and most of those who worked considered themselves primarily employees (82 percent).

Students in law or medicine were much more likely than master's or doctoral students to enroll full time, full year and less likely to work while enrolled. When they did work, most considered themselves primarily students.

[1] Excluding summer.

[2] Research assistantships are considered employment. Full-time employment is 35 hours or more per week.

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. National Postsecondary Student Aid Study (NPSAS:1996), Graduate Data Analysis System.

FOR MORE INFORMATION:
Supplemental Note 8
NCES 98–083

ENROLLMENT AND EMPLOYMENT: Percentage distribution of graduate and first-professional students according to selected enrollment and employment characteristics: Academic year 1995–96

Enrollment and employment characteristics	M.B.A.	M.A.T., M.Ed., M.A./M.S. in education	M.A./M.S. (except education)	Ph.D.	Ed.D.	M.D.	Law (LL.B. or J.D.)
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Attendance pattern							
Full-time, full-year[1]	24.0	15.9	27.8	51.3	15.7	92.7	77.4
Part-time, full-year	46.7	45.0	39.5	36.3	49.3	1.6	14.3
Other	29.3	39.1	32.7	12.4	35.0	5.5	8.3
Employment status[2]							
Worked at all	87.2	85.9	83.2	75.7	97.5	30.8	56.1
Worked full time if worked	76.3	67.3	47.5	32.3	82.6	15.0	16.9
Primary role if working							
Student meeting expenses	15.1	25.0	57.1	80.0	17.7	87.5	82.5
Employee enrolled in school	84.9	75.0	42.9	20.0	82.3	12.5	17.5

Adult Learning

Participation in Adult Learning

Participation in adult learning was higher in 1999 than in 1991. Participation in credential programs declines with age, while participation in other types of activities remains about the same with age.

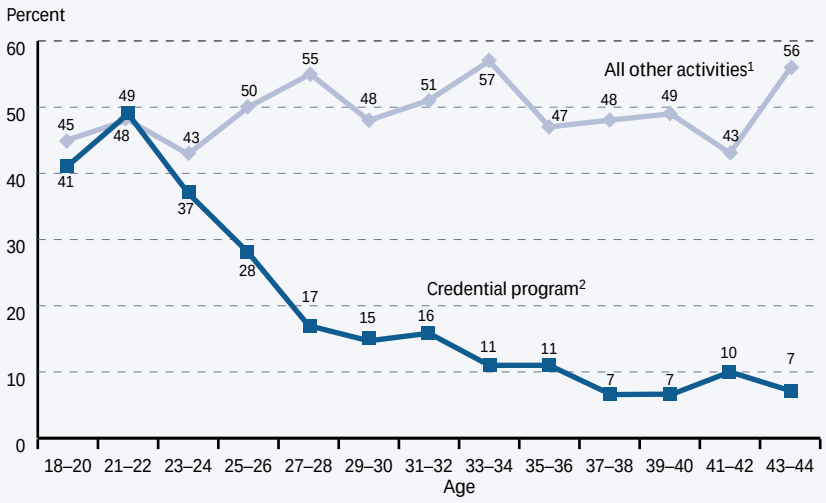
In an age of rapid technological and economic change, lifelong learning can provide benefits for individuals and for society as a whole. Participation in learning activities increased from 38 percent of those in the population age 18 and above in 1991 to 48 percent in 1999. These learning activities included participation in credential programs, provided either by a postsecondary institution or some other kind of organization, such as an employer; work-related learning other than a credential program; basic skills training; learning English as a Second Language; apprenticeships; and learning for purposes of personal development (see supplemental table 7-1).

For those ages 18–44, participation in credential programs leading to a degree, certificate, or diploma from a postsecondary institution generally decreased with age in 1999, while participation in all other kinds of adult learning activities remained about the same for all age groups within this age range. At ages 21–22, the percentage of the population who participated in a credential program in a postsecondary institution was about the same as the percentage who participated in all other types of adult learning. At ages 43–44, 7 percent of adults participated in credential programs in postsecondary institutions, and 56 percent participated in other types of adult learning activities.

Adults obtained their learning from different types of providers. In 1999, among those age 18 and above who participated in credential courses of all kinds, 74 percent took courses from a postsecondary institution, and the rest from a business or other kind of organization. At least half of those age 18 and above who participated in work-related courses took courses given by businesses or professional associations. Among adults who took courses for personal development, private organizations were the most likely providers (48 percent) (see supplemental table 7-2).

In 1999, adults 18 and above with a bachelor's degree were more likely to participate in a learning activity (65 percent) than were high school completers (39 percent) (see supplemental table 7-1).

ADULT LEARNING: Percentage of adults ages 18–44 who participated in credential or other types of learning programs in the past 12 months: 1999



[1]Includes participation in apprenticeships, courses for basic skills, personal development, English as a Second Language, work-related courses, and credential programs in organizations other than postsecondary institutions.

[2]Includes both part- and full-time participation in postsecondary institutions leading to a college degree, diploma, or certificate.

NOTE: Adults may be counted in both categories. Individuals may have participated in both a credential program in a college or university and some other learning activity. Data have been revised from previously published figures.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Adult Education Survey).

FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Tables 7-1, 7-2

NCES 2000–027

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Section 2

Learner Outcomes

Contents

Summary: Learner Outcomes

At an education summit in 1989, former President George Bush and the Nation's governors decided to establish the educational goals for 2000. These National Education Goals subsequently became the basis of major federal education legislation and a benchmark against which America's progress in educating our students can be measured. Two of these goals declare that U.S. "students will be the first in the world in mathematics and science achievement" and "all students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter . . . [and] . . . learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our Nation's modern economy" (National Education Goals Panel 1999). Now that the year 2000 has passed, it is useful to see how much progress has been made in achieving these goals.

Early Childhood Outcomes

A school's effectiveness is predicated in part on its ability to narrow the gaps in student achievement to bring the low-performing students up to the level of the high-performing students. Results of the Early Childhood Longitudinal Study (ECLS-K) indicate that children whose mothers have more education than those of their peers tend to enter school with more skills and knowledge in reading and mathematics. From the beginning of kindergarten to the end of 1st grade, most children show marked improvement in reading and mathematics, but the initial gaps in performance associated with their mother's education do not decrease *(Indicator 8)*. As children progress through kindergarten and 1st grade, students from better educated families continue to score higher and acquire more advanced skills and knowledge, such as multiplication and division and recognizing and understanding words in context, than do other students *(Indicator 9)*.

Academic Outcomes

How students perform academically is a key component of educational success. The federal government and other organizations sponsor assessments to measure student performance. The results of these assessments sometimes show mixed results and can be interpreted differently, depending on the definitions of academic success used. For example, international assessments typically examine student performance relative to that of their peers in other countries. Assessments that measure performance over several years offer a means to examine changes over time. Finally, national assessments often assess performance relative to predefined standards of performance.

International assessments

The Third International Mathematics and Science Study–Repeat (TIMSS-R), conducted in 1999, followed the Third International Mathematics and Science Study (TIMSS) by 4 years. These two studies provide a gauge of the progress American students have made in mathematics and science in grades 4, 8, and 12 in 1995, and grade 8 in 1999. In 1995, U.S. 4th-graders scored higher than the international average in mathematics, while their 8th- and 12th-grade counterparts scored lower than the international average *(Indicator 18, The Condition of Education 2000)*. The results from TIMSS-R are mixed. Eighth-grade students in the United States exceeded the international average of the 38 countries that participated in the mathematics and science studies in 1999 *(Indicator 14)*. Similar to most other countries participating in both assessments, there was no significant improvement, however, in the average scores of U.S. 8th-graders in either subject between 1995 and 1999. By permitting a

Summary: Learner Outcomes

Continued

comparison of 4th-graders in 1995 and the same cohort 4 years later in 8th grade, TIMSS-R shows that U.S. 4th-graders in 1995 performed at about the international average of the 17 countries participating in both assessments in mathematics but that by 1999 U.S. 8th-graders had fallen behind the international average. In science, U.S. 4th-graders performed above the international average of the 17 participating countries in 1995, while U.S. 8th-graders' performance was similar to the international average in 1999.

Change over time

Since the early 1970s, the National Assessment of Educational Progress (NAEP) long-term assessment has measured student performance regularly with assessment instruments that have not changed, allowing the progress of students to be tracked. These assessments show that in reading, average scores for 9- and 13-year-olds in 1999 were higher than the scores in 1971, when the test was first administered. In contrast, scores for 17-year-olds in 1999 were similar to the scores in 1971 *(Indicator 10)*. In mathematics, the results showed a pattern of improvement for 9-, 13-, and 17-year-olds from 1973, the first year of the assessment, to 1999 *(Indicator 12)*. In science, 9-year-old students scored slightly higher in 1999 than in 1970, while scores for 13-year-olds were similar in 1999 and 1970. Scores for 17-year-olds were lower in 1999 than they were in the first year of the assessment, 1969, but they had increased from their low point in 1982 *(Indicator 13)*.

The achievement gap between white and black students can also be examined using the NAEP's long-term trend results. Over recent years, this gap has been the focus of considerable attention among those concerned with equity in the quality of American education. For some people, equity is a more important benchmark against which to measure educational success than are international comparisons of performance (Jencks and Phillips 1998). Although the NAEP long-term trend data indicate that the average reading score of black students was lower than that of white students at ages 9, 13, and 17 for each year of the assessment, the achievement gap between white and black students has decreased across all three age groups. Most of this decline occurred between 1971 and 1988: 17-year-olds in the lowest quartile improved at a faster rate than did students in the highest quartile, with blacks outgaining whites at all quartile levels. This trend reversed itself from 1988 to 1999, and a similar pattern occurred for 13-year-olds *(Indicator 11)*.

As was the case in reading, white students outperformed black students in each assessment in both mathematics and science. In mathematics, the gap decreased from 1973 until 1990 for 17-year-olds and from 1973 until 1986 for 13-year-olds. The gaps have widened since then. In 1999, the gaps were greater for both 13-year-olds and 17-year-olds than in 1990 and 1986, respectively (*Indicator 12*). In science, there has been no significant change from 1969 to 1999 among 17-year-olds. Among 13-year-olds, the gap decreased from 1977 to 1982, and has remained stable since (*Indicator 13*).

Standards-based assessments

Since 1992, NAEP has also measured American students' performance in several subjects in grades 4, 8, and 12 based on predetermined achievement levels, which have been modified to reflect advances in educational curricula and practices. In mathematics, about two-thirds of students at each grade level performed at or above the "basic" level of achievement in 1996, an increase from 1990 *(Indicator 15, The Condition of Education 2000)*. In reading, almost two-thirds of 4th-grade students and roughly

Summary: Learner Outcomes

Continued

three-quarters of 8th- and 12th-grade students performed at or above the "basic" level in 1998 *(Indicator 13, The Condition of Education 2000).*

Adult Literacy

The reading habits of adults are positively correlated with their educational attainment. People age 25 and above with a bachelor's degree or higher are more likely than their peers with less than a high school education to read regularly; that is, to read one or more magazines regularly, to read the newspaper at least once a week, and to have read a book in the past 6 months *(Indicator 15).*

Social and Cultural Outcomes

Another aspect of learner outcomes is the creation of a responsible citizenry. Preparing students for citizenship is one of the primary goals of education (Branson 1994). On the 1998 NAEP civics assessment, approximately two-thirds of the students in grades 4, 8, and 12 scored at or above the "basic" level in civics, and approximately one-quarter scored at or above the "proficient" level *(Indicator 20, The Condition of Education 2000)*. Beyond students' knowledge of civic issues is their participation in civic activities in their community. Some argue that Americans are losing a sense of community by not volunteering and joining community groups (Putnam 2000). Fifty-two percent of students in grades 6–12, however, reported volunteering for community service in 1999, up from 49 percent in 1996. Students were more likely to participate in community service when the school provided an opportunity by arranging an activity than when the school did not *(Indicator 16).*

Voting behavior is another civic activity that has an impact on the social environment. In the 1996 and 1998 elections, among those ages 25–44, college graduates were much more likely than high school graduates to vote *(Indicator 22, The Condition of Education 2000).*

Aside from fostering an intelligent and active citizenry, education has an added social benefit: it may create a healthier citizenry. Research has shown that high educational attainment is strongly related to good health and physical functioning (Ross and Wu 1996). Results of the National Health Interview Survey indicate that people with more education were more likely to report being in good health, regardless of age or income in 1997, than their less well-educated peers *(Indicator 17).*

Economic Outcomes

Finally, many educators, researchers, and policymakers agree that education is strongly tied to the economy's performance through the productivity of its workforce (Murnane and Levy 1996). An effective education system should teach future workers skills that expand their capacity to perform tasks, use productive technologies, adapt easily to new tasks or to changes in old tasks, and work effectively in teams (NCES 97–269).

Worker productivity is measured by the wages employers are willing to pay, and education is often a key predictor of wage level. The earnings differential between young adults with different levels of educational attainment demonstrates this point. For example, in 1999, 25- to 34-year-old males and females who completed a 4-year college degree earned 58 and 92 percent more per year, respectively, than those who obtained no more than a high school diploma or its equivalent *(Indicator 18).* Further, since 1980, the percentage difference in earnings of young adults who completed at least a bachelor's degree over their counterparts who completed no more than high school has increased from 19 to 58 percent for males and from 52 to 92 percent for females.

Early Childhood Outcomes

Students' Overall Reading and Mathematics Performance Through 1st Grade

Differences in children's reading and mathematics performance persist across the kindergarten and 1st-grade years.

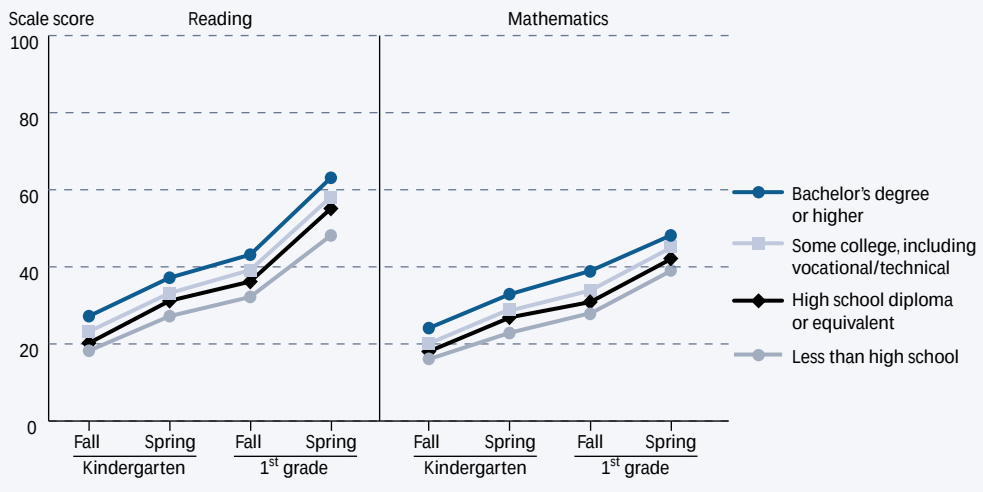
The early years of school mark a time of rapid development and learning. Young children acquire the reading and mathematics knowledge and skills that prepare them for future years of schooling and life. In 1998, the knowledge and skills of children who entered kindergarten varied according to their family background (*Indicators 11 and 12, The Condition of Education 2000*). Whether these differences narrow or widen over the course of their schooling is an important measure of educational equity.

Across kindergarten and 1st grade, children demonstrated significant gains in reading and mathematics knowledge and skills. During kindergarten, the average reading scale scores increased by 10 points, or about one standard deviation. In 1st grade, when many children learn to read, children's average reading scale scores increased by 19 points, or about two standard deviations. In mathematics, children's average scale scores increased by 8 and 10 points in kindergarten and 1st grade, respectively, or about one standard deviation in each grade (see supplemental table 8-1).

Children entered kindergarten with knowledge and skills that differed by their mother's education, and these gaps have persisted or increased through the first 2 years of school. Although children's reading gains in kindergarten did not differ by the level of their mother's education, 1st-graders whose mothers had at least a high school diploma demonstrated greater gains than children whose mothers had less education. In mathematics, the gains in each year were not statistically different.

In reading, kindergartners whose mothers had less than a high school education had average scale scores in the spring that were similar to the scores in the fall among those children whose mothers had a bachelor's degree or higher. The same pattern was evident in mathematics for both kindergartners and 1st-graders.

EARLY READING AND MATHEMATICS PERFORMANCE: Children's overall reading and mathematics performance from kindergarten through 1st grade, by mother's education: 1998–2000



NOTE: A standard deviation provides information about the distribution of students' scale scores. In a normal distribution, 68 percent of scores fall within plus or minus one standard deviation of the mean, and 95 percent fall within plus or minus two standard deviations of the mean. The reading scale score ranged from 0–72, and the mathematics score from 0–64. Based on those assessed in English (excludes 19 percent of Asian/Pacific Islander and 31 percent of Hispanic children). Based on children who entered kindergarten for the first time in fall 1998.

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.

FOR MORE INFORMATION:

Supplemental Notes 1, 8

Supplemental Table 8-1

NCES 2001–023, NCES 2000–070, NCES 2000–062, Indicators 11, 12

Early Childhood Outcomes

Children's Skills and Proficiency in Reading and Mathematics Through 1st Grade

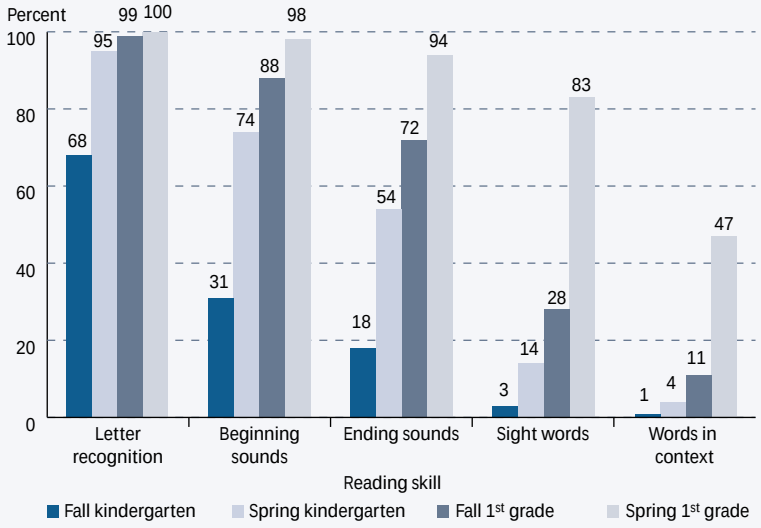
Young children gain important reading and mathematics skills during the kindergarten and 1st-grade years.

The proficiency children demonstrate in reading and mathematics is vital to their learning experiences. In kindergarten, children develop literacy skills such as recognizing letters and understanding the letter-sound relationship at the beginning and ending of words. At kindergarten entry, 31 percent understood the letter-sound relationship at the beginning of words, and 18 percent at the end of words, compared with 74 and 54, respectively, by the end of kindergarten (see supplemental table 9-1). In kindergarten, children learn to recognize numbers, compare objects (e.g., which one is longer), and understand the sequence of numbers (e.g., 2, 4, 6…). At kindergarten entry, 59 percent understood relative size, and 22 percent ordinality and sequence, compared with 88 and 59, respectively, by the end of the year (see supplemental table 9-2).

In 1st-grade reading, children typically learn to read words by sight and understand words in context. At the beginning of 1st-grade, 28 percent read words by sight, increasing to 83 percent by the end of the year. At 1st-grade entry, 11 percent understood words in context (i.e. reading and understanding sentences), and at the end of the year, 47 percent did so (see supplemental table 9-1). In 1st-grade mathematics, children acquire addition, subtraction, multiplication and division skills. As children entered 1st grade, 37 percent were proficient in addition and subtraction, and by the end of the year, 76 percent had become proficient. Seven percent could multiply and divide upon entry, and by the end of 1st grade, 27 percent had attained these skills (see supplemental table 9-2).

Children acquire specific reading and mathematics knowledge and skills at different times in their early years of schooling. In reading, the gap in basic kindergarten-related reading skills (i.e., letter recognition) decreased for at-risk kindergartners (whose mothers have less than a high school diploma) but widened in the more complex skills (i.e., reading sight words). A similar phenomenon occurred in 1st grade (i.e., reading ending sounds versus words in context) (see supplemental table 9-1). Consequently, in both kindergarten and 1st grade, the gap in basic skills (i.e., skills associated with the grade level) between children at risk and more advantaged children narrowed, but it widened in more complex skills (i.e., skills associated with the next grade level). A similar pattern emerged in mathematics (see supplemental table 9-2).

EARLY PROFICIENCY IN READING: Percentage of children with specific reading skills and proficiency from kindergarten through 1st grade: 1998–2000



NOTE: Based on those assessed in English for all rounds (excludes 19 percent of Asian/Pacific Islander and 31 percent of Hispanic children). Based on children who entered kindergarten for the first time in fall 1998.

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.

FOR MORE INFORMATION:

Supplemental Notes 1, 8

Supplemental Tables 9-1, 9-2

NCES 2001–023, NCES 2000–070, NCES 2000–062, Indicators 11, 12

Academic Outcomes

Trends in the Reading Performance of 9-, 13-, and 17-Year-Olds

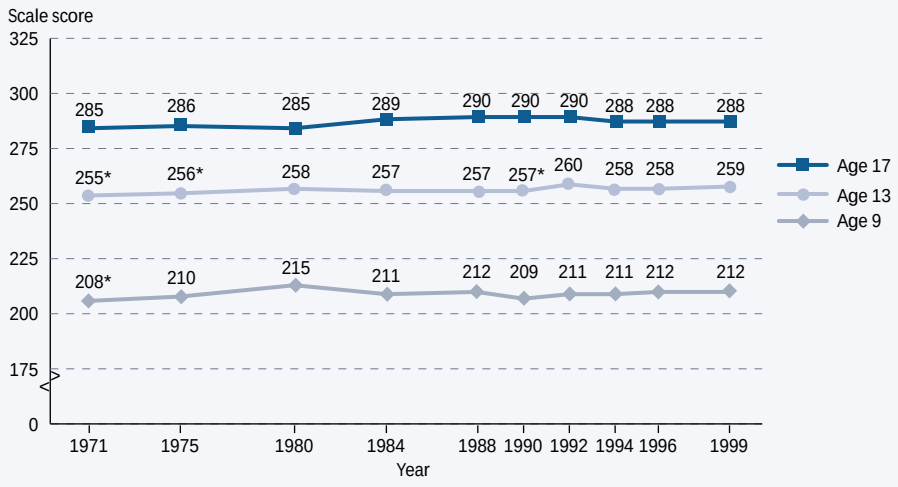
The reading performance of 9- and 13-year-olds in 1999 was higher than the performance in 1971, but there was no meaningful difference among 17-year-olds.

The National Assessment of Educational Progress (NAEP) has assessed the reading performance of 9-, 13-, and 17-year-old students since 1971 and thus provides a long-term perspective on how their performance has changed. In reading, both 9- and 13-year-olds' achievement scores increased in the 1970s. Although no further improvements in average reading scores have occurred for these age groups since the 1970s, their average scores were higher in 1999 than in 1971. In contrast, average scores for 17-year-olds were about the same in both 1971 and 1999. Their scores have remained within a narrow range during all assessment years.

Average reading scores for white students rose slowly across the assessment years. Reading scores were higher in 1992 and 1996 than in 1971 for all ages but remained higher in 1999 only for 9- and 13-year olds. Among Hispanic students at all ages, average reading scores were significantly higher in 1999 than in 1975, the first year in which separate scores were reported for Hispanics. Among blacks, the overall pattern across age groups is reasonably consistent beginning with low scores that increased throughout the assessment years. For all ages of black students, average reading scores in 1999 were higher than in 1971 (see supplemental table 10-1). White students outperformed their Hispanic and black peers at each age in 1999, a situation unchanged from the one that existed in 1971 (for blacks) and 1975 (for Hispanics). The gap between black and white students at all three ages narrowed between the first and last assessments (see supplemental table 10-2 and *Indicator 11*).

Among males, 9- and 13-year-olds' average reading scores were higher in 1999 than in 1971. In contrast, scores for 17-year-old males were about the same in 1971 and 1999 (as they were for 9- and 17-year-old females). Among 13-year-old females, students' average reading scores were higher in 1999 than in 1971. For all assessment years and ages, the average score for females was higher than that of males. These score gaps have remained relatively constant since 1971, with the exception of the gap for 9-year-olds, which was smaller in 1999 than in 1971 (see supplemental table 10-3).

READING PERFORMANCE: Average reading performance, by age: 1971–99



* Significantly different from 1999.

NOTE: Descriptions of student performance at different levels on the assessment scale can be found in supplemental table 10-5.

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

FOR MORE INFORMATION:

Supplemental Notes 1, 4

Supplemental Tables 10-1, 10-2, 10-3, 10-4, 10-5

Academic Outcomes

Trends in the Achievement Gap in Reading Between White and Black Students

While white students outperform black students in reading, the gaps decreased between the early 1970s and the late 1980s. Since then, however, the gaps have remained relatively stable or increased.

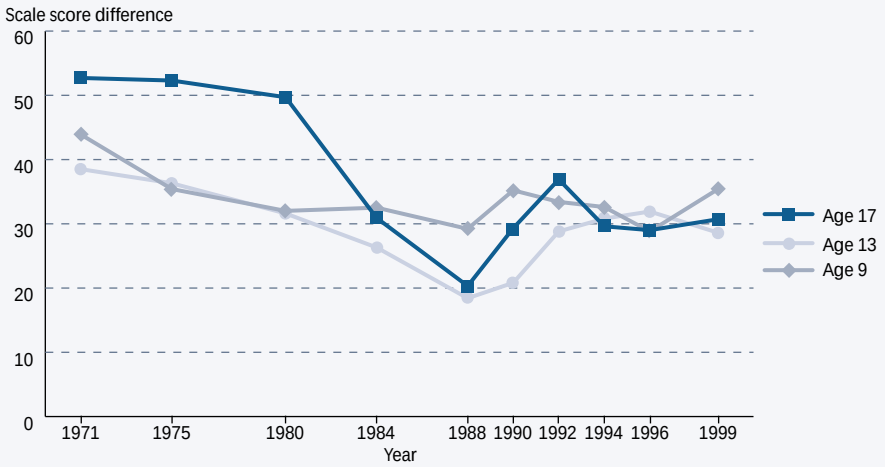
The National Assessment of Educational Progress (NAEP) has assessed trends in students' reading performance since the early 1970s. NAEP thus provides a picture of how student performance in reading has changed over time, specifically the achievement gap between black and white students. This issue has been the focus of considerable attention among those concerned with equity in the quality of education provided to America's students.

Since 1971, the reading scores of black 9-, 13-, and 17-year-olds have been lower, on average, than those of their white peers. However, the average difference between black and white students' scores has changed over time. There has been an overall narrowing in this achievement gap since 1971, most of which is due to decreases that occurred before 1988. For example, between 1971 and 1988, the black-white score gap decreased for all 13- and 17-year-olds. Between 1988 and 1999, the black-white score gap increased for 13-year-olds. The apparent increase for 17-year-olds, however, was not significant (see supplemental table 11-1).

One indication of what these score changes mean for black students' achievement is that in 1971 the average reading score of black 17-year-olds (239) was below that of white 13-year-olds (261). By 1988, the average reading score of black 17-year-olds (274) was between that of white 17-year-olds (295) and white 13-year-olds (261). In 1999, the average reading score of black 17-year-olds (264) was similar to that of white 13-year-olds (267) (see supplemental table 11-2).

Additional insight into these changes can be gained by examining how the achievement scores of black and white students changed at the high and the low ends of the score distribution in these two time periods. From 1971 to 1988, the overall reading gap for 17-year-olds decreased because the reading scores of black students increased more than the scores of white students at all quartile levels. Furthermore, among black and white

READING ACHIEVEMENT GAP: Difference in average reading scale scores of 9-, 13- and 17-year-old white and black students: 1971–99

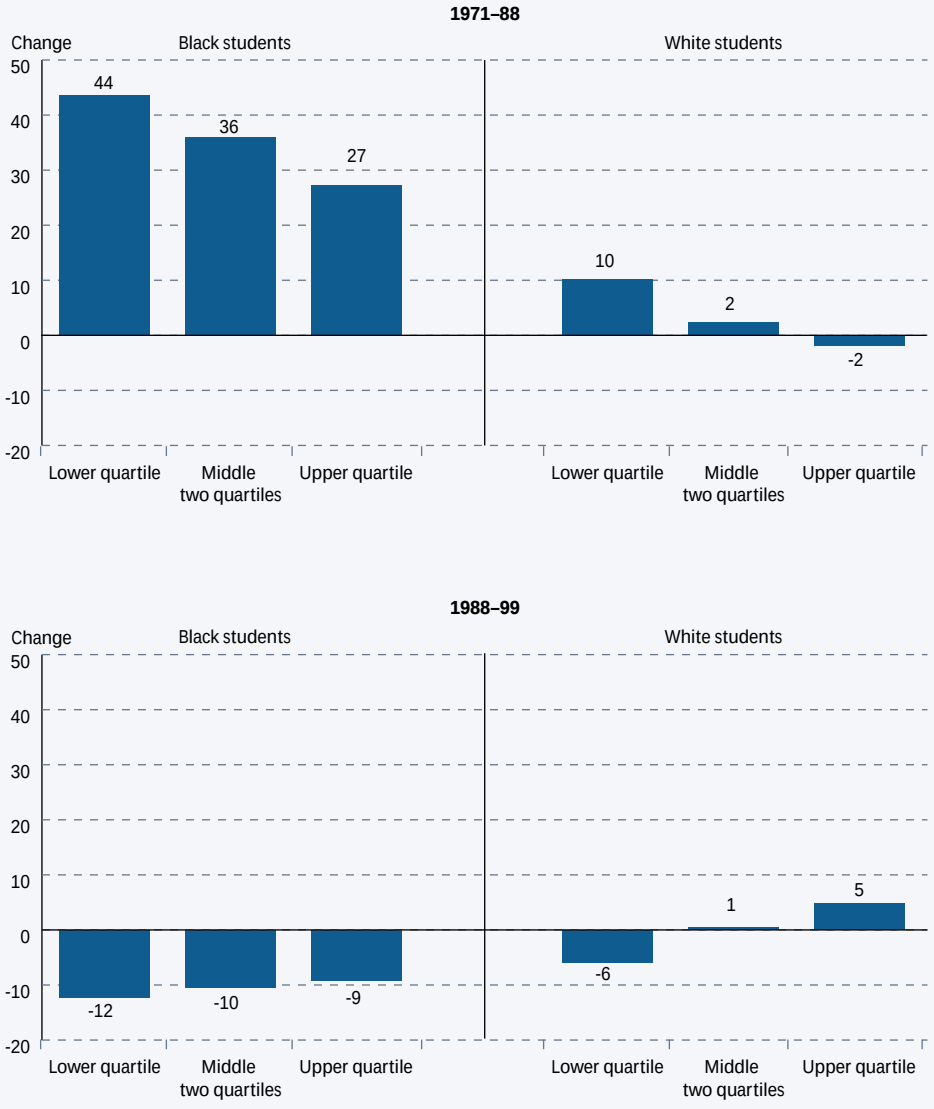


SOURCE: U.S. Department of Education, NCES. National Assessment of Educational Progress (NAEP), 1999 Long-Term Trend Assessment, and *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

FOR MORE INFORMATION:
Supplemental Notes 1, 4
Supplemental Tables 11-1, 11-2

students, the gaps between the highest and lowest performing students narrowed: the average scores of those in the lowest quartile increased relative to those in the highest quartile. These trends changed or were reversed between 1988 and 1999, at which time the scores of blacks at all quartile levels decreased, while the scores of whites varied by quartile. Among black students, there were no further changes in the gaps between the upper and lower quartile scores. Among white students, the average scores of those in the upper quartile increased, while the scores of those in the bottom quartile decreased, widening the difference between them to a level similar to that in 1971.

TRENDS IN READING ACHIEVEMENT: Change in average reading scale scores for 17-year-olds, by score quartile and race/ethnicity: 1971–88 and 1988–99



SOURCE: U.S. Department of Education, NCES. National Assessment of Educational Progress (NAEP), 1999 Long-Term Trend Assessment, and *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

FOR MORE INFORMATION:
Supplemental Notes 1, 4
Supplemental Tables 11-1, 11-2

Academic Outcomes

Trends in the Mathematics Performance of 9-, 13-, and 17-Year-Olds

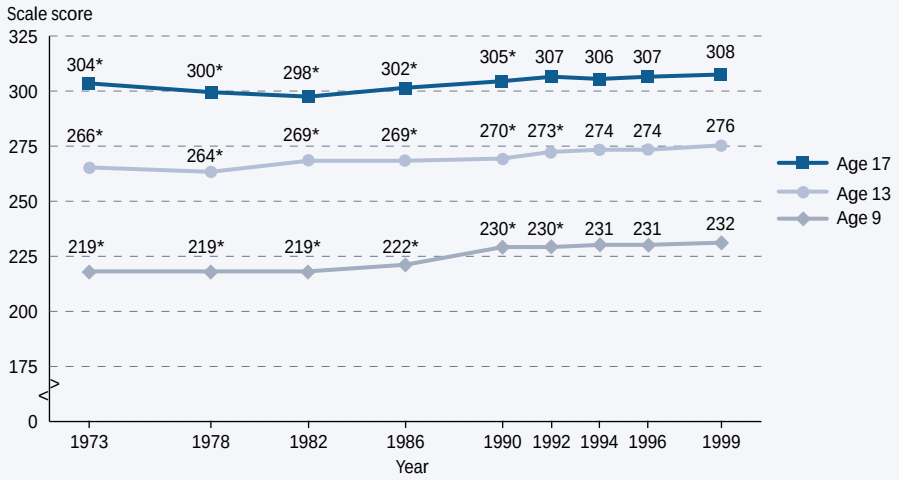
Mathematics scores for 9-, 13-, and 17-year-olds have increased since 1973.

The National Assessment of Educational Progress (NAEP) has assessed trends in mathematics performance for 9-, 13-, and 17-year-old students since 1973 and thus provides a long-term perspective on how their performance has changed. In mathematics, positive trends in the assessment results are evident for all three age groups. For 9-year-olds, a period of stable performance in the 1970s was followed by an increase in average scores from 1982 to 1990, and then some subsequent modest increases through the 1990s. For 13-year-olds, an increase in average scores between 1978 and 1982 was followed by additional increases during the 1990s, resulting in a pattern of overall progress. The average scores of 17-year-olds declined between 1973 and 1982, but since then they have risen. In all three age groups, the average scores were higher in 1999 than in 1973.

Overall, the mathematics scores of white, black, and Hispanic students have increased at all ages (see supplemental table 12-1). The scores for white students declined or remained relatively stable between 1973 and 1982 but then rose between 1982 and 1999. In contrast, the average scores for black students at all ages generally climbed from 1973 to approximately 1990, with significant increases throughout most of the 1980s. Hispanic students' performance in mathematics was also higher at all three ages in 1999 than it was from 1973 to 1982. White students outperformed black students in mathematics achievement at each age in 1999. From 1973 to 1986, the gaps between blacks and whites narrowed at all three age groups but remained relatively stable in the 1990s. White students also outperformed Hispanic students at each age in 1999, but the gap for 13- and 17-year-olds has narrowed since 1973 (see supplemental table 12-2).

Except for 17-year-old males, the scores for both males and females at all ages were higher in 1999 than in 1973. For 9- and 13-year-olds, score differences that favored females in the 1970s shifted to favor males in the 1990s. At age 17, the score difference favored male students across the assessment years, although the gap was smaller in 1999 than it had been in 1973 (see supplemental table 12-3).

MATHEMATICS PERFORMANCE: Average mathematics performance, by age: 1973–99



* Significantly different from 1999.

NOTE: Descriptions of student performance at different levels on the assessment scale can be found in supplemental table 12-5.

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

FOR MORE INFORMATION:

Supplemental Notes 1, 4

Supplemental Tables 12-1, 12-2, 12-3, 12-4, 12-5

Academic Outcomes

Trends in the Science Performance of 9-, 13-, and 17-Year-Olds

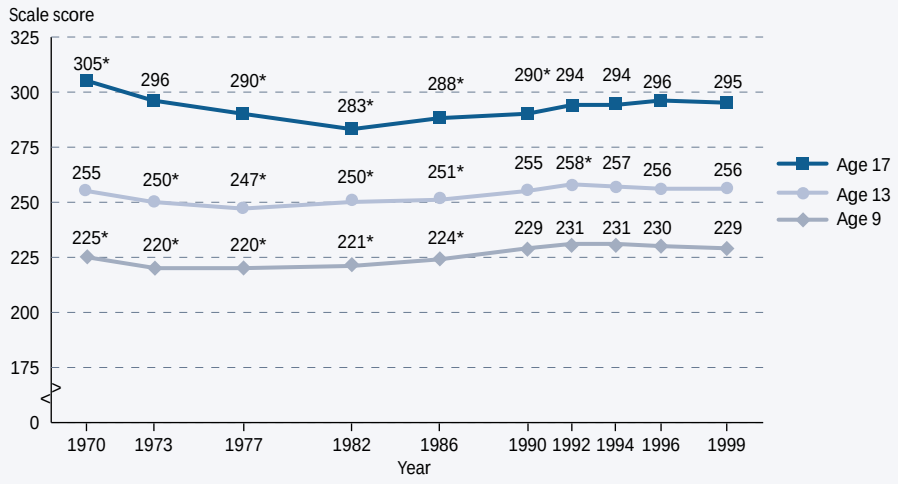
The science performance of 9-, 13-, and 17-year-olds declined during the 1970s, increased during the 1980s and early 1990s, and has been mostly stable since then.

The National Assessment of Educational Progress (NAEP) has assessed the science performance of 9-, 13-, and 17-year-old students for 30 years and thus provides a long-term perspective on how their performance has changed. Among 9-year-olds, average science scores declined between 1970 and 1973 and then remained stable through 1982. Scores for 9-year-olds rose between 1982 and 1992 but have been stable in more recent assessments. Among 13-year-olds, scores declined from 1970 to 1977 and then increased steadily from 1982 to 1992. Since 1992, scores for 13-year-olds have dropped slightly, resulting in a 1999 average that was similar to that in 1970. Scores for 17-year-olds declined from 1969 to 1982 and then increased over the next 10 years. Since 1992, scores for 17-year-olds have remained stable, but average scores in 1999 were still lower than those in the first assessment.

Average scores for white, black, and Hispanic students at ages 9 and 13 have risen, but scores for 17-year-olds in these racial/ethnic groups have shown a mixed pattern (see supplemental table 13-1). Among white students, there was an initial decline in scores at each age, but by 1999 scores for 9- and 13-year-olds were higher than those in 1970. Average scores for white 17-year-olds were lower in 1999 than 30 years earlier. Average scores for black 9- and 13-year-olds increased significantly between 1970 and 1999, with most of the improvement occurring between 1977 and 1986 and then remaining stable. Scores for black 17-year-olds, which dropped sharply between 1973 and 1982, were about the same in 1999 as in the early 1970s. Hispanic students have varied patterns of score change across age levels. Students at each age attained an average score in 1999 that was higher than that in 1977. Among 17-year-old Hispanics, average scores increased significantly between 1982 and 1999. Overall, white students outperformed black and Hispanic students in science at each age level in 1999 (see supplemental table 13-2).

The overall picture for male and female students shows a decrease in scores through the 1970s and early 1980s, followed by small, generally positive changes since that time. Score differences in 1999 favor males at ages 13 and 17, while males and females had similar scores at age 9 (see supplemental table 13-3).

SCIENCE PERFORMANCE: Average science performance, by age: 1970–99



* Significantly different from 1999.

NOTE: For science, the NAEP was first administered to 17-year-olds in 1969 and to 9- and 13-year-olds in 1970. Descriptions of student performance at different levels on the assessment scale can be found in supplemental table 13-5.

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

FOR MORE INFORMATION:

Supplemental Notes 1, 4

Supplemental Tables 13-1, 13-2, 13-3, 13-4, 13-5

Academic Outcomes

International Comparisons of 8th-Graders' Performance in Mathematics and Science

In 1999, U.S. 8th-graders exceeded the international average of 38 countries in mathematics and science but performed lower than their peers in 14 countries.

The Third International Mathematics and Science Study–Repeat (TIMSS-R), which was conducted in 1999, follows the previous TIMSS by 4 years and focuses on the mathematics and science achievement of 8th-graders in 38 countries. In TIMSS-R, the international average score for 8th-graders in mathematics of the 38 participating countries was 487, and the average in science was 488. In 1999, U.S. students on average scored higher in both mathematics and science than the international average of the 38 countries. In mathematics, the average U.S. score was higher than the score in 17 countries, similar to the score in 6 countries, and lower than the score in 14 countries. In science, the average U.S. score for 8th-graders was higher than the score in 18 countries, similar to the score in 5 countries, and lower than the score in 14 countries in 1999 (see the figure on the opposite page and supplemental table 14-1).

Both TIMSS and TIMSS-R assessed students in 8th grade, allowing for a comparison of 8th-grade performance at two points in time. Of the 38 countries that participated in TIMSS-R, 23 also participated in the 8th-grade assessment in TIMSS. The international average in 1999 of the 23 countries participating in both studies was 521 in both mathematics and science (see supplemental table 14-2).

Among U.S. 8th-graders, there was no statistically significant change in mathematics or science performance from 1995 to 1999. Of the 23 countries that participated at the 8th-grade level in mathematics in TIMSS 1995 and TIMSS-R 1999, there was no change in achievement in 19 countries during this period, 3 countries experienced an increase in overall mathematics achievement, and 1 country experienced a decrease. In science, there was no change in 18 of the 23 countries from 1995 to 1999, there was an increase in overall science achievement in 4 countries, and a decrease in 1 country. The international average of 8th-graders in 1999 was similar to that of 8th-graders in 1995 in both mathematics and science for the 23 countries that participated in both assessments (see the top figure on page 28 and supplemental table 14-2).

The 1995 TIMSS 4th-graders and the 1999 TIMSS-R 8th-graders represented the same group of students at two different points in time. These students' performance in 1995 can be compared with their performance in 1999. However, direct comparisons between the 1995 4th-grade TIMSS assessment and the 1999 8th-grade TIMSS-R assessment are complicated by several factors, including differences in the content areas assessed and the questions that could be asked between the two grade levels. Therefore, comparisons between TIMSS 4th-graders and TIMSS-R 8th-graders are based on their performance relative to the international average of the 17 countries that participated in 4th-grade TIMSS and 8th-grade TIMSS-R. The international average in 1999 for the 17 countries in both 8th-grade mathematics and science was 524 (see supplemental table 14-3).

The U.S. mathematics score for 4th-graders in 1995 was statistically similar to the international average of the 17 participating countries, but the U.S. mathematics score for 8th-graders in 1999 was below the international average. In science, the U.S. 4th-grade score in 1995 was above the international average of the 17 countries, but the 8th-grade score in 1999 was similar to the international average. As a result, in both mathematics and science, U.S. students' performance decreased relative to the international average of the 17 countries, from the 4th grade in 1995 to the 8th grade in 1999 (see the bottom figure on page 28 and supplemental table 14-3).

FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Tables 14-1, 14-2, 14-3

NCES 2001–027, NCES 2000–062, Indicators 18, 19

MATHEMATICS AND SCIENCE PERFORMANCE: Average mathematics and science performance of 8th-graders for the 38 participating countries: 1999

Mathematics	Average score relative to the United States	Science
Australia Belgium-Flemish Canada Chinese Taipei Finland Hong Kong, SAR Hungary Japan Korea, Republic of Netherlands Russian Federation Singapore Slovak Republic Slovenia	Significantly higher	Australia Belgium-Flemish Canada Chinese Taipei Czech Republic England Finland Hungary Japan Korea, Republic of Netherlands Singapore Slovak Republic Slovenia
Bulgaria Czech Republic England Latvia-LSS[1] Malaysia New Zealand	Not significantly different	Bulgaria Hong Kong, SAR Latvia-LSS[1] New Zealand Russian Federation
Chile Cyprus Indonesia Iran, Islamic Republic of Israel[2] Italy *International average* Jordan Lithuania[3] Macedonia, Republic of Moldova Morocco Philippines Romania South Africa Thailand Tunisia Turkey	Significantly lower	Chile Cyprus Indonesia Iran, Islamic Republic of Israel[2] Italy *International average* Jordan Lithuania[3] Macedonia, Republic of Malaysia Moldova Morocco Philippines Romania South Africa Thailand Tunisia Turkey

[1] Only Latvian-speaking schools were tested.

[2] Israel did not meet the international sampling and/or other guidelines. See *Supplemental Note 5* for details.

[3] Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

NOTE: Eighth grade in most countries. See *Supplemental Note 5* for details. The international average is the average of the national averages of the 38 countries.

SOURCE: U.S. Department of Education, NCES. *Pursuing Excellence: Comparisons of International Eighth-Grade Mathematics and Science Achievement from a U.S. Perspective, 1995 and 1999* (NCES 2001–028), 2000.

FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Tables 14-1, 14-2, 14-3

NCES 2001–027, NCES 2000–062, Indicators 18, 19

CHANGE IN MATHEMATICS AND SCIENCE PERFORMANCE: Mathematics and science performance of 8th-graders in 1995 and 1999 for the 23 participating countries

Mathematics		Average score in 1999 relative to the country's score in 1995	Science	
Canada		Significantly higher	Canada	Lithuania[1,3]
Cyprus			Hungary	
Latvia-LSS[1,2]			Latvia-LSS[1,2]	
Australia[1]	Korea, Republic of	Not significantly different	Australia[1]	Korea, Republic of
Belgium-Flemish	Lithuania[1,3]		Belgium-Flemish	Netherlands[1]
Bulgaria[1]	Netherlands[1]		Cyprus	New Zealand
England[1]	New Zealand		Czech Republic	Romania[1]
Hong Kong, SAR	Romania[1]		England[1]	Russian Federation
Hungary	Russian Federation		Hong Kong SAR	Singapore
International average	Singapore		*International average*	Slovak Republic
Iran, Islamic Republic of	Slovak Republic		Iran, Islamic Republic of	Slovenia[1]
Italy	Slovenia[1]		Italy	*United States*
Japan	*United States*		Japan	
Czech Republic		Significantly lower	Bulgaria[1]	

[1]Country did not meet the international sampling and/or other guidelines at 8th-grade level in 1995. See *Supplemental Note 5* for more details.

[2]Only Latvian-speaking schools were tested.

[3]Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

NOTE: Eighth grade in most countries. *See Supplemental Note 5* for details. International average is the average for the 23 countries that participated in the 8th-grade assessment in both 1995 and 1999.

SOURCE: U.S. Department of Education, NCES. *Pursuing Excellence: Comparisons of International Eighth-Grade Mathematics and Science Achievement from a U.S. Perspective, 1995 and 1999* (NCES 2001–028), 2000.

MATHEMATICS PERFORMANCE: Average mathematics performance of 4th-graders in 1995 and 8th-graders in 1999 for the 17 countries that participated in both assessments

4th-graders in 1995		Average score relative to the international average	8th-graders in 1999	
Czech Republic	Japan	Significantly higher	Hong Kong, SAR	Singapore
Hong Kong, SAR	Netherlands[1]		Japan	
Korea, Republic of	Singapore		Korea, Republic of	
Australia[1]	Slovenia[1]	Not significantly different	Australia	Hungary
Hungary[1]	*United States*		Canada	Netherlands
Italy[1]			Czech Republic	Slovenia
Canada	Latvia-LSS[1,2]	Significantly lower	Cyprus	Latvia-LSS[2]
Cyprus	New Zealand		England	New Zealand
England[1]			Iran, Islamic Republic of	*United States*
Iran, Islamic Republic of			Italy	

[1] Country did not meet the international sampling and/or other guidelines at 4th-grade level in 1995. See *Supplemental Note 5* for more details.

[2] Only Latvian-speaking schools were tested.

NOTE: Fourth and 8th grade in most countries. See *Supplemental Note 5* for details. International average is the average for the 17 countries that participated in the 4th-grade assessment in 1995 and the 8th-grade assessment in 1999.

SOURCE: U.S. Department of Education, NCES. *Pursuing Excellence: Comparisons of International Eighth-Grade Mathematics and Science Achievement from a U.S. Perspective, 1995 and 1999* (NCES 2001–028), 2000.

FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Tables 14-1, 14-2, 14-3

NCES 2001–027, NCES 2000–062, Indicators 18, 19

Adult Literacy

Adult Literacy Habits and Media Use

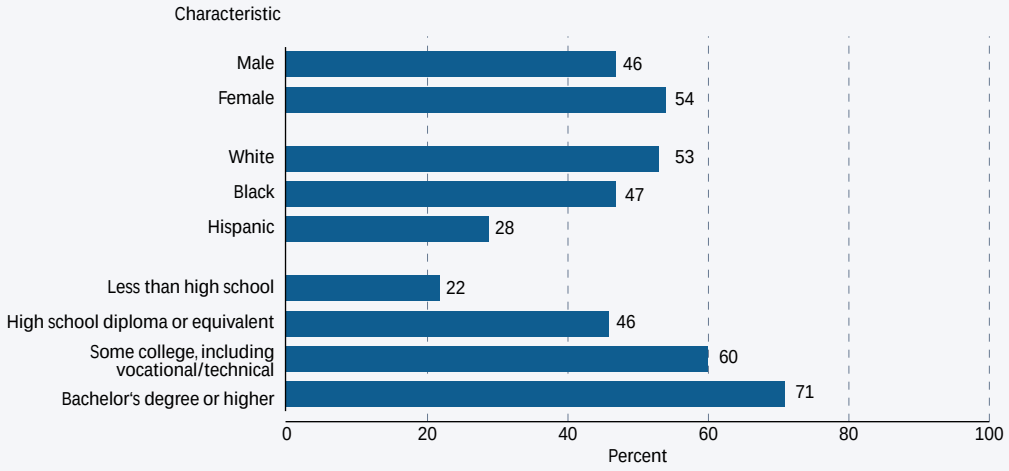
The percentage of people with a bachelor's degree who reported reading regularly was three times the percentage of people with less than a high school diploma.

One goal of the National Education Goals Panel is that "every adult American will be literate and will . . . exercise the rights and responsibilities of citizenship." A measure of how well the Nation is doing in meeting this goal is the reading habits of adults. In 1999, about half of all adults 25 and above reported reading regularly (defined as reading a newspaper once a week, at least one magazine regularly, and a book in the past 6 months). Women were more likely than men to report reading regularly. Men and women differed in their particular reading habits: men were more likely to report reading a newspaper daily and women more likely to report having read a book in the past 6 months (see supplemental table 15-1).

White and black adults reported reading regularly at similar levels, and both groups were more likely than Hispanic adults to report reading regularly. White and black adults also differed from Hispanic adults in their particular reading habits: they were more likely to read the newspaper daily, to read five or more magazines regularly, and to have read a book in the past 6 months than Hispanic adults. It should be noted, however, that people were asked only about their reading habits for literature printed in English, and the survey may have underestimated the reading habits of adults whose primary language is not English.

Education is positively correlated with the reading habits of adults. People with a bachelor's degree or higher were more likely than less well-educated people to report reading regularly. In 1999, the percentage of those with a bachelor's degree or higher who had undertaken all three activities was three times the percentage of those with less than a high school diploma (71 versus 22 percent). In addition, people with a bachelor's degree or higher were more likely to have more extensive particular reading habits. They were more likely than people with less than a high school diploma to read the newspaper every day, to read five or more magazines regularly, and to have read a book in the past 6 months (see supplemental table 15-1).

READING HABITS OF ADULTS: Percentage of adults age 25 and above who reported having read regularly, by selected characteristics: 1999



NOTE: The category "having read regularly" consists of people who reported doing all three of the following activities: read a newspaper at least once a week, read one or more magazines regularly, and read a book in the past 6 months. Adults were asked about their reading habits for literature printed in English.

SOURCE: U.S. Department of Education, NCES. *National Household Education Surveys Program (NHES) 1999 Data Files: Adult Education and Life-Long Learning Survey* (NCES 2000–079), 2000.

FOR MORE INFORMATION:
Supplemental Notes 1, 3
Supplemental Table 15-1

Social and Cultural Outcomes

Community Service Participation in Grades 6-12

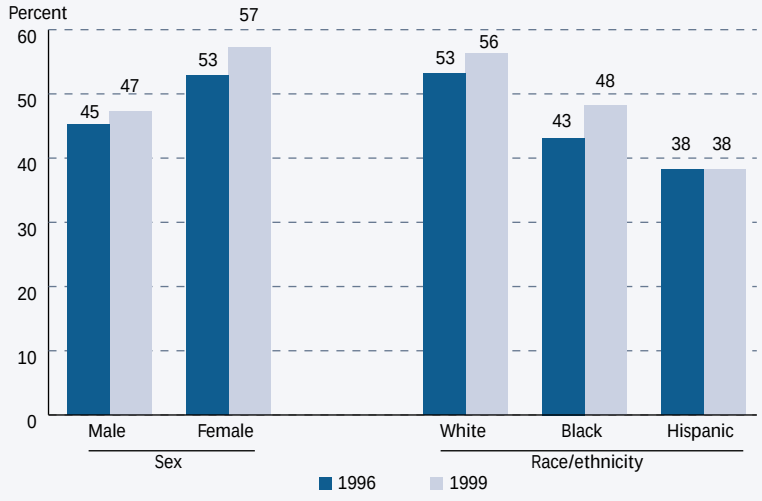
Students were somewhat more likely to participate in community service in 1999 than in 1996. They were more likely to participate in community service when their school arranged an activity than when the school did not.

One objective of the National Education Goals Panel is that "all students will be involved in activities that promote and demonstrate good citizenship, good health, community service, and personal responsibility." In 1999, 52 percent of students in grades 6–12 had participated in community service in the past year, an increase from 49 percent in 1996. Females were more likely than males to participate in community service in 1999 (57 versus 47 percent). In addition, female participation increased from 1996 to 1999 (53 to 57 percent), while male participation remained unchanged (see supplemental table 16-1).

White students were more likely than black and Hispanic students to participate in community service in 1999: 56 percent of white students, 48 percent of black students, and 38 percent of Hispanic students volunteered. While the rate of participation among white students increased from 1996 to 1999, there was no significant increase in participation among black and Hispanic students. Student participation in community service was positively associated with their parents' highest level of educational attainment; for example, in 1999, students with parents who had attained a bachelor's degree were more likely to participate in community service (62 percent) than students with parents who had a high school diploma (46 percent).

The majority of students (86 percent) reported that their school arranged community service activities in 1999 (see supplemental table 16-2). Students were more likely to participate in community service when their school arranged an activity than when the school did not. In 1999, 60 percent of the students participated in community service when their school required and arranged it, and 54 percent participated when their schools arranged but did not require service (see supplemental table 16-1). Fewer students participated when the school required participation without arranging an activity (35 percent) or neither required nor arranged an activity (29 percent). In short, students appear more likely to participate when the opportunity is provided but may be less likely to seek out opportunities.

PARTICIPATION IN COMMUNITY SERVICE: Percentage of students in grades 6–12 who participated in community service, by sex and race/ethnicity: 1996 and 1999



SOURCE: U.S. Department of Education, NCES. *Youth Service-Learning and Community Service Among 6th- Through 12th-Grade Students in the United States: 1996 and 1999* (NCES 2000–028), 2000.

FOR MORE INFORMATION:
Supplemental Notes 1, 3
Supplemental Tables 16-1, 16-2

Social and Cultural Outcomes

Education and Health

The better educated a person is, the more likely that person is to report being in very good or excellent health, regardless of income.

Better education is associated with better health. In the National Health Interview Survey, the National Center for Health Statistics annually surveys people concerning their health. One question asks respondents to rate their own health. In 1997, the better educated a person was, the more likely that person was to report being in "excellent" or "very good" health. People with a bachelor's degree or higher were twice as likely as those without a high school diploma or equivalent to report being in excellent or very good health (80 versus 39 percent) (see supplemental table 17-1).

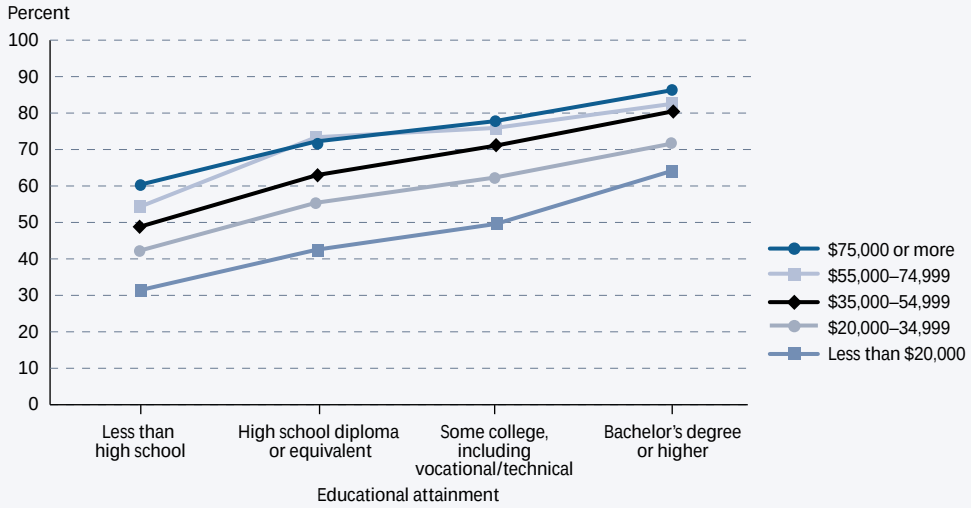
Family income was also related to health. The more family income a person had, the more likely that person was to report being in excellent or very good health. In 1997, those with a family income of $75,000 or more were nearly twice as likely as people making less than $20,000 to report being in excellent or very good health (80 versus 41 percent) (see supplemental table 17-1).

In addition to this strong relationship between family income and health, education is positively related to health, independent of income. Within each income range, people with a bachelor's degree or higher reported being in better health than people with some education beyond high school, who, in turn, reported being in better health than high school completers. High school completers, in turn, reported being in better health than people with less than a high school diploma. For example, for all adults with a family income between $35,000 and $54,999 in 1997, those with a bachelor's degree or higher (80 percent) were more likely than those with some education beyond high school (71 percent) to report being in excellent or very good health. People with some education beyond high school, in turn, were more likely than high school completers (63 percent) to report being in good health. Finally, people with a high school diploma or equivalent reported having better health on average than those who had not completed high school (49 percent).

NOTE: Includes those who responded excellent or very good on a scale of excellent, very good, good, fair, and poor.

SOURCE: U.S. Department of Health and Human Services, Centers for Disease Control, National Center for Health Statistics. National Health Interview Survey, 1997.

EDUCATION AND HEALTH: Percentage of the population age 25 and above who reported being in excellent or very good health, by educational attainment and family income: 1997



FOR MORE INFORMATION:
Supplemental Notes 1, 8
Supplemental Table 17-1
Bjorner et al. 1996
Lantz et al. forthcoming

Economic Outcomes

Annual Earnings of Young Adults

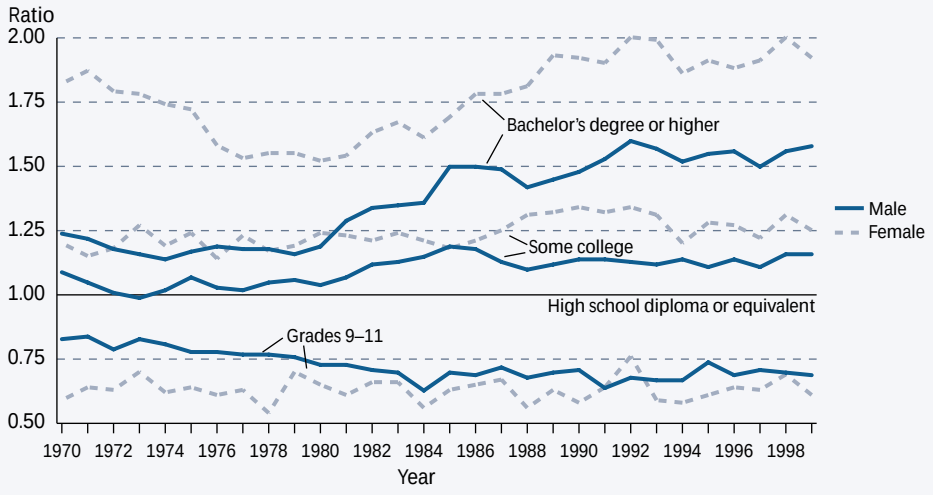
Over the past 20 years, the earnings of young adults who had completed at least a bachelor's degree increased relative to their counterparts who had completed no more than a high school education.

Young adults ages 25–34 who had completed at least a bachelor's degree earned more than those with less education. For example, in 1999, male and female college graduates earned 58 and 92 percent more, respectively, than those who had completed high school. In contrast, young men and women ages 25–34 who had dropped out of high school earned 31 and 39 percent less, respectively, than their peers who had received a high school diploma (see supplemental tables 18-1 and 18-2).

Between 1980 and 1999, the earnings of young adults who had completed at least a bachelor's degree have increased relative to their counterparts with no more than a high school education. This increase occurred for both men and women, from 19 percent to 58 percent higher for men, and from 52 percent to 92 percent higher for women. During the same period, the earnings of young adults with less than a high school education continued to lag behind those who had completed high school, varying from 27 percent to 31 percent less for men and from 35 to 39 percent less for women (see supplemental table 18-2).

Gaps in earnings between males and females decline with increasing levels of education: as educational attainment increases, the ratio of median annual earnings of male to female wage and salary workers decreases. However, the association between education and the male/female earnings gap has lessened over time. That is, the earnings of women have achieved greater parity with the earnings of men in recent years, regardless of the level of educational attainment (see supplemental table 18-3).

ANNUAL EARNINGS: Ratio of median annual earnings of all wage and salary workers ages 25–34 whose highest level of education was grades 9–11, some college, and a bachelor's degree or higher, compared with those with a high school diploma or equivalent, by sex: March 1970–99



NOTE: This ratio is most useful when compared with 1.0. For example, the ratio of 1.58 in 1999 for males whose highest level of education was a bachelor's degree or higher means that they earned 58 percent more than males who had a high school diploma or equivalent. The ratio of 0.69 in 1999 for males whose highest level of education was grades 9–11 means that they earned 31 percent less than males who had a high school diploma or equivalent. The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey methodology for the CPS was changed and weights were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

FOR MORE INFORMATION:

Supplemental Notes 1, 2

Supplemental Tables 18-1, 18-2, 18-3

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Section 3

Student Effort and Academic Progress

Contents

Summary: Student Effort and Academic Progress

The effort students put into their studies and the choices they make as they proceed through the educational system contribute to their academic success. These factors play an important role in determining how well students perform and also affect their access to and persistence at the next level if they decide to continue their formal education. The indicators in this section use the student as the unit of analysis and examine student effort, academic progress, and attainment as students proceed through elementary, secondary, and postsecondary education.

Student Aspirations and Attitudes

Students' educational expectations have increased substantially since the early 1980s. Between 1983 and 1998, the percentage of 12th-graders who reported that they definitely planned to complete a bachelor's degree increased from 36 to 55 percent, and the percentage who definitely planned to attend graduate or professional school nearly doubled—from 11 to 21 percent (*Indicator 19*). Women's expectations have increased more than men's. In 1983, there were no gender differences in the percentages who definitely planned to complete a 4-year program or attend graduate or professional school. By 1998, however, women were more likely than men to expect to do so.

Gender differences also exist in 12th-graders' perceptions about what is important for having high status in their school. In 1998, females were more likely than males to report that getting good grades (49 versus 42 percent) and planning to go to college (53 versus 43 percent) were greatly important (*Indicator 20*).

Student Effort

Reflecting increased expectations and changes in graduation requirements and course offerings, today's high school graduates are taking more courses and more difficult courses than they did in the early 1980s. Between 1982 and 1998, the average number of credits earned by high school graduates increased from 22 to 25 (*Indicator 27, The Condition of Education 2000*). This increase has been in academic rather than vocational or enrichment/other credits. The percentage of high school graduates who took the most rigorous mathematics curriculum (Advanced Placement calculus, calculus, and calculus/analytic geometry) doubled—from 6 to 12 percent between 1982 and 1998 (*Indicator 40, The Condition of Education 2000*). Also, the percentage who took both chemistry and physics increased from 7 to 19 percent during the same period.

Another indicator of the effort that students give to their school work is the amount of time spent on homework. In 1998, most 12th-graders (88 percent) reported doing at least some homework in a typical week, although more than half spent less than 0-4 hours per week on homework (*Indicator 21*). At the same time, 77 percent of 12th-graders worked during the school year, and there was an inverse relationship between hours spent working and hours devoted to homework, with seniors more likely to do no homework or to spend 4 or fewer hours a week on homework as their job hours increased.

Elementary/Secondary Persistence and Progress

In addition to examining students' academic achievement (see section 2), it is important to monitor their progress through school up to and including completion. Early problems in school can accumulate and lead eventually to dropping out, which can have long-term consequences for adults including lower earnings (*Indicator 18*) and putting their own children at a disadvantage with respect to educational success (see, for example, *Indicator 33, The Condition of Education 2000*).

Summary: Student Effort and Academic Progress

Continued

There have been changes in the preschool enrollment patterns of young children and in high school completion rates. Between 1991 and 1999, the percentage of children ages 3–5 who had not yet entered kindergarten and who attended center-based early childhood education programs increased from 53 to 60 percent (*Indicator 1*). In addition, high school completion rates have increased. In 2000, 88 percent of 25- to 29-year-olds had completed high school, up from 78 percent in 1971 (*Indicator 31*). Status dropout rates have declined since the early 1970s (*Indicator 23*).

Persistence and progress vary by gender, race/ethnicity, and urbanicity. For example, girls beginning kindergarten in 1998 were reported by their teachers to be more likely than boys to persist at tasks, show eagerness to learn, and pay attention often or very often (*Indicator 26, The Condition of Education 2000*). In addition, white and Asian children were more likely than black or Hispanic children to exhibit these characteristics, as were children whose mothers had higher versus lower levels of education. Also, dropout rates tend to be higher for Hispanics (especially those born outside the United States) than for non-Hispanics (*Indicator 23*), as they are for students in urban areas compared with those in suburban areas (*Indicator 28, The Condition of Education 2000*).

Transition to College

Increasing numbers of high school graduates are entering college immediately after high school. In 1972, about half (49 percent) of all high school completers ages 16–24 enrolled in a 2- or 4-year college immediately after high school; in 1999, 63 percent did so (*Indicator 26*). Enrollment rates increased faster for females than males, especially at 4-year institutions. The enrollment rate for whites remains higher than that for blacks (66 versus 59 percent in 1999), but the white-black gap has decreased since the early 1980s.

Although high overall, immediate college enrollment rates varied with family income and parents' education. High school completers from high-income families were considerably more likely to enroll than were their peers from low-income families (76 versus 49 percent) (*Indicator 26*). High school completers were also much more likely to enroll if at least one parent had a bachelor's degree or higher than if their parents had less education.

Financial aid programs are available to help low-income families pay for college. Nonetheless, many students and parents tend to overestimate the price of attending college, possibly discouraging them from making the necessary academic and financial preparations. For example, when parents and their 6th- to 12th-grade children who planned to attend or were considering a public 4-year institution were asked in 1999 to estimate annual in-state tuition and fees, their estimates ($5,970 by parents and $5,664 by students) were substantially higher than the actual average amount charged to full-time undergraduates ($3,243) (*Indicator 25*).

Having less educated parents places students at a disadvantage that is partly mitigated by taking advanced mathematics in high school. Among 1992 high school graduates who had not completed any mathematics courses higher than algebra I and geometry, those whose parents had not gone beyond high school enrolled in 4-year institutions at less than half the rate of those whose parents had a bachelor's degree (11 versus 28 percent) (*Indicator 24*). If students had completed courses beyond algebra II, however, they enrolled at about three-quarters the rate of their peers whose parents had a bachelor's degree (64 versus 85 percent).

Postsecondary Persistence and Progress

Completion of a degree or certificate is associated with increased employment opportunities

Summary: Student Effort and Academic Progress

Continued

and income potential (*Indicator 18*). Thus, it is useful to monitor persistence and identify factors that promote students' likelihood of staying enrolled and attaining their goal (see the *Essay* for a comprehensive treatment of this topic).

In 1995–96, about 3.3 million students enrolled in postsecondary education for the first time (*Indicator 27*). Persistence and completion rates varied with degree goal. Among those seeking a certificate, 52 percent had obtained one by 1998. A few had earned an associate's degree, and some were still enrolled in a program. However, 37 percent had left postsecondary education without a degree or certificate. Among those seeking an associate's degree, 15 percent had earned one by 1998, and 41 percent had left postsecondary education without an award. Those seeking a bachelor's degree were the most likely to persist, with about three-quarters of those who started at a 4-year institution still enrolled at that level 3 years later.

Certain characteristics put college students at risk for not persisting, including coming from a low-income family, having parents who did not attend college, and attending a higher poverty high school. One factor that helps these at-risk students persist in 4-year institutions is high school preparation for college-level work. At-risk students who complete high school with 4 years of English and 3 years each of science, social science, and mathematics (the Core New Basics curriculum) were as likely to persist as their peers who were not at risk (*Indicator 35, Condition of Education 2000*).

There is additional evidence of the importance of high school coursework. The gap in persistence at 4-year institutions between students whose parents did not go beyond high school and those with a parent who had a bachelor's degree is narrower when students take a rigorous high school curriculum than when they do not exceed the Core New Basics curriculum (*Indicator 28*).

When students enter college lacking the reading and other skills needed to succeed in college-level work, their likelihood of completing a bachelor's degree diminishes. Reading skills are particularly important. Thirty-four percent of 1982 high school graduates who took any remedial reading coursework in college had completed a bachelor's or associate's degree by age 29–30, compared with 56 percent of those with no remedial courses (*Indicator 29*).

Completions

The overall educational attainment of the population has increased over time. The percentage of 25- to 29-year olds who had completed at least high school (with a regular high school diploma or equivalent, such as a GED) rose from 78 percent in 1971 to 88 percent in 2000 (*Indicator 31*). Several trends have been evident since the early 1970s: (1) female attainment rates have increased faster than those of males at all levels; (2) the black-white gap remained about the same for completing some college and widened for earning a bachelor's degree or higher; and (3) the Hispanic-white gap in earning a bachelor's degree or higher has increased.

In the United States, 28 percent of adults ages 25–34 and 29 percent of those ages 45–54 have completed some higher education (*Indicator 32*). These percentages are higher than those in any of the other G-7 countries (Canada, United Kingdom, France, Italy, Germany, and Japan).

Student Attitudes and Aspirations

Educational Plans

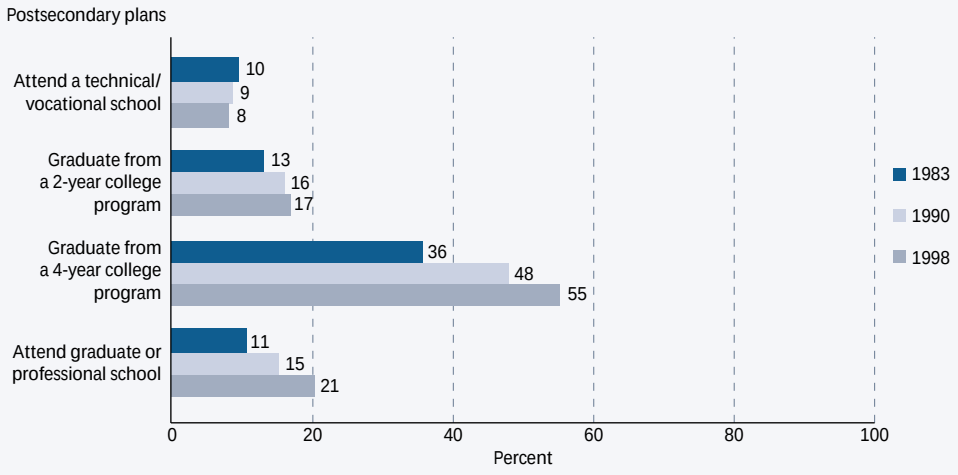
Students' educational expectations have increased substantially since 1983. Since at least 1990, female 12th-graders have been more likely than their male peers to report definite plans for higher education.

In a climate of rising standards and expectations that began in the 1980s, students have been increasingly completing college-preparatory courses in high school and taking college admissions examinations such as the ACT/SAT (*Indicator 22, The Condition of Education 1996; Indicator 9, The Condition of Education 1997; Indicator 9, The Condition of Education 1998*). Increasing proportions of students are also entering college and completing degrees (*Indicator 59, The Condition of Education 1999*). Trends in high school seniors' educational expectations provide another measure of this growing focus on postsecondary schooling.

The percentage of 12th-graders who said they "definitely will" complete a bachelor's degree increased substantially between 1983 and 1998 (from 36 to 55 percent). Furthermore, the proportion who said they definitely will attend graduate or professional school nearly doubled, from 11 to 21 percent. The percentage of seniors who definitely planned to complete a 2-year college program rose slightly from 1983 to 1998. In contrast to these three upward trends, the percentage of 12th-graders who planned to attend technical/vocational school ranged between 8 and 10 percent during this 15-year period.

These data show some notable differences by gender. In all 3 years, female seniors were more likely than their male counterparts to report definite plans to complete 2-year degrees. In 1983, there were no gender differences in the likelihood of having definite plans to complete a 4-year degree or to attend graduate or professional school. In 1990 and 1998, however, women were more likely than men to have such plans. For example, in 1998, 61 percent of female high school seniors reported definite plans to complete a 4-year college program, in contrast to 50 percent of male seniors (see supplemental table 19-1).

POSTSECONDARY PLANS: Percentage of high school seniors who reported definite plans for postsecondary education: 1983, 1990, and 1998



NOTE: The data do not meet NCES standards for response rates. Students were asked how likely it was that they would participate in different types of postsecondary education. The 1990 estimates are revised slightly from those published in *Indicator 24, The Condition of Education 2000*.

SOURCE: University of Michigan, Institute for Social Research. Monitoring the Future Survey: 1983, 1990, and 1998.

FOR MORE INFORMATION:

Supplemental Notes 1, 8

Supplemental Table 19-1

NCES 96–304, NCES 97–388, NCES 98–013, NCES 1999–022

Student Attitudes and Aspirations

Peer Culture of High School Seniors

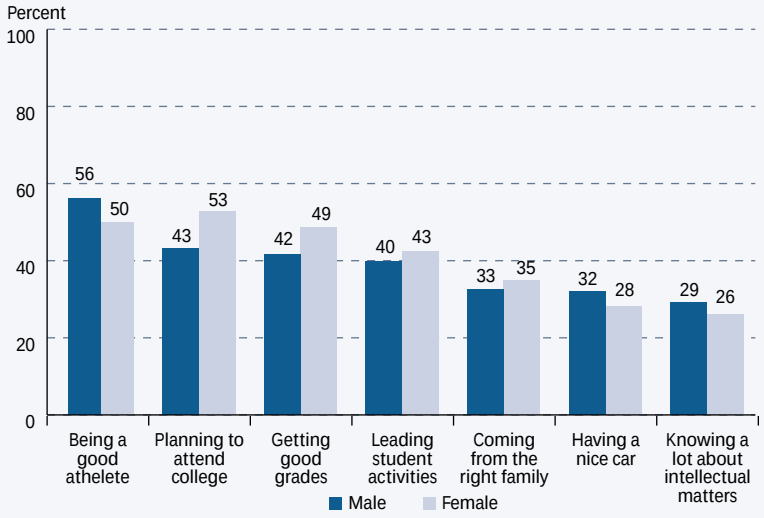
At least half of 12th-graders in 1998 thought that two characteristics were greatly important for having status in their school: being a good athlete and planning to attend college.

The peer groups that teenagers encounter at school strongly influence their priorities and activities (Coleman 1965; Eckert 1989), and students tend to value attributes likely to gain their classmates' acceptance (Harris 1998). In the annual Monitoring the Future Survey, 12th-graders were asked how important various social, academic, and material characteristics were for having high status in their school. In 1998, 53 percent of seniors reported that being a good athlete had "great" or "very great" importance in their school, while 28 percent felt that knowing a lot about intellectual matters had similar importance (see supplemental table 20-1). Proportionately more seniors ascribed great importance to athletic skill than to any of the other characteristics except planning to attend college.

In 1998, females were more likely than males to report that getting good grades and planning to go to college were greatly important for being admired by their schoolmates. About 53 percent of 1998 female 12th-graders thought planning to attend college was greatly important, compared with 43 percent of males. A similar gender difference was also found in 1990 for planning to attend college (see supplemental table 20-1). In addition, 48 percent of females attributed great importance to leading student activities, compared with 36 percent of males. The lack of measurable gender differences for the other characteristics remained consistent between 1983 and 1998.

From 1983 to 1998, there were increases in the percentages of 12th-graders who attributed great importance to two characteristics: planning to attend college and being a good athlete. Students' ratings of other characteristics either fluctuated with no clear trend or remained fairly stable over the 15-year time span examined. Despite increasing high school course requirements and academic standards over this period, no increase occurred in the percentage of seniors who attributed great importance to getting good grades or knowing a lot about intellectual matters.

CHARACTERISTICS VALUED BY STUDENTS: Percentages of 12th-graders who thought that various student characteristics were greatly important for having high status in their school, by sex: 1998



NOTE: The data do not meet NCES standards for response rates. All data shown and discussed are for the combined categories of "great" and "very great" importance.

SOURCE: University of Michigan, Institute for Social Research. Monitoring the Future Survey: 1998.

FOR MORE INFORMATION:

Supplemental Note 8

Supplemental Table 20-1

Coleman 1965

Eckert 1989

Harris 1998

Student Effort

Time Spent on Homework and on the Job

Regardless of hours worked per week, more than half of high school seniors spent 0- 4 hours weekly on homework.

High school students' educational aspirations, feelings about school, and socioeconomic status can all influence their choices about spending time on homework or at a job. The priorities that students' families and peers place on school and work can also influence such choices. Educators and most parents believe that doing homework is important to academic success. One finding from the 1999 National Assessment for Educational Progress concludes that 17-year-olds who typically spent more than 2 hours daily doing homework had higher average reading scores than those who spent less than 1 hour per day on homework or who did none (NCES 2000–469). In 1998, most high school seniors (88 percent) reported doing at least some homework in a typical week. However, most seniors allocated little time to homework, fewer than 5 hours a week.

High school seniors often spend some of their nonschool hours working to earn money for current expenses, to save for college, and to gain work-related experience. Indeed, most students work during their senior year. In 1998, about three-quarters (77 percent) of high school seniors reported working some hours at a paid or volunteer job during the school year.

Recent survey data show an inverse relationship between hours spent working and hours devoted to homework. In 1998, high school seniors were more likely to do no homework or to spend 4 or fewer hours a week on homework as their job hours increased. Similarly, they were less likely to spend 10 or more hours per week on homework as their job hours increased. For example, about 28 percent of 12th-graders who worked 5 or fewer hours per week (including those who had no job) spent 10 or more hours on homework in a typical week. In contrast, roughly half that proportion, 15 percent, of those working more than 20 hours a week spent 10 or more hours on homework.

HOMEWORK AND JOBS: Percentage of high school seniors who reported spending any time on homework per week, and percentage distribution of high school seniors according to homework hours, by work status: 1998

			Hours spent doing homework per week		
Work status	**Total**	**Any homework**	**0–4**	**5–9**	**10 or more**
Total	**100.0**	**77.3**	**58.4**	**20.5**	**21.0**
Any (more than 0)	77.2	88.1	60.0	20.8	19.2
Hours per week at a job					
0–5	32.2	89.4	52.2	20.1	27.7
6–20	34.9	90.1	56.5	23.2	20.2
More than 20	33.0	85.6	66.7	18.1	15.2

NOTE: Percentages may not add to 100.0 due to rounding. The data do not meet NCES standards for response rates.

SOURCE: University of Michigan, Institute for Social Research. Monitoring the Future Survey: 1998.

FOR MORE INFORMATION:
Supplemental Note 8
NCES 2000–469

Student Effort

Students' Use of Time

Students watched fewer hours of television in 1999 than in 1984, but few teenagers used this time to complete homework or read for fun.

Many educators and parents are concerned that youth watch too much television instead of pursuing activities such as reading for fun and doing their homework that reinforce the skills they learn at school (Beentjes and Van der Voort 1988). Although increases in television watching may have occurred in earlier years (NCES 2000–469), 9-, 13-, and 17-year-old students were less likely to watch 3 or more hours of television per day in 1999 than they were in 1984. For example, among 9-year-old students, 51 percent watched 3 or more hours of television each day in 1999, but 67 percent did so in 1984.

Many educators would like children to devote more of their out-of-school time to reading or completing homework. In the 1980s, policymakers encouraged educators to increase homework (Tyack and Cuban 1995), but research indicates that "homework may have a positive effect on older students' achievement, but no discernible effect on the achievement of younger students" (NCES 2000–469). However, only the youngest students experienced increases in the assignment of homework between 1984 and 1999. In 1999, 9-year-olds were more likely to report that they were assigned homework than in 1984. There was no change among 13-year-olds and a decrease in the percentage of 17-year-olds who were assigned any homework between the 2 years. Moreover, 13 percent of the 17-year-old students had homework assigned but did not complete it in 1999, and 17-year-olds were less likely to work on their assignments for 1 to 2 hours daily in 1999 than in 1984.

Between 1984 and 1999, there was no change in the percentage of 9-year-olds who read for pleasure each day. In contrast, fewer 13- and 17-year-old students read for fun daily in 1999 than did their counterparts in 1984. With these decreases in activities, increased time may have been devoted to other pursuits, such as using computers (*Indicator 18, The Condition of Education 1999*), playing electronic games, or working for pay.

STUDENTS' USE OF TIME: Percentage of 9-, 13-, and 17-year-olds who were watching 3 or more hours of television, assigned homework, and reading for fun daily: 1984 and 1999

	Watched television 3 or more hours daily	Time on homework					Read daily for fun
		Any homework assigned	Assigned, not done	Less than 1 hour	1 to 2 hours	More than 2 hours	
Age 9							
1984	66.7	64.4	4.1	41.5	12.7	6.1	53.3
1999	51.1	74.2	3.8	53.1	12.4	4.9	54.1
Age 13							
1984	63.4	77.4	3.7	35.9	29.2	8.6	35.1
1999	45.9	75.9	4.5	37.2	26.3	7.9	28.2
Age 17							
1984	43.7	77.5	11.4	26.2	26.8	13.2	30.8
1999	34.3	73.6	13.1	26.4	22.6	11.5	24.8

SOURCE: U.S. Department of Education, NCES. National Assessment of Educational Progress (NAEP), 1984 and 1999 Long-Term Trend Assessment.

FOR MORE INFORMATION:

Supplemental Note 4

NCES 1999–022, NCES 2000–469

Beentjes and Van der Voort 1988

Tyack and Cuban 1995

Elementary/Secondary Persistence and Progress

Status Dropout Rates, by Race/Ethnicity

Since 1972, status dropout rates for whites and blacks ages 16- 24 have declined; rates for Hispanics have not decreased and remain higher than those for other racial/ethnic groups.

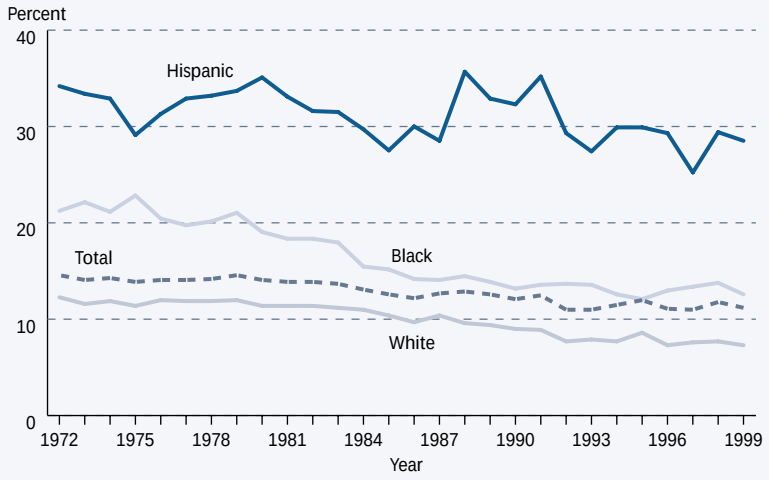
Advances in technology have fueled the demand for a highly skilled labor force and transformed a high school education from a valued asset into a minimum requirement for entry into the labor market. As a result, young adults who do not finish high school are more likely to be unemployed and earn less when they are employed than those who completed high school (*Indicators 10* and *12*, *The Condition of Education 1999*). In addition, high school dropouts are more likely to receive public assistance than high school graduates who did not go to college (*Indicator 34, The Condition of Education 1998*).

The status dropout rate represents the percentage of an age group not enrolled in school and that has not earned a high school credential (a diploma or an alternative credential such as a GED). According to this measure, 11 percent of 16- to 24-year-olds were out of school without a high school credential in 1999 (see supplemental table 23-1). Although the status dropout rate remained fairly consistent from 1992 to 1999, it declined for young adults as a group between the early 1970s and 1999. The rate of this decline, however, varied by race/ethnicity.

Between 1972 and 1999, the status dropout rate for whites was lower each year than the rate for blacks or Hispanics. During these years, the percentage of Hispanic youths who were out of school without a high school credential was also higher than that of blacks in every year. In addition, during these years, the status dropout rates for whites and blacks declined by nearly 40 percent in each group, while the rate for Hispanic young adults did not decrease.

Greater dropout rates among Hispanic immigrants partly account for the persistently high dropout rates for all Hispanic young adults. Among Hispanic 16- to 24-year-olds who were born outside the 50 states and the District of Columbia, the status dropout rate of 44 percent was more than double the rates for first- or later-generation (16 percent each) Hispanic young adults born in the United States. Nevertheless, Hispanic young adults born in the United States are more likely to be high school dropouts than their peers of other race/ethnicities (see supplemental table 23-2).

STATUS DROPOUTS: Dropout rates of 16- to 24-year-olds, by race/ethnicity: October 1972–99



NOTE: Due to relatively small sample sizes, American Indians/Alaskan Natives and Asians/Pacific Islanders are included in the total but are not shown separately. In addition, the erratic nature of the Hispanic status rates reflects, in part, the small sample size of Hispanics.

SOURCE: U. S. Department of Commerce, Bureau of the Census. October Current Population Surveys, various years.

FOR MORE INFORMATION:
Supplemental Notes 1, 2
Supplemental Tables 23-1, 23-2
NCES 2001–022, NCES 1999–022, NCES 98–013

Transition to College

Mathematics Curriculum and College Enrollment

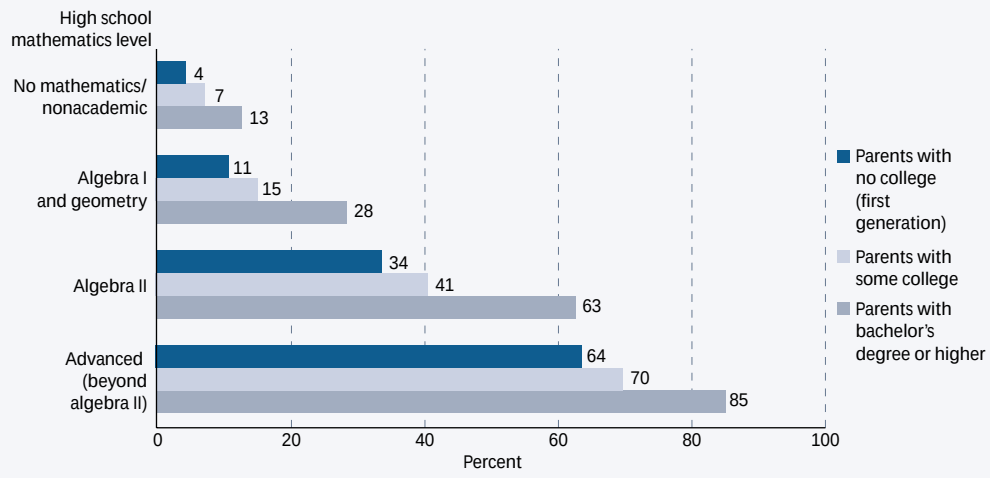
Taking advanced mathematics in high school increases the likelihood of college enrollment, especially for students whose parents never attended college.

College students whose parents have attained no more than a high school education are often referred to as "first-generation" college students. Just over one-quarter of high school graduates are from families where neither parent attended college. The rate at which these students enroll in 4-year colleges is much lower than that of their counterparts whose parents attended college (NCES 2000–153). Because of this difference in enrollment rates, students whose parents did not attend college are often targeted for outreach programs to help them prepare academically for college (Swail and Perna 2000). One indicator of academic readiness for college is the highest level of mathematics completed in high school.

Among 1992 high school graduates, at all mathematics levels completed except the lowest, students whose parents did not attend college enrolled in 4-year colleges at lower rates than did their counterparts from families where at least one parent has a bachelor's degree. However, completing advanced mathematics courses (e.g., precalculus or higher) appeared to help mitigate the disadvantages of first-generation status. For example, among high school graduates whose parents did not attend college, 64 percent who had completed advanced mathematics courses in high school enrolled in a 4-year college, compared with 34 percent who had completed courses through algebra II and 11 percent who had completed algebra I and geometry. Comparable percentages for students with a parent who has a bachelor's degree were 85 percent, 63 percent, and 28 percent, respectively.

Future first-generation college students can help prepare themselves for taking advanced mathematics in high school by taking algebra in middle school. However, not all students have acquired the necessary skills for doing so. But among students who presumably have—those at the highest proficiency level tested in 8th grade (level 3)—83 percent whose parents did not attend college and who had completed algebra by 8th grade went on to complete advanced mathematics in high school. In contrast, 54 percent who had not taken algebra completed advanced mathematics. Among students with a parent who has a bachelor's degree, the comparable percentages were 95 percent and 73 percent, respectively (see supplemental table 24-1).

MATHEMATICS AND COLLEGE ENROLLMENT: Percentage of 1992 high school graduates who had enrolled in a 4-year institution as of 1994, by highest level of mathematics completed in high school and parents' education



NOTE: See *Supplementary Note 6* for definition of course levels.

SOURCE: U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994), Data Analysis System.

FOR MORE INFORMATION:

Supplemental Notes 1, 6, 8

Supplemental Table 24-1

NCES 2000–153

Swail and Perna 2000

Transition to College

Perceptions of College Costs

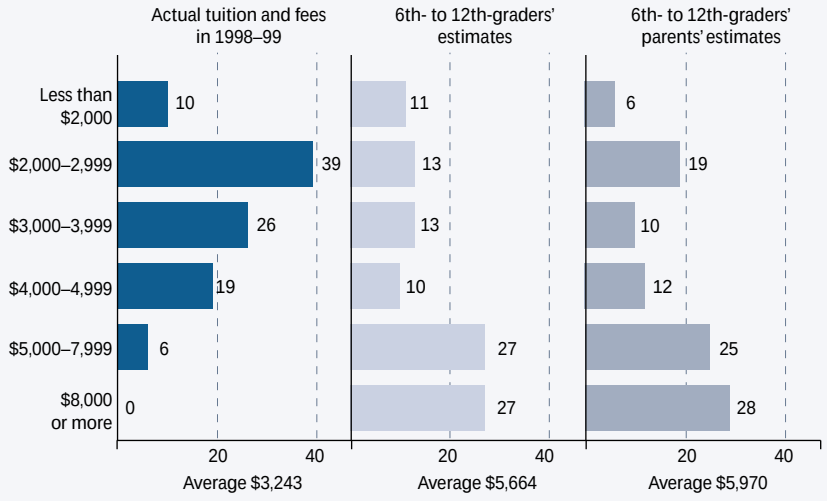
In 1999, 6th- to 12th-graders and their parents overestimated the price of attending college.

Increases in tuition and fees charged at 4-year colleges often outpace increases in median family income (Davis 1997). Although increases have occurred at many institutions, much of the media attention about rising college prices focuses on a few, highly selective private institutions that charge $20,000 or more in tuition per year (e.g., "Those Scary College Costs" 1996). Such publicity can foster the perception that college is unaffordable and discourage some students and parents from making the necessary financial and academic preparations for the student to attend. Whatever the perception, the average in-state tuition and fees charged full-time undergraduates at public 4-year institutions in 1998–99 was about $3,200 (The College Board 1998). It is useful, therefore, to compare perceptions of the price of college with the actual price of attendance.

In 1999, 6th- to 12th-graders and their parents who thought the student would enroll in postsecondary education were asked if they knew or could estimate the tuition and mandatory fees for 1 year at the type of college the student planned to attend. Among those estimating tuition and fees at 4-year public institutions in their state, estimates reported by both students and parents were substantially higher than the average amount charged full-time undergraduates in the same year ($5,664 and $5,970, respectively, versus $3,243). Moreover, 27 percent of these students and 28 percent of their parents estimated tuition and fees at $8,000 or more, even though no public 4-year institutions had tuition and fees that high.

In addition to students' and parents' misperceptions of tuition and fees, their uncertainty about tuition and fees was high. Such uncertainty can also affect the decision to attend (Hossler, Schmit, and Vesper 1999). Examining students' and parents' estimates for all types of institutions, even among 11th- and 12th-graders, 37 percent of students and 29 percent of their parents could not estimate the price of tuition and fees at the institution students planned to attend. For both students and their parents, the likelihood of such uncertainty declined as family income and parents' education increased. In other words, in families with the lowest incomes and least educated parents, students and parents knew the least about the price of attending college (see supplemental table 25-1).

PERCEPTIONS OF COLLEGE COSTS: Percentage distribution of tuition and fees charged at public 4-year institutions and estimates reported by 6th- to 12th-graders and their parents: 1999



NOTE: Distributions for in-state tuition only. Students' and parents' estimates include only those who were able to provide estimates of tuition and fees. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent and Youth Interview Surveys); The College Board, *Trends in College Pricing*, 1998 (for actual tuition and fees).

FOR MORE INFORMATION:

Supplemental Notes 1, 3, 14

Supplemental Table 25-1

"Those Scary College Costs" 1996

Davis 1997

The College Board 1998

Hossler, Schmit, and Vesper 1999

Transition to College

Immediate Transition to College

Immediate college enrollment rates have been increasing since 1972. Female rates of immediate enrollment have increased faster than those of males.

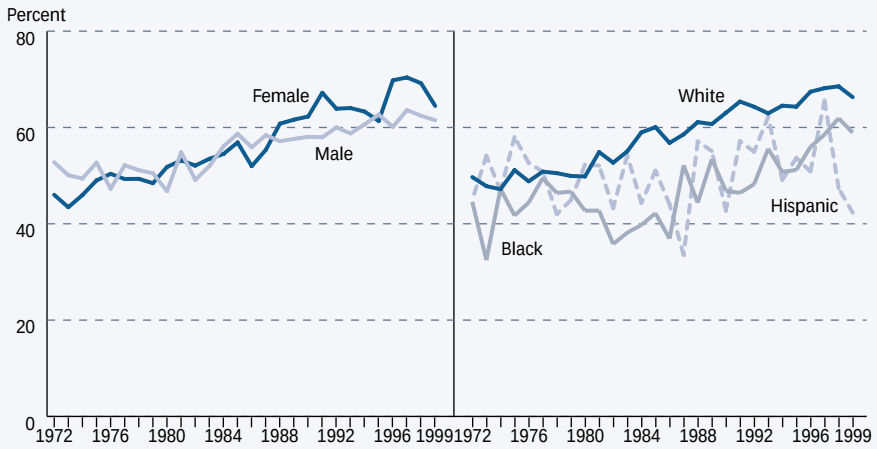
The percentage of high school completers who enroll in college in the fall immediately after high school reflects the accessibility of higher education and the value high school completers place on college compared with other pursuits. Overall, immediate college enrollment rates of high school completers increased from 49 to 63 percent between 1972 and 1999 (see supplemental table 26-1).

From 1972 to 1999, immediate enrollment rates of female high school completers increased faster than those of males. Much of the growth in immediate college enrollment rates between 1984 and 1999 was due to increases in the immediate enrollment rates of females at 4-year institutions. During this period, the rate at which females enrolled at 4-year institutions increased faster than that of males at 4-year institutions and both males and females at 2-year institutions (see supplemental table 26-2).

Immediate enrollment rates for white high school completers have increased over the past 28 years, from 50 to 66 percent. Among black high school completers, immediate enrollment rates fluctuated between 1972 and 1983 and then increased between 1984 and 1999, rising from 40 to 59 percent. Since 1984, immediate enrollment rates for blacks have increased faster than those for whites, narrowing the gap between the two groups. For Hispanic high school completers, there was no consistent growth in rates between 1972 and 1999 (see supplemental table 26-1).

Some differences in immediate enrollment rates among groups of completers have not changed. The gap in rates between those from high- and low-income families persisted for each year between 1990 and 1999 (see supplemental table 26-1). Likewise, completers whose parents had attained a bachelor's degree or higher were more likely than those with parents who had less education to enter college immediately after high school graduation for each year between 1990 and 1999 (see supplemental table 26-3).

IMMEDIATE COLLEGE ENROLLMENT RATES: Percentage of high school completers who were enrolled in college the October after completing high school, by sex and race/ethnicity: October 1972–99



NOTE: Includes those ages 16–24 completing high school in a given year. In 1994, the survey instrument for the Current Population Survey (CPS) was changed and weights were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, various years.

FOR MORE INFORMATION:

Supplemental Notes 1, 2

Supplemental Tables 26-1, 26-2, 26-3

NCES 1999–022

Postsecondary Persistence and Progress

Persistence of Beginning Postsecondary Students

After 3 years, bachelor's degree seekers who start at 4-year institutions are the most likely of all beginning postsecondary students to have persisted or attained their goal.

In 1995–96, 3.3 million students enrolled in postsecondary education for the first time. Their outcomes 3 years later varied with their initial goal, the type of institution in which they first enrolled, and whether they transferred.

By 1998, 52 percent of those seeking a certificate had attained one, another 2 percent had earned an associate's degree instead, and about 10 percent were still enrolled. The remaining 37 percent had left postsecondary education without an award. Students starting at a private, for-profit institution were much more likely than those starting at a public 2-year institution to have earned a certificate (66 percent versus 39 percent) and less likely to have left without an award (29 percent versus 44 percent).

Fifteen percent of students with an associate's degree goal were successful by 1998. Some had earned a certificate instead (6 percent), and many were still enrolled (32 percent were still at a less-than-4-year institution and 7 percent were enrolled in a 4-year institution). However, 41 percent had left without earning an award.

Because of the limited time since their initial enrollment, only 1 percent of bachelor's degree seekers had earned that degree by 1998. The majority had persisted toward that goal (79 percent of those who started at a private, not-for-profit institution and 75 percent of those who started at a public institution). Bachelor's degree seekers who started at public 2-year institutions were considerably more likely to have left without an award (33 percent) than were those who started at 4-year institutions (13 percent at private, not-for-profit institutions and 16 percent at public institutions).

Relatively few students transferred, but transfer and persistence were generally positively related. For example, certificate seekers who transferred were more likely to have earned an award or be still enrolled (84 percent) than were those who did not transfer (62 percent). Among bachelor's degree seekers, those who transferred to another 4-year institution within their first 3 years were more likely to have attained a degree or be still enrolled (90 percent) than were those who had not transferred (78 percent) (see supplemental table 27-1).

DEGREE GOAL AND PERSISTENCE: Number of 1995–96 beginning postsecondary students enrolled and percentage distribution according to attainment by 1998, by initial goal and type of first institution

Initial goal and type of first institution	Number enrolled (thousands)	Highest degree attained by 1998			No degree		
					Still enrolled		
		Certificate	Associate's	Bachelor's	Less-than 4-year	4-year	Not enrolled
Total[1]	**3,321**	**10.4**	**5.1**	**0.3**	**17.2**	**34.6**	**32.3**
Certificate[2]	469	51.7	2.0	(3)	8.2	1.6	36.5
Public 2-year	179	39.1	3.4	(3)	13.6	0.2	43.6
Private, for-profit	217	65.7	0.3	(3)	4.9	0.5	28.7
Associate's degree[2]	882	6.2	14.5	0.1	31.6	6.6	41.1
Public 2-year	750	5.9	11.2	(3)	35.2	5.4	42.4
Bachelor's degree or transfer[2]	1,603	1.5	2.7	0.7	12.5	63.2	19.4
Public 2-year	376	2.6	5.2	(3)	36.1	22.9	33.3
Public 4-year	773	1.0	1.3	1.0	5.9	74.8	16.0
Private, not-for-profit 4-year	433	1.3	2.0	0.9	3.9	78.8	13.1

[1]Includes students without a specific degree goal.

[2]Includes students in types of institutions other than those listed here.

[3]Value less than 0.05 percent.

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998).

FOR MORE INFORMATION:
Supplemental Note 8
Supplemental Table 27-1
NCES 2000–154

Postsecondary Persistence and Progress

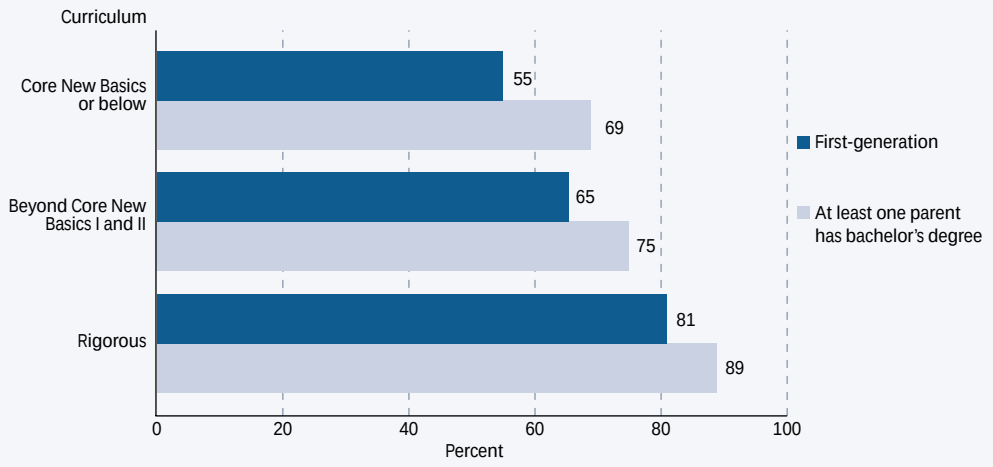
High School Academic Preparation and Postsecondary Progress

Rigorous academic preparation in high school narrows the gap in postsecondary persistence between first-generation students and their peers with a parent who has a bachelor's degree.

First-generation students are less likely to persist toward a bachelor's degree than other students. Among students who began their postsecondary education in 1995–96, first-generation students—those whose parents have no education beyond high school—were less likely than their peers to enroll in 4-year institutions (30 versus 70 percent) and, if they did, were less likely than other students to persist toward a bachelor's degree 3 years later (13 versus 33 percent) (NCES 98–082). The strongest predictor of eventual completion of a bachelor's degree is the academic rigor of secondary education (Adelman 1999). Three years after entering a 4-year institution, 87 percent of postsecondary students who had taken rigorous coursework in high school had stayed on the persistence track to a bachelor's degree, compared with 62 percent who had not exceeded the Core New Basics curriculum (NCES 2001–153). Students who stayed on the persistence track either remained at the initial 4-year institution in which they enrolled or made a lateral transfer to a new 4-year institution with no break in enrollment.

Parents' level of education is associated with students' persistence in postsecondary education, but rigorous academic preparation in high school narrows the gap in postsecondary persistence between first-generation and other students. Among postsecondary students who had taken no more than the core New Basics curriculum in high school and enrolled in a 4-year institution in 1995–96, first-generation students were less likely to stay on the persistence track toward a bachelor's degree in 1998 than their counterparts with a parent who has a bachelor's degree (55 versus 69 percent). In contrast, the likelihood of students who had taken rigorous coursework in high school staying on the persistence track did not differ meaningfully between first-generation students and their peers with a parent who has a bachelor's degree (81 versus 89 percent).

PERSISTENCE TRACK: Percentage of 1995–96 beginning postsecondary students who persisted toward a bachelor's degree, by the academic rigor of their secondary school curriculum and first-generation status: June 1998



NOTE: First-generation students are those whose parents have no education beyond high school. The Core New Basics curriculum includes 4 years of English and 3 years each of mathematics, science, and social science. The "rigorous" curriculum includes the Core New Basics with advanced science courses (biology, chemistry, and physics); 4 years of mathematics (algebra I, geometry, algebra II, and precalculus); plus 3 years of foreign language and 1 honors/Advanced Placement course or Advanced Placement test score. *Supplemental Note 6* provides more detail.

SOURCE: U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998).

FOR MORE INFORMATION:

Supplemental Notes 1, 6, 8

NCES 98–082, NCES 2001–153

Adelman 1999

Postsecondary Persistence and Progress

Remediation and Degree Completion

Students who take any remedial reading courses are less likely to earn a 2- or 4-year degree than those who take other combinations of remedial courses.

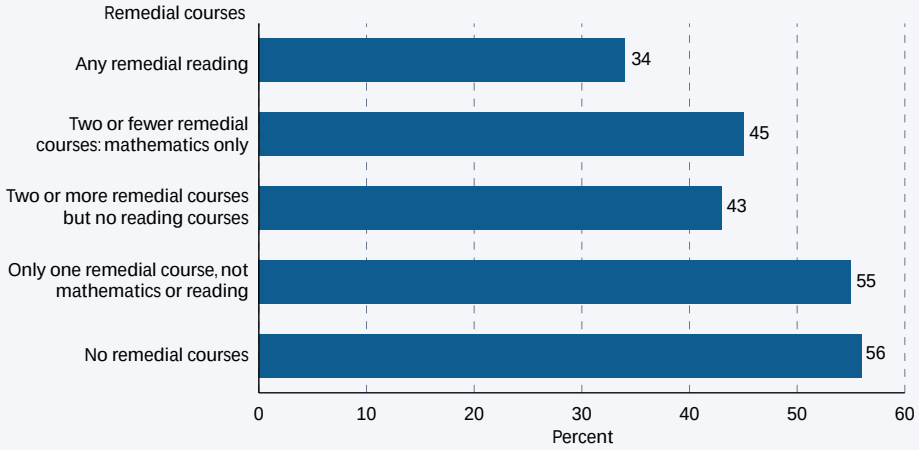
The role of remedial coursework in postsecondary education has been the subject of continuing debate among policymakers and educators. The core questions being addressed are what kinds of institutions should offer remedial coursework and how remedial coursework affects degree completion. The postsecondary education transcripts of a cohort of students who graduated from high school in 1982 and were followed until they were 29 to 30 years old provide an opportunity to examine the relationship between degree completion and remedial coursework patterns.

Assignment to remedial reading in college is associated with additional remediation and a lower likelihood of degree completion. Among the students who took any remedial reading, 42 percent were in three or more other remedial courses, and 67 percent took remedial mathematics (see supplemental table 29-2). In contrast, among the students who took any remedial mathematics courses, 16 percent were in three or more remedial courses, and 24 percent took remedial reading.

Students who took only one remedial course (other than remedial mathematics or reading) completed degrees at the same rate as students who took no remedial courses (55 and 56 percent, respectively). Students whose only remedial requirement was mathematics and who took a maximum of two remedial courses completed associate's or bachelor's degrees at a higher rate (45 percent) than students with any reading problems (34 percent).

A higher percentage of community college students than 4-year college students are assigned to remedial courses. Sixty-three percent of students who attended only a 2-year college and 64 percent of those who attended both a 2-year college and a 4-year college took at least one remedial course, compared with 40 percent of those who attended only a 4-year college (see supplemental table 29-3).

REMEDIATION AND COMPLETION: Percentage of postsecondary education students with varying patterns of remedial courses who completed 2- or 4-year degrees: 1980–93



NOTE: The patterns of remedial coursework are mutually exclusive, starting with "any reading" and proceeding downward. Thus, no student included in a pattern is included in any pattern below. Students who attended only subbaccalaureate vocational/technical schools are not included.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Postsecondary Education Transcript Study" (HS&B:So PETS).

FOR MORE INFORMATION:

Supplemental Notes 1, 6

Supplemental Tables 29-1, 29-2, 29-3

Completions

Degrees Earned by Women

Women earn more than half of all bachelor's degrees. They still trail men in certain fields but have made considerable progress over the past quarter century.

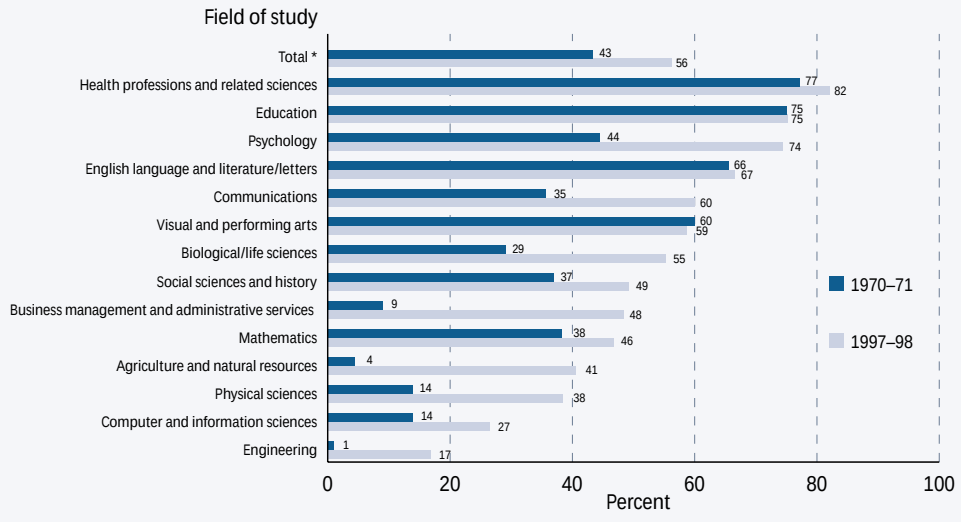
Women have made considerable progress in attaining postsecondary degrees. In 1970–71, women earned 43 percent of all bachelor's degrees. They made gradual gains throughout the 1970s, and in each year since the early 1980s, they have earned more than half of all bachelor's degrees (NCES 2001–034). In 1997–98, they earned 56 percent of such degrees.

In certain fields (health professions and related sciences, education, English, and visual and performing arts), women earned a majority of bachelor's degrees in both 1970–71 and 1997–98. In other fields (psychology, communications, and biological/life sciences), they earned a majority of the degrees in 1997–98, but not in 1970–71. In business management and administrative services, social sciences and history, and mathematics, women have made modest or considerable gains and now earn almost half of all bachelor's degrees in these fields.

In 1997–98, women still earned considerably less than half the bachelor's degrees in the traditionally male-dominated fields of agriculture and natural resources (41 percent), physical sciences (38 percent), computer and information sciences (27 percent), and engineering (17 percent). Nevertheless, women have made substantial gains in all of these fields since 1970–71.

Women have made progress at the graduate level as well (see supplemental table 30-1). In 1997–98, women earned 57 percent of master's degrees, up from 40 percent in 1970–71. However, less than one-third of the master's recipients in 1997–98 in computer and information sciences and engineering were women (29 and 20 percent, respectively). At the doctoral level, women earned 42 percent of all degrees in 1997–98, compared with 14 percent in 1970–71. There were six fields in which women received over half of the degrees awarded, and six fields in which they received less than one-third. The percentage of doctoral degrees earned by women ranged from 12 percent in engineering to 68 percent in psychology.

BACHELOR'S DEGREES: Percentage of bachelor's degrees earned by women, by field of study: 1970–71 and 1997–98



*Includes other fields of study not shown separately.

SOURCE: U.S. Department of Education, NCES. Higher Education General Information Survey (HEGIS) 1970–71, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS)1997–98, "Completions" survey.

FOR MORE INFORMATION:

Supplemental Notes 8, 11

Supplemental Table 30-1

NCES 2001–034

Completions

Educational Attainment

Attainment rates among 25- to 29-year-olds increased at all educational levels, for all racial/ethnic groups, and for males and females from 1971 to 2000.

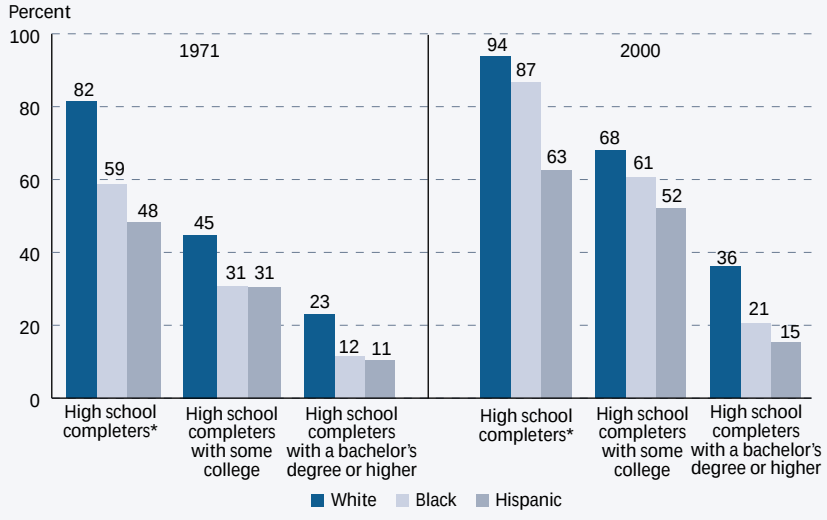
The percentage of 25- to 29-year-olds who completed at least high school rose from 78 percent in 1971 to 88 percent in 2000 (see supplemental table 31-1). Over the same period, the percentage of high school completers in this age group who also completed at least some college increased from 44 to 66 percent (see supplemental table 31-2), and the percentage who obtained a bachelor's degree or higher rose from 22 to 33 percent (see supplemental table 31-3).

From 1971 to 2000, the gap in the rates at which blacks and whites completed at least high school began to close. In 1971, the completion rate of blacks was 23 percentage points less than that of whites, while it was 7 percentage points less than that of whites in 2000. In contrast, the gap in attainment between white and black high school completers with at least some college remained similar, and the gap between blacks and whites who completed college widened (see supplemental tables 31-1, 31-2, and 31-3).

Among Hispanics, there were increases in completion rates across all levels of education between 1971 and 2000. Nonetheless, the differences in attainment rates between whites and Hispanics remained about the same at every educational level.

Among those ages 25–29 in 1971, females had lower completion rates than males at every educational level above high school. Between 1971 and 2000, however, the educational attainment rates of females increased faster than those of males. By 2000, as a result, females had higher rates than males for completing high school and some college. In addition, there were no differences in the percentages of males and females with a bachelor's degree or higher in that year.

EDUCATIONAL ATTAINMENT: Percentage of 25- to 29-year-olds who attained selected levels of education, by race/ethnicity: March 1971 and 2000



* Included high school completers with some college or a bachelor's degree or higher.

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. The category "diploma or equivalency certificate" includes those who have a high school diploma or an equivalency certificate; "some college" includes those with an associate's degree or a vocational certificate; and "bachelor's degree or higher" includes those with an advanced degree. In 1994, the survey instrument for the CPS was changed and weights for undercounted populations were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, 1971 and 2000.

FOR MORE INFORMATION:

Supplemental Notes 1, 2

Supplemental Tables 31-1, 31-2, 31-3

Completions

International Comparisons of Educational Attainment

Rates of secondary educational attainment among 25- to 34-year-olds in several G-7 countries have reached a level similar to that in the United States. U.S. higher educational attainment remains higher in both the younger and older populations than in these other countries.

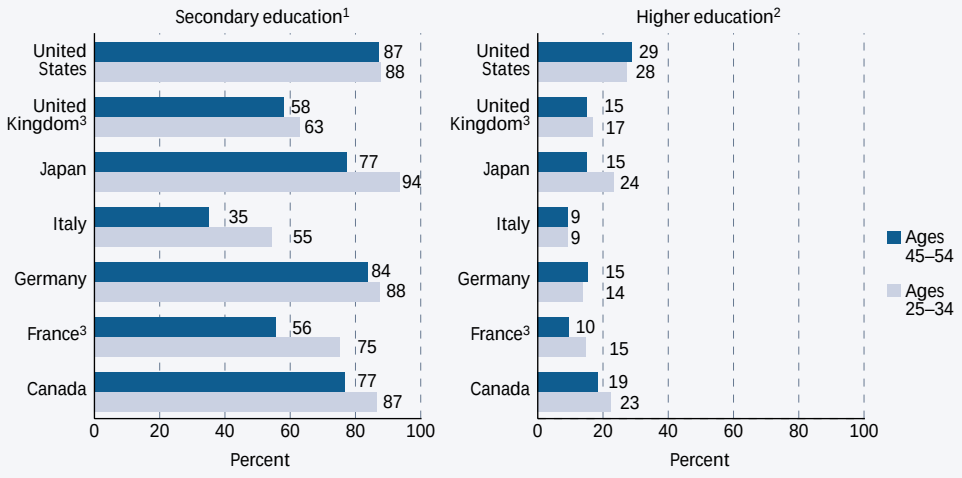
The percentage of the population completing secondary and higher education in other industrialized countries can be used to compare the educational level of the U.S. population with that of its economic competitors. In addition, comparing the levels of educational attainment across age cohorts provides one way of measuring whether education levels in these other countries are increasing, decreasing, or staying the same relative to those in the United States.

Among the G-7, large industrialized countries, at least 85 percent of adults ages 25–34 in the United States, Canada, Germany, and Japan had completed secondary education in 1998, and 75 percent had done so in France. Only in the United States and Germany did the 45- to 54-year-old cohort attain similarly high completion rates for secondary education. The similarity of the completion rates for 25- to 34-year-olds among all these countries in 1998—along with the lower levels of attainment among 45- to 54-year-olds in the other countries besides the United States and Germany—mean that the skill levels of the entire population ages 25–64 in all four countries could approach or, in Japan, even later exceed those in the United States (see supplemental table 32-1).

In that same year, the United States ranked first among the G-7 countries in higher educational attainment, with both the younger and older cohorts showing higher completion rates than their peers in the other countries. Japan had the largest difference in the attainment of the younger and older cohorts among all the countries, indicating that in the future the higher educational attainment of its population ages 25–64 may approach or exceed that of the United States.

Finally, the data also show that gaps in educational attainment between males and females have narrowed at both secondary and higher education levels in most G-7 countries. In fact, in the United States, Canada, France, and Italy, females ages 25–34 completed secondary and higher education at higher rates than did their male peers. In contrast, among the older cohorts, the higher education attainment rates were lower for females than males in all G-7 countries, and lower for females at the secondary level among the older cohorts in France and Italy (see supplemental table 32-1).

INTERNATIONAL EDUCATION ATTAINMENT: Percentage of the population in G-7 countries that had completed secondary and higher education, by age and country: 1998



[1]Includes individuals who have completed at least upper secondary education.

[2]Includes individuals who have completed undergraduate programs at 4-year colleges and universities or advanced research programs.

[3]Not all secondary education programs met minimum criteria required by the International Standard Classification of Education (ISCED).

SOURCE: Organisation for Economic Co-operation and Development, Centre for Educational Research and Innovation. *Education at a Glance: OECD Indicators 2000*, 2000.

FOR MORE INFORMATION:

Supplemental Notes 1, 9

Supplemental Table 32-1

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Section 4

Quality of Elementary and Secondary School Environments

Contents

Summary: Quality of Elementary and Secondary School Environments

Elementary and secondary education is designed to provide children with the academic knowledge and skills they need to function successfully in society and to prepare them to pursue further education, enter the workforce, and be responsible, active citizens. This section explores why some schools may be better than others at helping students learn such knowledge and skills. Research indicates that the quality of school environments—specifically, what goes on in the classrooms, the training and talent of the teaching force, and the overall culture and atmosphere of the school—affects student learning (NCES 2001–030). This section is based on this research and examines the quality of elementary and secondary school environments by focusing on students' coursetaking and learning opportunities, teachers' qualifications and training, and administrators' ability to provide a safe and disciplined school environment.

Coursetaking and Standards

One of the most important factors shaping the education that students receive is the kind of courses they take. Recognizing this, the National Commission on Excellence in Education (NCEE) in 1983 proposed that all high school students should complete a "New Basics" curriculum. This curriculum requires them to complete, by the time they graduate from high school, more coursework in mathematics, science, English, social studies, and other areas than many students did at that time (National Commission on Excellence in Education 1983). Emphasis on raising the rigor of high school coursetaking also underlay much of the "standards" movement of the 1990s. Since 1983, there have been encouraging signs that high school graduates are completing more academic courses and more rigorous courses in general.

Between 1982 and 1998, the percentage of high school graduates who completed advanced coursework in mathematics, science, English, and foreign languages increased. In mathematics and science, the percentage who completed advanced academic level courses increased from 26 to 41 percent and from 31 to 60 percent, respectively (*supplemental table 40-1, The Condition of Education 2000*). In English and foreign languages, the percentage who completed advanced academic level courses increased from 13 to 29 percent and from 15 to 30 percent, respectively (*Indicator 33*).

Not all student groups completed advanced academic courses at the same rate in 1998. Among high school graduates, those who were Asian/Pacific Islander, white, and from private schools were usually more likely to have completed advanced levels of mathematics and science coursework than their peers (*Indicator 39, The Condition of Education 2000*). Females graduates were usually more likely to have completed advanced levels of English and foreign language courses than their peers (*Indicator 34*).

Learning Opportunities

Many factors may influence learning opportunities in elementary and secondary schools, such as the number of students in a classroom, the quality of lessons, and teachers' readiness to use technology in the school.

Small class sizes can bring increased opportunity for classroom contact between students and teachers and enhance students' learning opportunities, especially for disadvantaged and minority students in early grades (Achilles 1996; Finn 1998; Robinson and Wittebols 1986). In 1998, kindergarten classes in public school averaged 20 students per teacher, whereas they averaged 18 students in private school (*Indicator 37*). Class size also varied by school size judging from the different average student/

Summary: Quality of Elementary and Secondary School Environments

Continued

teacher ratios (proxy measures of class size) for small, medium, and large public elementary and secondary schools in 1998 (*Indicator 38*).

Some evidence exists that the quality of U.S. instruction in mathematics may lag behind that of other countries. Data from the Third International Mathematics and Science Study (TIMSS) show that the content of mathematics lessons taught to 8th-graders in the United States was more likely to receive a "low"- quality rating than lessons taught to students in Japan and Germany. Thirty-nine and 28 percent of Japanese and German mathematics lessons, respectively, received a "high"-quality rating, whereas no lessons from the United States received such a rating (*Indicator 36*).

Computers and related technology provide new potential for teachers to enhance instruction and for students to learn and obtain information (President's Committee of Advisors on Science and Technology 1997). Computers and the Internet are increasingly available as educational resources. In 1999, 95 percent of public elementary and secondary schools had Internet access (NCES 2000–086), and 78 percent of students in grades 1–12 reported using the Internet at school (*Indicator 45, The Condition of Education 2000*). Despite students' apparent familiarity with computers, only one-third of teachers in 1999 reported feeling "well prepared" or "very well prepared" to use computers or the Internet for instruction (*Indicator 39*).

School Choice

By choosing the school that their children attend, parents may perceive that they will be able to influence the quality of education they receive. Additionally, with parents choosing the school, schools may be prompted to compete for enrollments by improving the programs they offer (Viteritti 2000).

Recent data show that a decreasing proportion of parents report satisfaction with assigned public schools, especially at the secondary level. The percentage of children who attended an assigned public school whose parents were "very satisfied" with the child's school, teachers, and the school's academic standards decreased between 1993 and 1999. In 1999, private schools had the highest percentages of children with parents who were very satisfied with their child's school, teachers, and the school's academic standards and discipline, followed by chosen public schools and then by assigned public schools *(Indicator 41)*.

Teachers and Teacher Characteristics

Teachers need a thorough grounding in the subjects they teach to guide their students effectively through the material and respond knowledgeably to questions and comments. Their knowledge is generally measured (for lack of a better measure) by the degrees and certifications they have earned. In 1998, nearly all public school teachers had earned a bachelor's degree; 45 percent had earned a master's degree; and at least 90 percent had earned regular or standard state certificates or advanced professional certificates. Most teachers earned degrees in education; 38 percent of full-time public school teachers held academic rather than education degrees at the bachelor's or graduate level (*Indicator 47, The Condition of Education 2000*). Many teachers also participate in professional development to increase their skills and knowledge. In 1998, the percentage of full-time public school teachers who participated in various professional development activities in the past 12 months ranged from 31 to 81 percent, depending on the type of activity (*Indicator 48, The Condition of Education 2000*).

Despite such levels of training, the academic skills of college graduates who prepare to be-

Summary: Quality of Elementary and Secondary School Environments

Continued

come teachers tend to be weaker than those of their peers. Among 1992–93 college graduates, those who had majored in education were much less likely to have had SAT or ACT scores in the top quartile (14 percent) than those who had majored in humanities (31 percent) or mathematics, computer, or natural sciences (37 percent). Graduates who did not prepare to teach but became teachers were also more likely to have scored in the top quartile (35 percent) than those who prepared to teach and became teachers (14 percent). Moreover, graduates who left teaching within 4 years were far more likely to have scored in the top quartile (27 percent) than those who continued to teach (16 percent) (*Indicator 42*).

High levels of teacher training also do not necessarily translate into similar levels of training in the subject matter that teachers teach. The Third International Mathematics and Science Study–Repeat (TIMSS-R) found that in 1999 only 41 percent of 8th-grade students in the United States were taught by a mathematics teacher who specialized in mathematics (i.e., majored in it at the undergraduate or graduate level or studied mathematics for certification). This proportion is considerably lower than the international average of 71 percent. In 8th-grade science, 47 percent of U.S. students were taught by a teacher who specialized in biology, 21 percent by a teacher who specialized in chemistry, and 13 percent by a teacher who specialized in physics. These rates for teachers who specialized in biology and chemistry are comparable to international averages, while lower for those whose background was in physics (*Indicator 43*).

School Climate and Discipline

In recent years, policymakers, educators, parents, and students have increasingly voiced concern about school-related violence. From 1993 to 1999, some indices of violent victimization in schools remained the same, while some risk behaviors decreased. During this period, the number of students who reported being injured or threatened with a weapon on school property in the past year remained the same. However, both the percentage of high school students who carried weapons on school property within the past 30 days and the percentage who engaged in physical fights on school property within the past 12 months fell between 1993 and 1999 (*Indicator 44*).

In addition to concerns about school-related violence, overcrowded schools can have a debilitating effect on a learning environment. Overcrowded schools are a challenge to education because enrollments have increased to record levels and are not expected to decrease significantly in the future (*Indicator 2)*. In 1999, 22 percent of public schools reported being overcrowded (i.e., having enrollments more than 5 percent above the number of students a school is designed to accommodate in its permanent facilities) (*Indicator 45*).

Conclusion

Over the past 2 decades, progress has been made in several areas in improving the quality of elementary and secondary school environments. The examples discussed above show improvements that include greater rigor in coursetaking among high school students, increased access to technology in public schools, and declines in the percentages of students carrying weapons and engaging in physical fights on school property. At the same time, these data also suggest areas for concern, such as the quality of lessons compared with other countries, the academic skills and preparation of teachers, decreasing parental satisfaction with assigned public schools, and overcrowding.

Coursetaking and Standards

Trends in English and Foreign Language Coursetaking

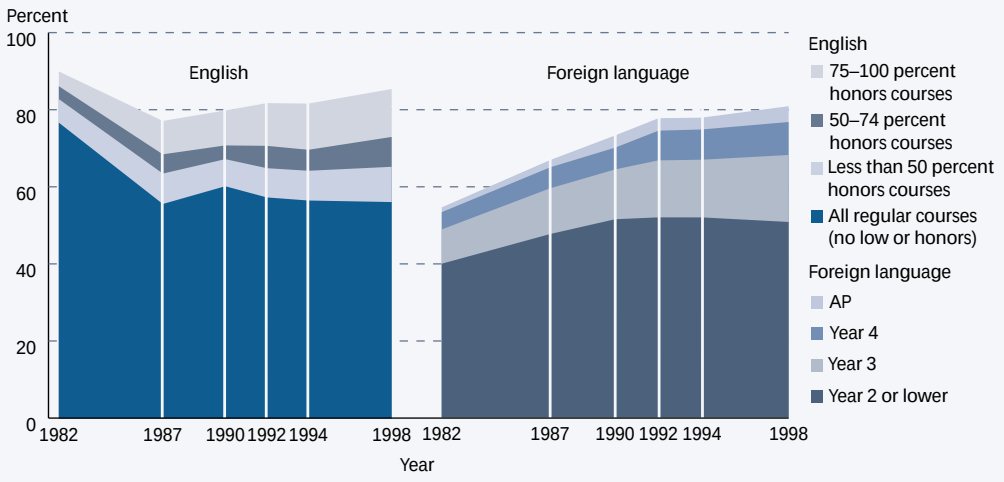
The percentages of high school graduates who have completed advanced academic levels of English and foreign language study have doubled from 1982 to 1998.

Given that advanced courses generally provide greater intellectual challenge and place greater demands upon students, examination of general trends in the academic level of high school coursetaking can be used to provide indications of changes in high school students' efforts to perform and achieve at higher academic levels. Changes in course-taking levels also provide a proxy measure of changes in the quality of secondary education in the country. They can only be a proxy, however, because course classifications and titles are no guarantee of content. The academic content of courses varies by state and school district, even when classified at the same level of rigor or with the same title.

Since the 1980s, when states began to make the requirements for a high school diploma more demanding, the percentage of high school graduates completing honors English and advanced foreign language courses (i.e., year 3 and higher) has increased. In 1982, only 13 percent of high school graduates had completed advanced English coursework (i.e., courses classified as "honors"); by 1998, this percentage had risen to 29 percent. Moreover, the percentage completing 75–100 percent of their English courses at the honors level tripled (from 4 to 12 percent). Over the same period, however, the percentage completing low academic English courses also increased (from 10 to 14 percent) (see supplemental table 33-1).

The percentage of high school graduates who had completed year 3 or higher of a foreign language was higher in 1998 than in 1982. In 1982, 15 percent of students completed advanced foreign language study; by 1998, this percentage had increased to 30 percent. In addition, over this period, the percentage of students completing no foreign language study decreased markedly (from 46 to 19 percent) (see supplemental table 33-2).

COURSE-TAKING LEVELS: Percentage distribution of high school graduates according to level of courses completed: Selected years 1982–98



NOTE: Not displayed are the percentage of students who completed low or no English courses and the percentage who completed no foreign language.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Second Follow-up" (HS&B:1980/1984); National Education Longitudinal Study of 1988 Eighth Graders, "High School Transcript Study" (NELS:1992); and 1987, 1990, 1992, 1994, and 1998 National Assessment of Education Progress (NAEP) High School Transcript Studies.

FOR MORE INFORMATION:

Supplemental Note 6

Supplemental Tables 33-1, 33-2

NCES 2001–325

Burkam, Lee, and Smerdon 1997

Burkam 2001

Coursetaking and Standards

Coursetaking in English and Foreign Languages

Female high school graduates completed English and foreign language courses at higher rates than their peers. Private school graduates completed foreign language courses at higher rates than their peers.

While trends in coursetaking since 1982 indicate that more students are completing English and foreign language courses classified as advanced academic courses (*Indicator 33*), these trends do not reveal which students are taking the more academically challenging courses. Among 1998 high school graduates, completion rates of advanced courses varied by sex, control of school, and whether graduates pursued the Core New Basics curriculum, but they did not vary consistently by race/ethnicity.

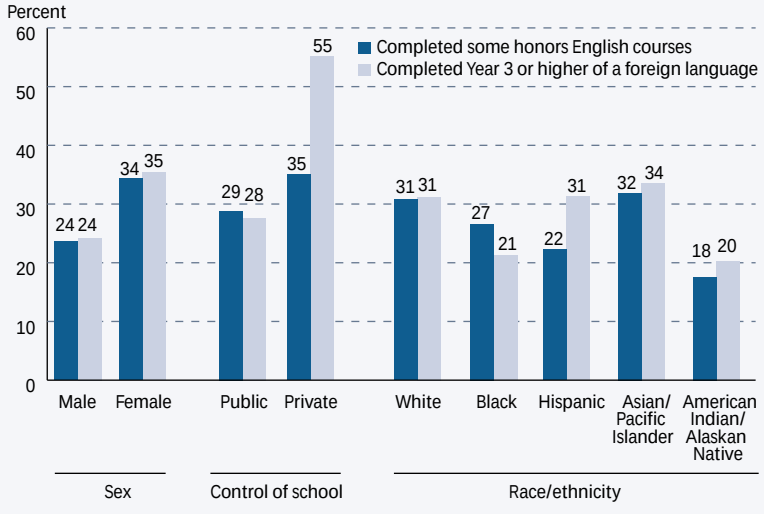
Females were more likely than males to have completed advanced English and foreign language courses. This course-taking pattern differs from that for science and mathematics, where males and females completed advanced courses at comparable rates (*Indicator 39, The Condition of Education 2000*).

As with mathematics and science, private school graduates were more likely than public school graduates to have completed foreign language courses. They were less likely to have completed no or low academic level courses in a foreign language than their public school peers. Apparent differences in the rates of completion of advanced English, however, were not statistically significant.

Graduates who completed the Core New Basics curriculum were more likely than those who did not to have completed advanced English and foreign language courses (as in mathematics and science). However, among those who completed this curriculum, 53 percent completed only regular English courses, and 7 percent low academic level English courses. In foreign languages, 50 percent of those who completed the core New Basics completed low academic level courses, and 11 percent no course.

Racial/ethnic course-taking patterns were less discernible. Unlike in mathematics and science, no racial/ethnic group completed advanced courses in English or a foreign language at rates higher than all other groups. However, black graduates were less likely than Asian/Pacific Islanders, Hispanics, and whites to have completed foreign language study at the advanced level. Also, Hispanic students were more likely than other groups (except Asian/Pacific Islanders) to have completed an AP course in a foreign language.

DIFFERENCES IN COURSETAKING: Percentage of 1998 high school graduates who had taken advanced academic English courses and a foreign language, by selected characteristics: 1998



NOTE: See notes to the accompanying tables (on the opposite page) on the various levels of English and foreign language courses.

SOURCE: U.S. Department of Education, NCES. 1998 National Assessment of Educational Progress (NAEP) High School Transcript Study.

FOR MORE INFORMATION:

Supplemental Notes 1, 6

NCES 2000–062, Indicator 39

[1] Indicates that student transcript records did not list any recognized English courses; however, these students may have studied some English. If students took only English as a second language (ESL) courses for credit, they would be listed in this category.

[2] Low academic level courses include all general English courses classified as "below grade level." Students may have taken a general English course classified as "honors" and be included in the low academic level if the percentage of "below grade level" courses completed was greater than the percentage of "honors" courses completed.

[3] Includes students who completed a general English course classified as "below grade level" if they completed a greater percentage of "honors" courses than "below grade level" courses.

NOTE: For each graduate, the percentages of completed courses classified as "below level,""at grade level," and "honors" were calculated. (Not all students completed 4 years of English.) After the percentage of completed courses at each level had been calculated, the percentage of graduates who fit the category requirements for each level was determined, as explained in *Supplemental Note 6*. Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. 1998 National Assessment of Educational Progress (NAEP) High School Transcript Study.

ENGLISH COURSETAKING: Percentage distribution of high school graduates according to the type of English courses taken, by student and school characteristics: 1998

		Low academic level[2]			Regular English	Advanced academic level[3]			
Characteristic	No English[1]	50% or more of courses	Less than 50% of courses	Total	(no low or honors) courses	Less than 50% honors	50–74% honors	75–100% honors	Total
Total	**0.9**	**4.0**	**9.7**	**13.7**	**56.1**	**9.1**	**7.7**	**12.4**	**29.3**
Sex									
Male	1.2	4.9	10.9	15.8	59.4	7.8	6.1	9.8	23.6
Female	0.7	3.1	8.5	11.7	53.2	10.2	9.2	15.0	34.4
Race/ethnicity									
White	0.7	3.3	8.3	11.6	56.9	9.4	8.1	13.2	30.8
Black	1.1	4.8	12.8	17.6	54.6	7.9	7.4	11.3	26.6
Hispanic	2.2	7.3	14.9	22.2	53.3	7.9	5.8	8.6	22.3
Asian/Pacific Islander	0.9	4.6	8.3	12.9	54.3	12.6	7.4	11.9	31.9
American Indian/ Alaskan Native	0.3	5.4	12.1	17.6	64.6	6.8	5.1	5.7	17.6
Met Core New Basics?									
Yes	0.3	1.4	5.4	6.7	53.1	11.8	9.9	18.1	39.9
No	1.7	7.3	14.9	22.2	59.9	5.9	5.0	5.3	16.2
Control of school									
Public	1.0	4.4	10.2	14.6	55.7	8.6	7.5	12.7	28.8
Private	0	0	4.0	4.0	61.0	14.9	10.3	9.8	35.0

[*] These figures include only students who studied French, German, Latin, or Spanish as these are the only foreign languages commonly offered in high schools for 4 years or more. Some students in each category also studied more than one foreign language.

NOTE: The distribution of graduates among the various levels of foreign language courses was determined by the level of the most academically advanced course they had completed. Graduates who had completed courses in different languages were counted according to the highest level course completed. Graduates may have completed advanced levels of courses without having taken courses at lower levels. See *Supplemental Note 6* for more details on these levels. Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. 1998 National Assessment of Educational Progress (NAEP) High School Transcript Study.

FOR MORE INFORMATION:
Supplemental Notes 1, 6
NCES 2000–062, Indicator 39

FOREIGN LANGUAGE COURSETAKING: Percentage distribution of high school graduates according to the highest level of foreign language completed, by student and school characteristics: 1998

	Highest level of primary foreign language completed[*]							
		Low academic level			Advanced academic level			
Characteristic	None	Year 1 or less	Year 2	Total	Year 3	Year 4	AP	Total
Total	**19.4**	**19.2**	**31.5**	**50.7**	**17.4**	**8.5**	**4.1**	**30.0**
Sex								
Male	24.5	20.2	31.1	51.3	15.1	6.4	2.7	24.2
Female	14.6	18.0	32.0	50.0	19.5	10.5	5.5	35.4
Race/ethnicity								
White	17.5	18.4	32.9	51.3	18.0	9.5	3.7	31.2
Black	21.4	23.5	33.8	57.4	14.1	4.7	2.4	21.2
Hispanic	24.2	20.7	23.8	44.5	17.6	6.1	7.6	31.3
Asian/Pacific Islander	32.7	12.3	21.5	33.7	16.6	10.5	6.4	33.5
American Indian/ Alaskan Native	23.7	31.7	24.5	56.1	14.3	5.7	0.1	20.2
Met Core New Basics?								
Yes	10.8	11.9	38.1	50.0	23.0	11.1	5.3	39.3
No	30.1	28.2	23.3	51.5	10.4	5.4	2.7	18.5
Control of school								
Public	20.5	20.1	31.8	52.0	15.9	8.1	3.7	27.6
Private	7.8	9.4	27.7	37.1	33.3	13.3	8.5	55.1

Coursetaking and Standards

Trends in High School Occupational Coursetaking

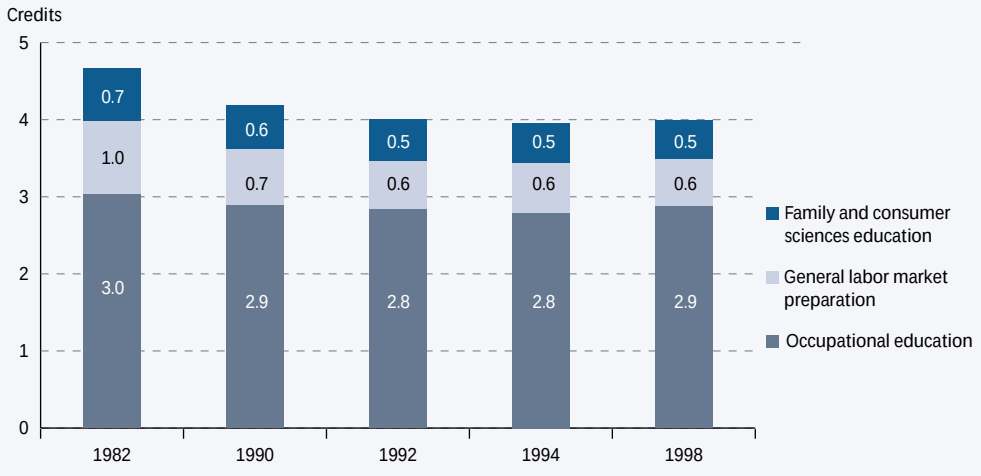
Although overall vocational coursetaking declined between 1982 and 1998, occupationally specific coursetaking remained relatively steady.

High school vocational education consists of occupational education, general labor market preparation, and family and consumer sciences education. Occupational education, which is intended to prepare students for a specific occupation or cluster of occupations, constitutes the largest share of the vocational curriculum. Although overall vocational coursetaking declined among public high school graduates between 1982 and 1998, occupational coursetaking remained relatively steady. Vocational coursetaking declined by .69 credits on average, from 4.68 total vocational credits in 1982 to 3.99 credits in 1998. In contrast, the level of occupational coursetaking remained about the same (3.03 credits in 1982 and 2.87 credits in 1998). By 1998, occupational coursetaking made up 68 percent of graduates' total vocational coursetaking, up from 59 percent in 1982 (see supplemental table 35-1).

To examine trends in occupational coursetaking, several measures of participation can be used. Two of these involve tracking the percentage of occupational "investors" (those earning 3.0 or more occupational credits) and occupational "concentrators" (those earning 3.0 or more occupational credits in a single program area, such as agriculture or business). The percentage of public high school graduates meeting the more stringent occupational concentrator definition declined from 34 percent in 1982 to 25 percent in 1998 (see supplemental table 35-2). However, the percentage of graduates earning 3.0 or more occupational credits remained about the same (46 percent in 1982 and 44 percent in 1998). Thus, while similar percentages of graduates earned 3.0 or more occupational credits over the period studied, these occupational investors were less likely to concentrate their coursetaking in a single program area. Instead, they took a broader mix of occupational courses.

Occupational investors increased the rigor of their academic coursetaking over this period, but no more so than did other students. For example, the percentage of graduates earning 3.0 or more occupational credits who completed "advanced" coursework in mathematics increased by about 16 percentage points, from 12 percent in 1982 to 28 percent in 1998. Similarly, the percentage of graduates earning less than 3.0 occupational credits who completed "advanced" coursework in mathematics increased by about 14 percentage points, from 32 percent in 1982 to 46 percent in 1998 (see supplemental table 35-3 and *Supplemental Note 6*).

VOCATIONAL CREDITS: Average credits earned in vocational education by public high school graduates, by vocational curriculum: 1982–98



SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "First Follow-up" (HS&B:1980/1982) and High School Transcript Study; National Education Longitudinal Study of 1988 Eighth Graders, "Second Follow-up" (NELS:1988/1992) and High School Transcript Study; and 1990, 1994, and 1998 National Assessment of Educational Progress (NAEP) High School Transcript Studies.

FOR MORE INFORMATION:

Supplemental Note 6

Supplemental Tables 35-1, 35-2, 35-3

NCES 2001–019

Learning Opportunities

International Comparisons of Quality in 8th-Grade Mathematics Lessons

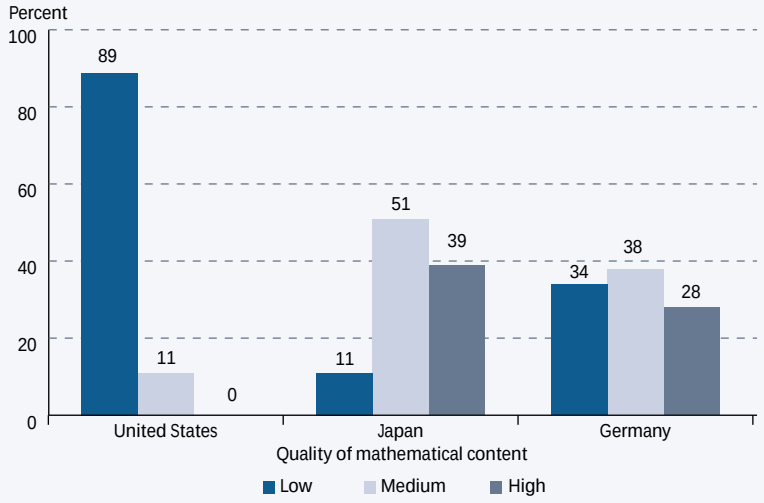
The quality of the mathematical content of 8th-grade mathematics lessons in the United States was rated lower than the quality of those in Germany and Japan.

The Third International Mathematics and Science Study (TIMSS) included a Videotape Classroom Study of 8th-grade mathematics, based on a sample of 231 classrooms in Germany, Japan, and the United States. This study examined teachers' goals, the organization and process of mathematics instruction, and the mathematical content of the sample lessons. In all these areas, the study found the German, Japanese, and U.S. lessons differed.

For example, the German and U.S. teachers emphasized mathematical skills as a lesson goal more often than the Japanese teachers, who were more likely to emphasize mathematical thinking (see supplemental table 36-1). Most U.S. lessons (83 percent) contained "task-controlled" tasks in which the teacher demonstrated a particular solution method to students and asked them to replicate that solution, as opposed to "solver-controlled" tasks in which the teacher encouraged students to find alternative solution paths on their own. By contrast, 48 percent of the German lessons and 17 percent of the Japanese lessons contained exclusively "task-controlled" tasks (see supplemental table 36-2). Similarly, the German and Japanese teachers often included deductive reasoning as part of their lessons, whereas the U.S. teachers did not (see supplemental table 36-3).

Differences in the overall quality of the mathematical content of the lessons were also evident: 39 percent of the Japanese lessons and 28 percent of the German lessons were rated as containing "high"-quality mathematical content, but none of the U.S. lessons were rated as such. Most of the U.S. lessons (89 percent) were rated to have "low"-quality mathematical content. These ratings, assigned by a panel of experts, were based solely on "Lesson Tables," which graphically presented analyses of each lesson's coherence, reasoning, level of complexity of mathematical content, connections between mathematical principles and motivations, articulation of general mathematical principles, and kinds of assigned student tasks. Prepared for 90 of the videotaped classrooms, the "Lesson Tables" masked or altered information identifying the lesson's country of origin (e.g., monetary units) so as to eliminate possible rating bias (see *Supplemental Note 5* for more details on the rating process).

LESSON QUALITY: Percentage distribution of 8th-grade lessons rated as having low-, medium-, and high-quality mathematical content, by country: 1994–95



NOTE: For details on the average TIMSS scores of 8th-graders in mathematics, see *Indicator 18, The Condition of Education 2000*. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. *The TIMSS Videotape Classroom Study: Methods and Findings From an Exploratory Research Project on Eighth-Grade Mathematics Instruction in Germany, Japan, and the United States* (NCES 1999–074), 1999.

FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Tables 36-1, 36-2, 36-3

NCES 2000–094, NCES 2000–062, NCES 1999–074

Learning Opportunities

Class Size of Kindergartens

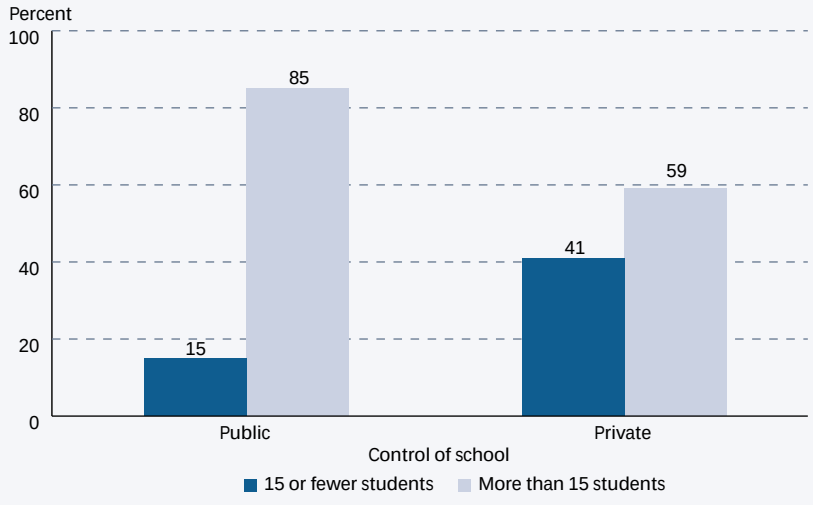
Kindergarten classrooms in private schools were more likely to have small class sizes in 1998 than were such classrooms in public schools.

A significant reform strategy in recent years has been to reduce class size in kindergarten through the 3rd grade in order to improve student learning, especially for minority and disadvantaged students. Many studies have found that minority and disadvantaged students benefit disproportionately from small class sizes in the early grades (Achilles 1996; Finn 1998; Robinson and Wittebols 1986). The optimal class size in the primary grades, or the threshold at which gains in student achievement are realized, is still debated (Hanushek 1999). However, there is some agreement that a threshold may exist between 15 and 20 students (Mosteller 1995; Slavin 1989; Glass and Smith 1979). This indicator examines the percentage of kindergarteners in classes with 15 or fewer students.

In 1998, 20 percent of the Nation's kindergarteners were in classes with 15 or fewer students. The average class size for kindergarteners in public schools was 20, while it was 18 for those in private schools. Kindergarteners enrolled in private schools, however, were more likely to be in a class with 15 or fewer students than their peers enrolled in public schools. Forty-one percent of private school kindergarteners had 15 or fewer students in their class, compared with 15 percent of public school kindergarteners. Despite these differences, the majority of kindergarteners in classes with 15 or fewer students were in public schools. In 1998, public schools enrolled 82 percent of 3- to 5-year-olds in kindergarten (*Table 46, Digest of Education Statistics 1999*).

Besides this difference between public and private schools, kindergarten class size in 1998 also varied by the percentage of minority students in the classroom. Kindergarten classrooms with less than 10 percent minority students were more likely to have 15 or fewer students than classrooms in which more than 75 percent of the students were minorities (see supplemental table 37-1).

CLASS SIZE: Percentage distribution of kindergarten classrooms according to control of school and class size: Fall 1998



NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, "Kindergarten Class of 1998–99," Fall 1998.

FOR MORE INFORMATION:

Supplemental Table 37-1

NCES 2000–031

Achilles 1996, Finn 1998, Glass and Smith 1979, Hanushek 1999, Mosteller 1995, Robinson and Wittebols 1986, Slavin 1989

Learning Opportunities

Student/Teacher Ratios in Public Elementary and Secondary Schools

Between 1990 and 1998, student/teacher ratios declined in public elementary schools but rose slightly in public secondary schools. Differences by school size persist at both levels.

Several states have implemented policies to reduce class size as a means to improve education. To measure progress in meeting this goal, educators frequently use the ratio of students to teachers as a proxy measure for class size. (Student/teacher ratios do not provide a direct measure of class size because they are based on the amount of time in full-time equivalents that all teachers in a school spend instructing students. This includes time spent by classroom teachers; prekindergarten teachers in some elementary schools; art, music, and physical education teachers; and teachers who do not teach regular classes every period of the day.)

Between 1990 and 1998, the student/teacher ratios in elementary schools were stable in the early part of this period but then declined; student/teacher ratios in secondary schools rose and fell, ending slightly higher in 1998 than in 1990. These trends were consistent for elementary and secondary schools with small, medium, and large enrollments.

Variations in student/teacher ratios among schools with different enrollment levels were also consistent between 1990 and 1998. During this period, regular elementary schools with more than 1,000 students enrolled 3.6 more students per teacher, on average, than elementary schools with enrollments under 300. Regular secondary schools with more than 1,000 students enrolled 6.2 more students per teacher, on average, than secondary schools with enrollments under 300.

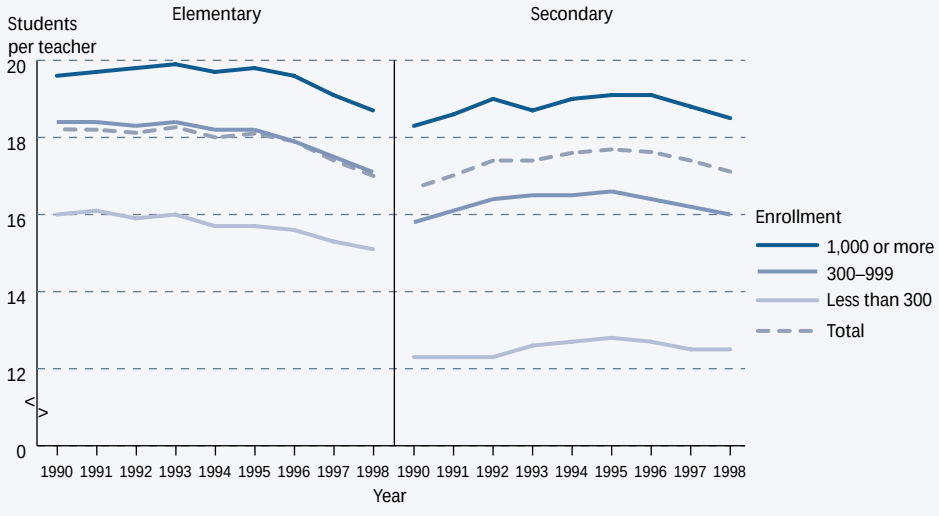
Student/teacher ratios in special education schools increased slightly but remained below those of elementary and secondary schools from 1990 to 1998 (see supplemental table 38-1).

NOTE: Data from schools that did not report both student enrollment and the number of teachers employed were not included in the calculations of these student/teacher ratios. Teacher data for elementary schools include prekindergarten. The method for calculating these ratios has been revised. These ratios express the total number of students divided by the total number of full-time equivalent teachers.

SOURCE: U.S. Department of Education, NCES. Common Core of Data (CCD), various years.

FOR MORE INFORMATION:
Supplemental Table 38-1

STUDENT/TEACHER RATIOS: Regular public elementary and secondary school student/teacher ratios, by enrollment: 1990–98



Learning Opportunities

Teachers' Readiness to Use Computers and the Internet

Only one-third of teachers felt "well prepared" or "very well prepared" to use computers or the Internet for instruction in 1999.

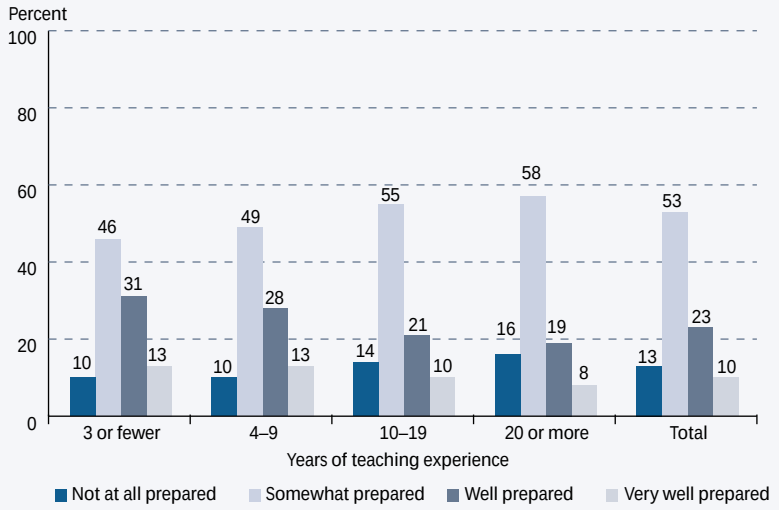
While computers and the Internet have transformed how business and research are conducted in the United States, most public school teachers do not yet feel prepared to use these technologies. In 1999, only 10 percent of public school teachers reported feeling "very well prepared," and an additional 23 percent reported feeling "well prepared" to use computers or the Internet for instruction. The majority (53 percent) reported feeling "somewhat prepared," and 13 percent reported feeling "not at all prepared."

Differences in teachers' readiness to use computers and the Internet translated into large differences in how often teachers used these technologies. Teachers who reported feeling well or very well prepared were more likely than teachers who reported feeling not at all prepared to use them to create instructional materials (88 versus 50 percent), gather information for planning lessons (71 versus 28 percent), access research and best practices for teaching (52 versus 11 percent), and create multimedia presentations for their classes (55 versus 12 percent) (see supplemental table 39-1). They were also more likely than teachers who reported feeling not at all prepared to assign students schoolwork requiring the use of a computer or the Internet (see supplemental table 39-2).

Teachers with fewer years of teaching experience were more likely to feel prepared to use computers or the Internet than their more experienced colleagues (supplemental table 39-4). Professional training in these areas was also related to feeling more prepared (see supplemental table 39-3). The percentage of teachers who reported feeling well or very well prepared to use these technologies did not vary significantly by instructional level, school poverty (as measured by the percentage of students eligible for free or reduced-price school lunch), or minority enrollment (see supplemental table 39-6).

At least 30 percent of teachers identified each of the following as a "great barrier" to using these technologies for instruction: a shortage of computers (38 percent), a lack of release time to learn how to use computers or the Internet (37 percent), and a lack of scheduled time for students to use computers in class (32 percent) (see supplemental table 39-5).

READINESS TO USE TECHNOLOGY: Percentage distribution of public school teachers according to how well prepared they felt to use computers and the Internet for classroom instruction, by number of years of teaching experience: 1999



NOTE: Less than 1 percent of all public school teachers reported no computers or the Internet were available to them anywhere in their school. These teachers were not included in the estimates presented here. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. Fast Response Survey System, "Public School Teachers' Use of Computers and the Internet," FRSS 70, 1999.

FOR MORE INFORMATION:

Supplemental Note 8

Supplemental Tables 39-1, 39-2, 39-3, 39-4, 39-5, 39-6

NCES 2000–090, NCES 2000–102

Special Programs

Inclusion of Students With Disabilities in Regular Education Classrooms

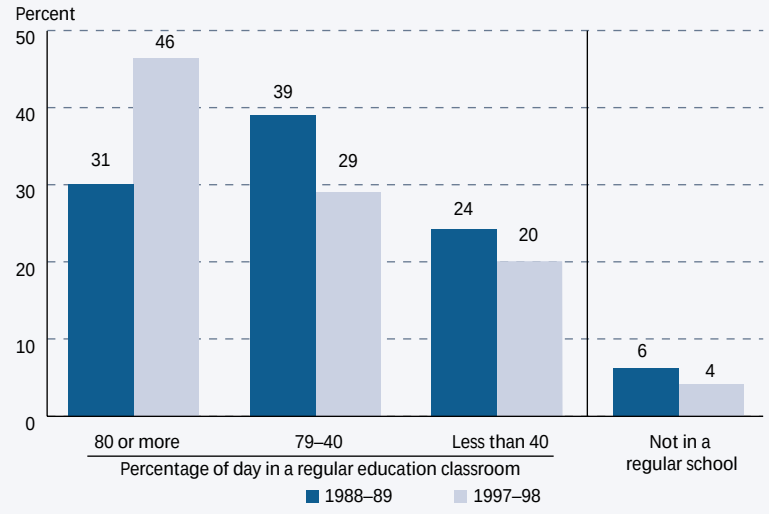
Inclusion rates for students of almost all disability types have increased over the past decade.

Since 1975, Congress has required that students with disabilities receive an education in the "least restrictive environment." The "least restricted environment" for a student is determined on a case-by-case basis. Data suggest that, since 1988, U.S. schools have found inclusion in the regular education classroom to be the "least restrictive environment" for increasing numbers of students with disabilities. They also suggest that progress has been made toward reaching the target, set by the U.S. Department of Education's Office of Special Education Programs, that by 2000–01, 50 percent of children with disabilities ages 6–21 will be "served in the regular education classroom 80 percent of the day or more."

In 1997–98 (the most recent year for which national data are available), states reported that 46 percent of students with disabilities spent 80 percent of the day or more in a regular education classroom. In 1988–89, only 31 percent of such students did so. The increase in the percentage of students with disabilities included in regular classrooms 80 percent of the day or more is noteworthy because the number of such students has been growing faster than total school enrollments. The ratio of special education students to total K–12 enrollment in 1988–89 was 112 per 1,000 students; in 1997–98, it was 128 per 1,000 students (*Table 53, The Digest of Education Statistics 1999*).

Although the percentage of students with disabilities placed in regular classrooms for at least 80 percent of the day increased between 1988–89 and 1997–98, the size of increase varied by disability type. The largest increase occurred among students with specific learning disabilities (from 20 to 44 percent). The smallest increases occurred among students with multiple disabilities (from 7 to 10 percent) and those who are both deaf and blind (from 12 to 14 percent). The percentage of students with disabilities educated in separate facilities declined for students of all disability types (for which data exist) except for those with visual impairments (see supplemental table 40-1).

SPECIAL EDUCATION: Percentage distribution of students ages 6–21 with disabilities, by educational environment: 1988–89 and 1997–98



NOTE: Students counted as disabled are those students served under Part B of the Individuals with Disabilities Education Act (IDEA) in the United States and outlying areas. See *Supplemental Note 12* for a summary of data by all disability types. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, Office of Special Education and Rehabilitative Services. *22nd Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act*, 2000.

FOR MORE INFORMATION:
Supplemental Note 12
Supplemental Table 40-1
NCES 2000–031

School Choice

School Choice and Parental Satisfaction

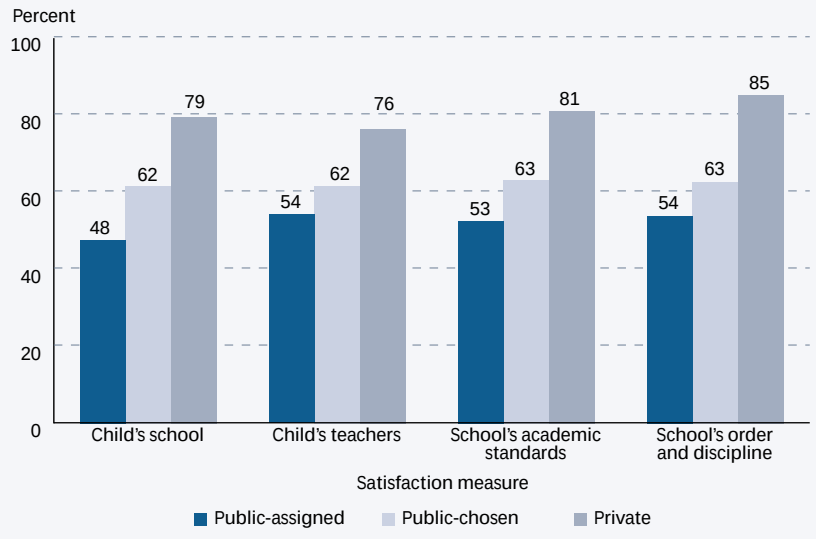
A higher percentage of students in grades 3- 12 were enrolled in schools selected by their parents in 1999 than in 1993. These parents were more likely to be "very satisfied" with their child's school than parents of children attending an assigned school.

Between 1993 and 1999, the percentage of students in grades 3–12 attending an *assigned* public school dropped from 80 to 77 percent. Among students who attended *chosen* schools in 1999, more attended public schools selected by their parents than private schools. Black students were more likely to be in a chosen school than white and Hispanic students. Of the black and Hispanic children whose parents selected their schools, more attended a public school than a private school (see supplemental table 41-1).

In 1999, the percentages of students in grades 3–12 whose parents reported being "very satisfied" with their child's school, teachers, school's academic standards, and its order and discipline were highest among those in private schools, followed by those in chosen public schools, and finally by those in assigned public schools. At private schools, a greater percentage of children had parents who were very satisfied with order and discipline than with the school or teachers in 1999. Although more than half of the students in assigned public schools in grades 3–12 had parents who were very satisfied with most aspects of their child's school in both 1993 and 1999, there was a decrease between these 2 years in the percentage of children with parents who were very satisfied with the school, teachers, and academic standards (see supplemental table 41-2).

For children in assigned or chosen public schools in 1999, parents were more likely to be very satisfied with the various aspects of schools when their children were in grades 3–5 than in grades 9–12. This was not the case for parents of private school children, however: these parents were as likely to be very satisfied with their child's school, its academic standards, and its order and discipline (but not teachers) whether their children were in grades 3–5 or 9–12.

SCHOOL SATISFACTION: Percentage of students in grades 3–12 whose parents reported being very satisfied with aspects of their child's school, by type of choice: 1999



NOTE: Includes those who responded "very satisfied," from a scale of "very satisfied," "somewhat satisfied," "somewhat dissatisfied," and "very dissatisfied." Ungraded students and homeschoolers were excluded from the estimates. Data have been revised from previously published figures.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent Interview Survey).

FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Tables 41-1, 41-2

Teachers

Qualifications of College Graduates Who Enter Teaching

Academically strong college graduates who become teachers are more likely not to have prepared for a teaching career than to have prepared and more likely to leave teaching than to remain in teaching.

Studies of teachers' academic qualifications have identified a tendency among academically weak graduates to be more inclined to become schoolteachers than their academically stronger peers (Vance and Schlechty 1982; Ballou 1996; NCES 2000–152). The entrance examination (i.e., SAT or ACT) scores of 1992–93 college graduates can serve as a useful proxy measure for academic caliber to examine the percentages of academically strong and weak graduates according to their college major, whether they prepared to teach,[1] and whether they became teachers.

Among 1992–93 college graduates who majored in education, 14 percent had SAT or ACT scores in the top quartile. This is significantly less than the percentage of all 1992–93 graduates and those majoring in the social sciences, humanities, or mathematics/computer/natural sciences who scored in the top quartile (see supplemental table 42-1). Among graduates who became teachers, 55 percent majored in education (see supplemental table 42-2). Those who did not prepare to teach but became teachers by 1997 were much more likely to have scored in the top quartile (35 percent) than those who prepared to teach and became teachers (14 percent).

Where 1992–93 college graduates eventually taught was related to where they ranked on their college entrance examinations. Those who taught only in private schools were more likely to have scored in the top quartile than their peers who taught only in public schools. Likewise, those who taught only in secondary schools were more likely to have scored in the top quartile than their peers who taught only in elementary schools.

Among the 1992–93 college graduates who became teachers within 4 years of graduating from college, those who left teaching were more likey to have scored in the top quartile than those who remained in the profession.

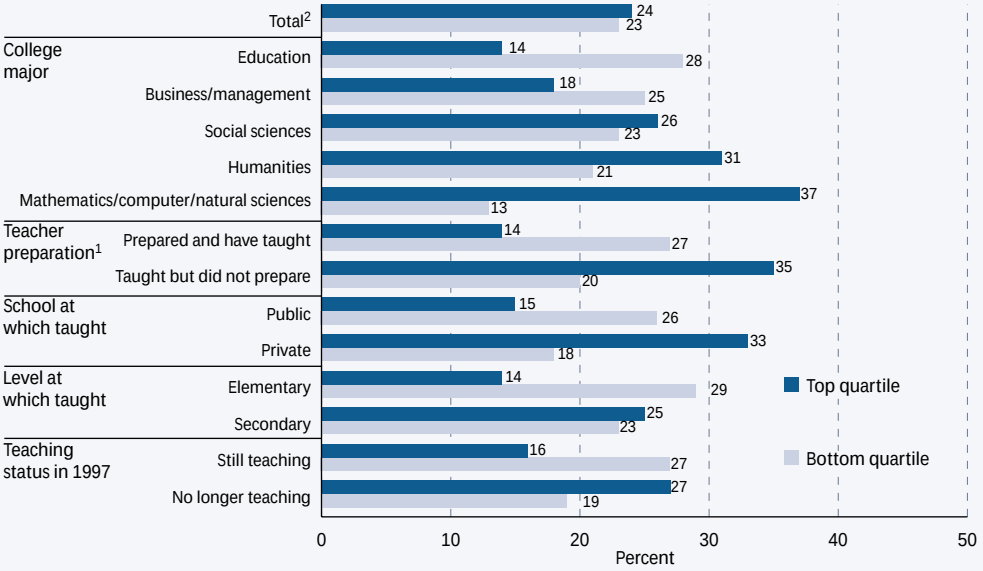
[1]Graduates classified as "prepared to teach" had completed a student-teaching assignment or earned a teaching certificate.

[2]Top and bottom quartiles in this analysis do not equal 25 percent because SAT and ACT scores were not available for some graduates (see supplemental table 42-1).

NOTE: Excludes 1992–93 bachelor's degree recipients who had taught before receiving their bachelor's degree.

SOURCE: U.S. Department of Education, NCES. Baccalaureate and Beyond Longitudinal Study, "Second Follow-up" (B&B:1993/1997), Data Analysis System.

ACADEMIC QUALIFICATIONS: Percentage of 1992–93 college graduates in the top and bottom quartile of SAT or ACT scores, by selected characteristics: 1997



FOR MORE INFORMATION:

Supplemental Notes 1, 7

Supplemental Tables 42-1, 42-2

NCES 2000–152

Vance and Schlechty 1982

Ballou 1996

Teachers

Teacher Preparation in 8th-Grade Mathematics and Science

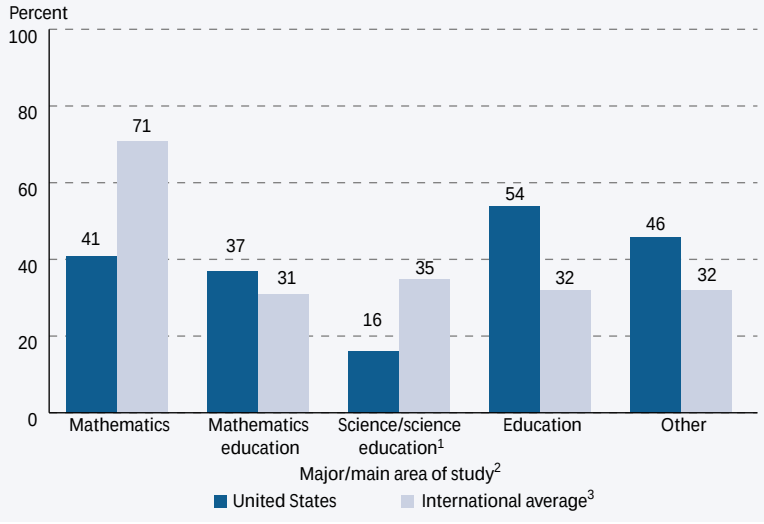
U.S. 8th-graders were less likely than their international peers to be taught mathematics by a teacher who majored in mathematics.

In recent years, researchers, practitioners, and policymakers have focused on the academic preparation and qualifications of teachers, and many have argued that teachers should have subject matter expertise, as well as training in teaching methods. Several studies have indicated that teacher subject matter preparation, particularly in mathematics and science, is related to student achievement, even after controlling for teacher and student background characteristics, such as race/ethnicity and socioeconomic status (Darling-Hammond 2000; Goldhaber and Brewer 1997 in NCES 97–535). In the Third International Mathematics and Science Study–Repeat (TIMSS-R), mathematics and science teachers of 8th-graders were asked about their main areas of study (i.e., their majors or the international equivalent) at the bachelor's and master's degree level.

U.S. 8th-graders were less likely than their international peers to be taught by a mathematics teacher with a bachelor's or master's degree in mathematics. In 1999, 41 percent of U.S. 8th-graders had a mathematics teacher who majored in mathematics, a smaller percentage than the international average of 71 percent. (The international average was based on all 38 participating TIMSS-R countries.) U.S. 8th-graders were about as likely as their international peers to be taught mathematics by a teacher who majored in mathematics education (37 and 31 percent, respectively). Finally, they were more likely than their international peers to be taught mathematics by a teacher who majored in education (54 versus 32 percent).

In 1999, U.S. 8th-graders were as likely as their international peers to be taught science by a teacher with a bachelor's or master's degree major in biology, chemistry, or science education. However, they were less likely than their international peers to be taught science by a teacher who majored in physics and more likely to be taught science by a teacher who majored in education (see supplemental table 43-1). In science, the international average was based on those countries that reported that 8th-grade science was usually taught through a general/integrated science curriculum (23 countries including the United States).

INTERNATIONAL COMPARISON OF MATHEMATICS TEACHERS' MAIN AREAS OF PREPARATION: Percentage of 8th-graders taught mathematics by teachers who reported various main areas of study for their bachelor's and master's degrees: 1999



[1]Includes biology, physics, chemistry, and science education.

[2]More than one category could be selected.

[3]The item response rate for this question was less than 70 percent in some nations. Countries could exclude up to 10 percent of schools or students that would be difficult to test.

NOTE: Eighth grade in most nations. The international average is the average of the national averages of the nations that reported data.

SOURCE: NCES 2001–028, based on data from Mullis et al. (2000). *TIMSS 1999 International Mathematics Report: Findings from IEA's Repeat of the Third International Mathematics and Science Study at the Eighth Grade*, Exhibit R3.1. Chestnut Hill, MA: Boston College.

FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Table 43-1

NCES 2001–028

Goldhaber and Brewer 1997 (NCES 97–535)

Darling-Hammond 2000

School Climate and Discipline

School-Related Violence and Safety

The percentages of high school students engaging in physical fights and carrying weapons on school property have declined since 1993, but the percentage being threatened or injured with a weapon on school property has not changed.

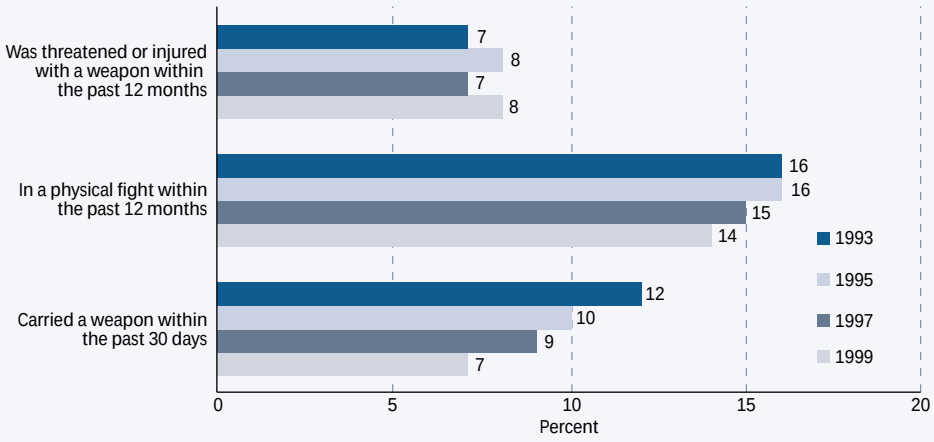
Schools should be safe and secure places for students and teachers. Without a safe learning environment, teachers cannot teach and students cannot learn. A survey by the Centers for Disease Control and Prevention has collected data since 1993 on the risk behaviors of students in grades 9–12. Although some measures of violent victimization in schools have remained constant over time, other measures of youth risk behaviors that affect the safety of schools have decreased.

Between 1993 and 1999, the percentage of students who were threatened or injured with a weapon on school property remained constant. In contrast, the percentage of students who reported being in a fight on school property in the last 12 months declined from 16 percent in 1993 to 14 percent in 1999. During this same time period, the percentage of students who reported that they carried a weapon, such as a gun, knife, or club, on school property at any time in the past 30 days also decreased from 12 percent in 1993 to 7 percent in 1999.

Exposure to violent and other risk behaviors varied by some student characteristics in 1999. Males were more likely than females to have engaged in a physical fight, to have been threatened or injured with a weapon, and to have carried a weapon on school property. Among several apparent racial/ethnic differences among the measures of violent or other risk behaviors at school, only one difference was statistically significant: Hispanic or Latino students were more likely than black, not Hispanic or Latino, students to report carrying a weapon on school property in the 30 days before the survey.

Students in the 9th grade were more likely to have reported either engaging in a physical fight or being threatened or injured with a weapon at school than were students in higher grades. However, they were no more likely to have reported carrying a weapon to school than those in higher grades (see supplemental table 44-1).

SCHOOL-RELATED VIOLENCE: Percentage of high school students who reported being threatened or injured with a weapon, engaging in a physical fight, and carrying a weapon on school property: 1993, 1995, 1997, and 1999



NOTE: The data do not meet NCES standards for response rates. For definitions of the racial/ethnic categories used in this indicator, see *Supplemental Note 1*.

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics. National Health Interview Survey—Youth Risk Behavior Survey, 1993, 1995, 1997, and 1999.

FOR MORE INFORMATION:
Supplemental Notes 1, 8
Supplemental Table 44-1

School Climate and Discipline

Overcrowding in Schools

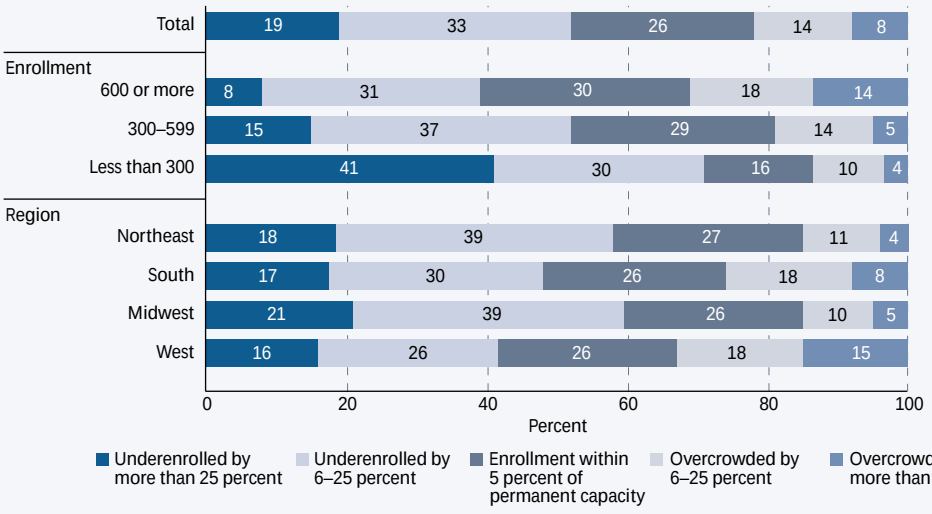
About half of all public schools were enrolled at less than capacity in 1999, but one in five was overcrowded. Schools with 600 or more students were more likely to be severely overcrowded than smaller schools.

Overcrowded schools are a challenge to education because enrollments have increased to record levels and are not expected to decrease significantly in the future (*Indicator 2*). Overcrowding is a cause for concern because research suggests that gains in student achievement (especially for disadvantaged students) are greater in classes with 13–20 students than in larger classes (Krueger 1999; Finn 1998; Achilles 1996). In schools without sufficient temporary classroom space, overcrowding can increase class size (Rivera-Batiz and Marti 1995). Overcrowded schools are more likely than underenrolled schools or schools within 5 percent of their enrollment capacity to have at least one onsite building and one building feature, such as plumbing or heating, in less than adequate condition (NCES 2000–032) (see supplemental table 45-1).

In 1999, 22 percent of public schools reported being overcrowded (i.e., enrolling more than 5 percent above the number of students the school was designed to accommodate in its permanent facilities). Eight percent reported being severely overcrowded (i.e., enrolling more than 25 percent above permanent capacity). About one-half of schools (52 percent) were underenrolled (i.e., enrolled more than 5 percent below permanent capacity).

The proportion of schools reporting severe overcrowding in 1999 differed somewhat by enrollment size, percent minority enrollment in the school, and geographic region. Schools with enrollments of 600 or more students were more likely to be severely overcrowded than schools with lower enrollments. Severe overcrowding was also more likely in schools with more than 50 percent minority enrollment than in schools with minority enrollment of 21–50 percent or less than 5 percent. Severely overcrowded schools were more common in the West than in the Northeast or Midwest, but apparent differences in the distribution of such schools were not statistically significant by locale (urban, suburban, or rural); instructional level (elementary, secondary, or combined); or the percentage of students eligible for free or reduced-price school lunch (see supplemental table 45-2).

SCHOOL ENROLLMENTS: Percentage distribution of public schools reporting that they are underenrolled, at capacity, or overcrowded, by school enrollment size and region: 1999



NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. Fast Response Survey System (FRSS), *Condition of America's Public School Facilities: 1999* (NCES 2000–032), 2000.

FOR MORE INFORMATION:

Supplemental Notes 1, 8

Supplemental Tables 45-1, 45-2

NCES 2000–032

Achilles 1996; Finn 1998; Krueger 1999; Rivera-Batiz and Marti 1995

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Section 5

The Context of Postsecondary Education

Contents

Summary: The Context of Postsecondary Education

Postsecondary education takes place in various types of public and private institutions, including less-than-2-year institutions that provide short-term vocational training, 2-year institutions that offer associate's degrees and vocational certificates, and 4-year colleges and universities that offer bachelor's degrees or higher. Postsecondary education serves adults of all ages, and these individuals enroll with a wide range of career-related and personal objectives. Issues such as access and attainment (see section 3 and the *Essay*) have been prominent, but the context in which postsecondary education is delivered has attracted attention as well. Among these issues are curriculum content, student access to courses and faculty, the use of technology, and the availability of student support services. The national data available on these topics are limited, but these data provide important insights into the context in which postsecondary education takes place.

Coursetaking and Standards

Many students arrive at postsecondary institutions without adequate preparation in reading, writing, or mathematics to succeed in college-level work. To address the needs of these students, virtually all public 2-year institutions, 81 percent of public 4-year institutions, and 63 percent of private 4-year institutions offered remedial courses in reading, writing, or mathematics in 1995 (*Indicator 50, The Condition of Education 2000*).

The debate about whether postsecondary institutions should offer this instruction is ongoing. Some maintain that remedial courses expand opportunities for students with academic deficiencies. Others believe that precollege-level courses do not belong in the college curriculum and compromise the quality of postsecondary education because they divert resources from college-level activities. Which types of postsecondary institutions are the most appropriate locations for remedial work is also the subject of debate (Breneman 1998).

Learning Opportunities

Students' learning opportunities are influenced by the range of courses from which they can choose, the size of their classes, the teaching skills of the faculty, and the types of instructional methods they use. In recent years, the expansion of distance education and the use of Web sites and e-mail for faculty-student communication have also affected learning opportunities.

Students' perceptions provide a useful perspective on the quality of learning opportunities at their institutions (although the views of others would also be needed for a more complete assessment). Most students enrolling in postsecondary education for the first time in 1995–96 reported being satisfied with course availability, class size, and their instructors' ability to teach (*Indicator 51, The Condition of Education 2000*). At the 4-year level, beginning students at private, not-for-profit institutions were more likely than those at public institutions to be satisfied with course availability (81 versus 73 percent), class size (97 versus 88 percent), and instructors' ability to teach (93 versus 87 percent). Within the public sector, beginning students at 2-year institutions were more likely than those at 4-year institutions to be satisfied with each of these aspects of instruction.

Despite beginning students' high level of satisfaction with learning opportunities, concern exists about the extent to which undergraduates interact directly with full-time senior faculty (Boyer Commission 1998). The majority of full-time senior faculty (professors and associate professors) with instructional responsibilities at 4-year institutions do some undergraduate teaching. In fall 1998, 63 percent of full professors and 71 percent of associate professors at

Summary: The Context of Postsecondary Education

Continued

doctoral institutions taught at least one undergraduate course for credit (*Indicator 47*). At nondoctoral institutions, about 89 percent did so.

Lecturing remains the primary instructional method in postsecondary education. In fall 1998, 83 percent of faculty and staff with instructional responsibilities at the undergraduate, graduate, or professional level reported using this format as their primary instructional method in at least one class taught for credit (*Indicator 46*). For grading undergraduates' performance, 61 percent reported using competency-based grading in some or all of their classes and 30 percent reported grading on a curve. Instructional methods varied by discipline, as did assessment methods.

In 2 years (between fall 1995 and the 1997–98 academic year), the proportion of institutions offering distance learning courses grew from 62 to 79 percent among public 4-year institutions and from 58 to 72 percent among public 2-year institutions (*Indicator 53, The Condition of Education 2000*). Institutions offer distance education courses for many reasons, including increasing students' access and improving the quality of course offerings (NCES 98–062).

Concerns have been raised about the impact of distance education on faculty workload and compensation (American Council on Education 2000). In fall 1998, 6 percent of full- and part-time instructional faculty and staff at degree-granting institutions who had any instructional duties for credit indicated that they taught at least one class or section through a distance education program (*Indicator 49*). Furthermore, about 8 to 10 percent reported teaching at least one class using a primary medium other than face-to-face instruction, such as a computer- or TV-based class. The data show that in fall 1998, full-time instructional faculty and staff teaching distance education classes taught more overall than those who did not teach these classes (an average of 3.1 versus 2.5 separate subjects taught), but their incomes were generally similar.

E-mail, the Internet, and Web sites are rapidly becoming core components of postsecondary life (Green 1999; NCES 2001–153). In fall 1998, 97 percent of full-time instructional faculty and staff at 2- and 4-year institutions had access to the Internet, 69 percent used e-mail to communicate with students, and 40 percent used a course-specific Web site (*Indicator 48*). Those at 4-year doctoral institutions were more likely to use e-mail and course-specific Web sites than were those who taught at 4-year nondoctoral or 2-year institutions. This pattern may reflect different levels of access to technology by students and faculty.

Special Programs

By law, education institutions must provide access and reasonable accommodations to qualified students with disabilities. In 1996–97 or 1997–98, about three-quarters of all 2- and 4-year postsecondary institutions enrolled students with disabilities, and nearly all institutions with such students (98 percent) provided at least one support service or accommodation (*Indicator 54, The Condition of Education 2000*). Among the most common services were alternative exam formats or additional time to complete exams (88 percent) and tutors (77 percent).

Faculty Characteristics

Adequate salaries are necessary to attract and retain highly qualified faculty. Adjusting for inflation, the salaries of full-time instructional faculty declined from the early 1970s through the early 1980s (*Indicator 55, The Condition of Education 2000*). Since then, average pay across the ranks as a whole has risen, but the purchasing power of salaries within each rank has not

Summary: The Context of Postsecondary Education

Continued

kept pace. For example, in constant 1997–98 dollars, the average salary for a full professor was $72,500 in 1972–73, $57,400 in 1980–81, and $68,700 in 1997–98.

College Resources

Decisions that colleges and universities make in areas such as faculty workload, tenure, and instructional time have important implications. Across all types of degree-granting postsecondary institutions, full-time faculty members with any instructional responsibilities reported working an average of 53 hours per week in fall 1998. Of this time, 57 percent was spent performing teaching-related activities, and 15 percent was spent conducting research (*Indicator 51*). The time allocated to teaching and research varied by faculty rank, with junior faculty (assistant professors, instructors, and lecturers) reporting spending proportionately more time than full professors on teaching-related activities.

Part-time faculty provide institutions with a flexible work force that allows them to adjust to enrollment changes, fill temporary vacancies, teach specialized courses, and reduce faculty costs. Despite the advantages to employers, part-time faculty are less likely than full-time faculty to have tenure and typically lack the job benefits and institutional support provided to full-time faculty (NCES 97–470; Townsend 2000). Some faculty teach part time by choice, but others do not and must work at several institutions to support themselves (Gappa and Leslie 1993). In fall 1998, 43 percent of all instructional faculty and staff worked part time, and part-timers constituted a majority at public 2-year institutions (62 percent; *Indicator 50*).

Learning Opportunities

Instructional Methods of Postsecondary Faculty

Among postsecondary and instructional faculty and staff, lecturing is popular. Eighty-three percent reported using this format as their primary instructional method in at least one class taught for credit.

Postsecondary instructional faculty and staff use many methods to promote student learning and to measure student achievement. Among such staff, lecturing remains popular. Eighty-three percent reported using this format as their primary instructional method in at least one class taught for credit in fall 1998. Although instructional faculty and staff use various teaching and assessment methods, the ones they selected were related to their teaching disciplines, as one might expect. Compared with the overall average, for example, instructors in the health sciences (38 percent) and fine arts (34 percent) used labs/clinics more often than average. Instructional faculty and staff in education (13 percent) and the health sciences (10 percent) provided opportunities to engage in fieldwork such as internships and apprenticeships more often than average.

For grading student performance, instructional faculty and staff indicated they more frequently use competency-based grading rather than grading on a curve (61 percent versus 30 percent). There were differences among disciplines, with engineering (58 percent), natural sciences (38 percent), and business (38 percent) faculty and staff grading on a curve more frequently than average. Fine arts (70 percent) faculty and staff were more likely than average to have chosen a competency-based approach to grading for their classes.

To assess students, instructional faculty and staff in the humanities (80 percent) and social sciences (71 percent) were more likely than average to use essay examinations, while those in engineering (45 percent), fine arts (51 percent), health sciences (48 percent), and natural sciences (48 percent) were less likely to do so. Instructional faculty and staff in the social sciences (76 percent), education (68 percent), and humanities (72 percent) were more likely than average to use term/research papers. Instructional faculty and staff in the natural sciences (41 percent) were less likely to do so. Education (49 percent) and humanities (66 percent) instructional faculty and staff were more likely than average to have students submit multiple drafts of written work (see supplemental table 46-1).

NOTE: Instructional methods include all class levels (i.e., undergraduate, graduate, and professional). Assessment and grading methods include only undergraduate classes. Percentages may not add to 100.0 because faculty and staff could give multiple responses.

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

FOR MORE INFORMATION:
Supplemental Note 8
Supplemental Table 46-1
NCES 1999–022

INSTRUCTIONAL METHODS: Percentage of postsecondary instructional faculty and staff who used specific instructional and grading methods in some or all of their classes, by teaching discipline: Fall 1998

	Primary instructional method					Grading methods	
Teaching discipline	Lecture	Seminar	Lab / clinic	Field-work	Other	Curve	Competency-based
Total	**82.7**	**14.7**	**21.8**	**5.3**	**7.4**	**29.7**	**60.7**
Agriculture/ home economics	84.3	10.2	31.8	9.6	3.9	36.8	63.6
Business	90.6	10.4	16.6	3.0	6.1	37.9	57.8
Education	77.1	20.7	16.2	12.7	7.8	19.7	67.2
Engineering	87.7	8.9	21.5	3.1	5.0	57.9	58.3
Fine arts	69.4	14.8	34.0	5.2	20.4	21.4	70.4
Health sciences	75.7	14.9	38.0	10.2	5.0	22.9	64.3
Humanities	88.0	16.5	10.8	3.0	6.9	20.4	58.8
Natural sciences	86.3	10.3	24.7	2.3	5.3	37.7	56.0
Social sciences	89.5	22.9	8.9	3.7	4.7	35.0	52.9

Learning Opportunities

Instructional Faculty and Staff Who Teach Undergraduates

Most instructional faculty and staff at 4-year institutions who taught classes for credit taught undergraduates in fall 1998, but the percentage doing so declined as academic rank increased.

Although faculty in postsecondary institutions have many responsibilities, many people believe that teaching undergraduates is their primary responsibility. The percentage of instructional faculty and staff, particularly full and associate professors, who teach undergraduate classes provides a measure of faculty involvement in undergraduate education.

Among full-time instructional faculty and staff who taught classes for credit at 4-year institutions in fall 1998, 79 percent reported teaching at least one class for credit to undergraduates. Fifty-eight percent reported teaching undergraduate classes exclusively. Reflecting the broader missions of their institutions and the greater number of graduate students, full-time instructional faculty and staff at doctoral institutions were less likely than their colleagues at nondoctoral institutions to teach undergraduate classes.

Most full and associate professors at 4-year institutions who taught classes for credit did some undergraduate teaching. For example, at 4-year doctoral institutions, 63 percent of full professors and 71 percent of associate professors taught at least one undergraduate class for credit, as did about 89 percent of full and associate professors at 4-year nondoctoral institutions.

At 4-year institutions, particularly doctoral institutions, the percentage of full-time instructional faculty and staff who taught undergraduate classes and who taught these classes exclusively declined as their academic rank increased.

UNDERGRADUATE TEACHING: Percentage of full-time instructional faculty and staff in 4-year institutions who taught at least one undergraduate class for credit or who taught only undergraduate classes for credit, by academic rank: Fall 1998

	Taught at least one undergraduate class for credit			Taught only undergraduate classes for credit		
Academic rank	All	Doctoral	Nondoctoral	All	Doctoral	Nondoctoral
Total*	**78.7**	**68.6**	**90.0**	**58.2**	**43.9**	**74.0**
Professor	74.5	63.3	89.2	51.3	37.1	69.7
Associate professor	79.4	70.9	89.5	55.1	42.0	70.6
Assistant professor	79.5	68.6	90.3	60.2	44.0	76.1
Instructor	87.9	80.1	93.9	79.6	68.3	88.2
Lecturer	92.1	88.2	97.6	79.1	75.6	84.0

*Included in the total but not shown separately are those with other or no academic rank.

NOTE: Percentages are based on full-time instructional faculty and staff who reported teaching at least one class for credit at 4-year institutions in fall 1998 (88 percent of full-time instructional faculty and staff at 4-year institutions taught classes for credit). Instructional faculty and staff at 2-year institutions are excluded because all of them reported teaching undergraduate classes for credit in fall 1998.

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

FOR MORE INFORMATION: Supplemental Notes 8, 10

Learning Opportunities

Technology in Postsecondary Teaching

Access to the Internet is almost universal for full-time postsecondary instructional faculty and staff, but the use of e-mail and course-specific Web sites is greater at 4-year doctoral institutions than at 4-year nondoctoral or 2-year institutions.

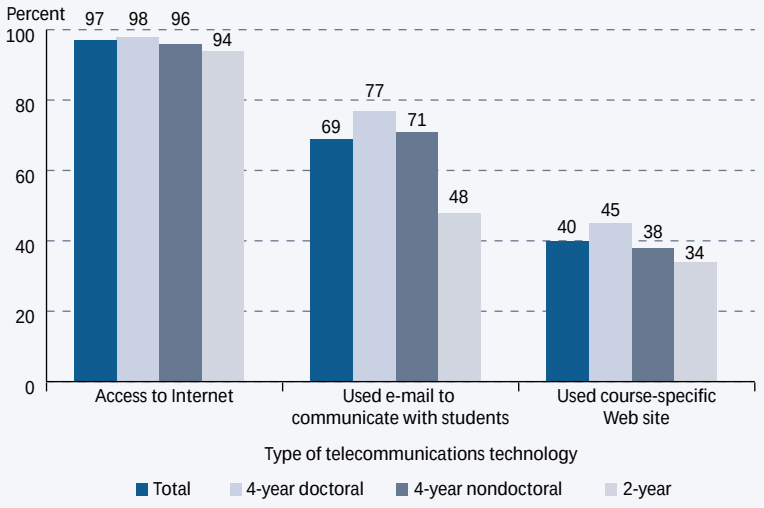
E-mail, the Internet, and Web sites are rapidly becoming core components of postsecondary instruction for students in the United States (Green 1999; NCES 2001–199). In fall 1998, 97 percent of full-time instructional faculty and staff at 2- and 4-year institutions had access to the Internet, including 98 percent of those at 4-year doctoral institutions, 96 percent of those at 4-year nondoctoral institutions, and 94 percent at 2-year institutions.

Although access to the Internet was almost universal for full-time postsecondary instructional faculty and staff in fall 1998, the use of e-mail to communicate with students was lower (69 percent) and varied by type of institution. Full-time instructional faculty and staff at 4-year doctoral institutions were the most likely to use e-mail to communicate with students (77 percent), followed by those at 4-year nondoctoral institutions (71 percent). Those at 2-year institutions were much less likely to use e-mail for this purpose (48 percent). This may reflect different levels of access to e-mail by students as well as faculty.

Of the three types of telecommunications technology described here, a course-specific Web site was the least commonly used (40 percent). Full-time postsecondary instructional faculty and staff who taught at 4-year doctoral institutions were more likely to use Web sites to post course-related information (45 percent) than were those who taught at 4-year nondoctoral institutions (38 percent) or 2-year institutions (34 percent).

Use of e-mail and course-specific Web sites also varied by principal field of teaching. Higher than average percentages of full-time instructional faculty in the fields of engineering and computer sciences and the social sciences used e-mail to communicate with students (82 and 79 percent, respectively), and lower than average percentages of full-time instructional faculty in health sciences and vocational fields did so (50 and 49 percent, respectively). A higher than average percentage of those who taught engineering and computer sciences used a course-specific Web site (58 percent). These differences may reflect the type of institutions in which these subjects are taught, common instructional methodologies, and the propensity of faculty in various fields to use telecommunications technology (see supplemental table 48-1).

TEACHING WITH TECHNOLOGY: Percentage of full-time postsecondary instructional faculty and staff who had access to and used telecommunications technology, by type of institution: Fall 1998



NOTE: Based on faculty and staff with instructional duties in fall 1998 who were teaching one or more classes for credit or advising or supervising students' academic activities. Access to the Internet includes access at home, at work, or both.

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

FOR MORE INFORMATION:
Supplemental Notes 8 and 10
Supplemental Table 48-1
NCES 2001–199
Green 1999

Learning Opportunities

Distance Education by Postsecondary Faculty

Instructional faculty and staff teaching distance education classes teach more overall than those who do not, but their compensation is generally similar.

Distance education at postsecondary institutions is increasing: 44 percent of 2- and 4-year degree-granting institutions offered distance education courses in 1997–98, in contrast to 33 percent in fall 1995 (NCES 2000–013). Faculty workload is a key issue in this growth (American Council on Education 2000): Are distance education courses offered in addition to a regular teaching schedule, or do these courses replace others? How does compensation differ between those faculty members who do and do not teach distance classes?

In fall 1998, 6 percent of full- and part-time instructional faculty and staff at degree-granting institutions who had any instructional duties for credit indicated that they taught at least one class or section through a distance education program (not defined for respondents). In a separate question, about 8 to 10 percent reported teaching at least one class using a primary medium other than face-to-face instruction, such as a computer- or TV-based class. Though not necessarily offered through formal distance education programs, these classes may have a strong distance-learning component.

The teaching load was higher for instructional faculty and staff teaching either type of distance class than for those not doing so. On average, faculty who taught distance classes taught at least one class or section more in the fall 1998 term than those not teaching distance classes. They also averaged more course preparations (separate subjects taught); for example, full-time faculty teaching distance classes had about 3.1 course preparations, compared with 2.5 preparations for their counterparts. The base salary that instructional faculty and staff received did not vary by participation in distance education. Full-time employees who taught any classes offered through a distance education program earned about $1,700 more per year in other income from their institutions (such as teaching overload or summer session pay) than those who did not teach such classes. However, there was no difference between those full-time faculty who did and did not teach nonface-to-face classes. There were also no differences in other income for part-time faculty teaching either type of distance class.

DISTANCE EDUCATION INSTRUCTION: Percentage distribution of instructional faculty and staff and average workload and compensation, by participation in distance education and full- or part-time employment: Fall 1998

Participation and employment status	Percent	Workload: Number of classes/ sections	Workload: Number of course preparations	Compensation: Salary	Compensation: Other income
Total	**100.0**	**2.9**	**2.1**	**$37,580**	**$2,630**
Taught in distance education program			**Full time**		
Yes	6.0	5.0	3.1	55,040	5,640
No	94.0	3.6	2.5	55,150	3,920
Taught nonface-to-face class					
Yes	9.5	4.7	3.1	54,160	4,320
No	90.5	3.6	2.5	55,240	3,990
Taught in distance education program			**Part time**		
Yes	5.7	3.5	1.9	11,550	720
No	94.3	2.5	1.6	11,230	780
Taught nonface-to-face class					
Yes	8.3	3.5	1.9	12,930	1,060
No	91.7	2.5	1.5	11,090	750

NOTE: Includes faculty and staff with some instructional duties for credit at degree-granting institutions. "Distance education program" was not defined for respondents. Nonface-to-face classes are those with a computer, TV-based, or other primary instructional medium. Base salary and other income (such as for a teaching overload or summer session) are for calendar year 1998 from the institution at which the respondent was sampled.

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

FOR MORE INFORMATION:

Supplemental Note 8

NCES 2000–013

NCES 2001–162

American Council on Education 2000

College Resources

Part-Time Instructional Faculty and Staff

Postsecondary institutions rely heavily on part-time faculty. In fall 1998, 4 of 10 instructional faculty and staff worked part time.

Part-time faculty provide institutions with a flexible work force that allows them to adjust to enrollment changes, fill temporary vacancies, teach specialized courses, and reduce faculty costs. Despite the advantages to employers, part-time faculty are less likely to have tenure than full-time faculty and typically lack the job benefits provided to full-time faculty (NCES 97–470). Part-time faculty are also less likely than their full-time colleagues to receive other institutional support such as access to an office and computer (Townsend 2000), which in turn undercuts their ability to be involved with students and may eventually diminish the quality of their students' education.

Some faculty, such as those who care for children, teach part time by choice, but others do not. Those who teach part time but desire full-time work sometimes teach at several institutions in order to support themselves (Gappa and Leslie 1993). Consequently, they may be less available to students and less able to participate in the institutional activities than are other faculty.

In fall 1998, 43 percent of postsecondary instructional faculty and staff were employed part time as defined by their institution. Instructional faculty and staff at public 2-year institutions were the most likely group to be employed part time (62 percent versus 22 to 49 percent at other types of institutions).

Women were more likely than men to work part time at each type of 4-year postsecondary institution but not at 2-year institutions. Instructors and lecturers were far more likely than faculty with higher academic rank to be employed part time.

USE OF PART-TIMERS: Percentage of postsecondary instructional faculty and staff who were employed part time, by sex, academic rank, and type of institution: Fall 1998

Sex and academic rank	Total	Type of institution					
		Research	Doctoral	Comprehensive	Private liberal arts	Public 2-year	Other
Total*	**42.6**	**22.3**	**35.6**	**41.4**	**40.9**	**62.4**	**49.4**
Sex							
Male	37.8	18.6	31.0	37.1	32.9	63.2	43.8
Female	49.5	30.1	43.1	47.3	50.6	61.6	58.2
Academic rank							
Professor	14.9	10.0	15.6	12.7	10.8	27.2	24.6
Associate professor	12.8	9.5	16.6	12.4	8.9	19.3	18.0
Assistant professor	15.6	12.2	21.5	15.4	10.9	17.4	20.7
Instructor	73.3	57.6	69.4	75.9	75.4	74.5	77.5
Lecturer	76.6	65.8	74.1	77.5	93.8	93.5	65.2

*Included in the total but not shown separately are those with other or no academic rank.

NOTE: Percentages are based on faculty and staff who had some instructional duties for credit in fall 1998. Instructional duties include teaching one or more classes for credit or advising or supervising academic activities for which students receive credit.

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

FOR MORE INFORMATION:

Supplemental Notes 8, 10

NCES 97–470

Townsend 2000

Gappa and Leslie 1993

College Resources

Time Allocation of Full-Time Instructional Faculty

Full-time instructional faculty at postsecondary degree-granting institutions worked an average of 53 hours weekly in fall 1998, devoting a majority of their time to teaching. The time allocated to teaching and research varied considerably by institution and academic rank.

Teaching students is only one aspect of a faculty member's job. Instructional faculty also devote their time to research, administrative tasks, and other professional activities. Measures of the length of the faculty work week, the amount of time faculty spend in the classroom, and the allocation of time among work activities can inform debates about workload, tenure, instructional time, and the overall quality of undergraduate education.

In a national survey of faculty conducted in 1999, faculty were asked to estimate their fall 1998 workload. Across all types of postsecondary degree-granting institutions, the average full-time faculty member with any instructional responsibilities worked 53 hours per week. Faculty at research and doctoral institutions worked longer hours than did their colleagues at comprehensive and public 2-year institutions (see *Supplemental Note 10* for the classification of institutions). In addition, full, associate, and assistant professors worked longer hours than did instructors.

Full-time instructional faculty spent 57 percent of their work hours on teaching activities, 15 percent on research, and 13 percent on administrative tasks. (See *Supplemental Note 13* for a detailed description of what is included in each type of activity.)

Full, associate, and assistant professors typically spent a higher percentage of their work time conducting research than did instructors and lecturers. Assistant professors, instructors, and lecturers spent a higher proportion of their time performing teaching activities than did full professors.

Overall, reflecting the expectations of their institutions, faculty at research and doctoral institutions spent more time doing research and less time teaching than did faculty at other types of institutions.

FACULTY TIME ALLOCATION: Average number of hours worked per week and percentage distribution of time spent on various work activities by full-time instructional faculty, by type of institution and academic rank: Fall 1998

Type of institution and academic rank	Average hours worked per week	Percentage of time spent[1]			
		Teaching	Research	Administration	Other
Total[2]	**53.4**	**57.1**	**15.3**	**13.4**	**14.2**
Type of institution					
Research	55.8	45.1	26.6	13.2	15.2
Doctoral	55.4	47.3	19.7	14.8	18.2
Comprehensive	52.1	63.4	10.4	13.3	13.0
Private liberal arts	53.8	66.5	8.3	14.8	10.4
Public 2-year	49.2	72.8	3.7	10.7	12.8
Academic rank					
Professor	54.7	53.0	18.2	15.9	13.0
Associate professor	53.6	55.3	17.0	13.6	14.2
Assistant professor	54.4	56.9	17.3	10.0	15.9
Instructor	49.2	71.3	4.9	9.9	13.9
Lecturer	51.1	64.2	7.1	14.4	14.4

[1]Percentages may not add to 100.0 due to rounding.

[2]Included in the total but not shown separately are those with other or no academic rank or at other types of postsecondary institutions.

NOTE: Percentages are based on full-time faculty who had some instructional duties for credit in fall 1998. Instructional duties include teaching one or more classes for credit or advising or supervising students for credit. Staff with instructional responsibilities are not included.

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

FOR MORE INFORMATION:

Supplemental Notes 8, 10, 13

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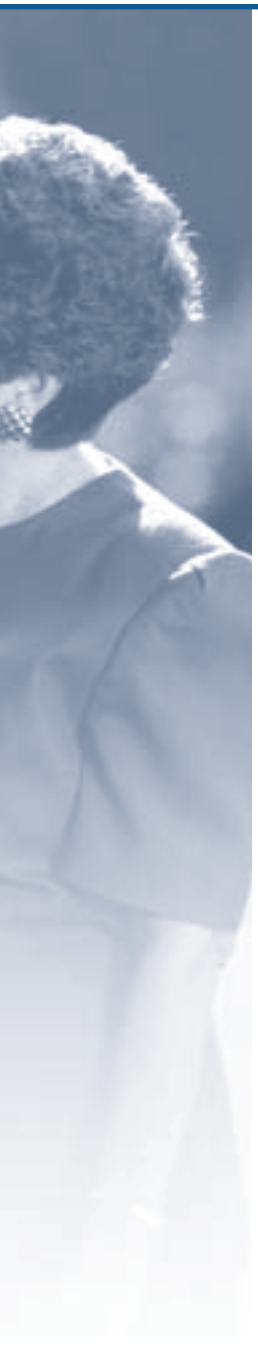
Section 6

Societal Support for Learning



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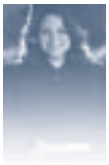


Summary: Societal Support for Learning

This section addresses the contributions that society and its members—the family, the individual, employers, and other organizations outside school—make to education. It thus discusses traditional concerns about financial support for education as well as issues about the amount of time and attention parents devote to their children's learning, the support that exists in the community, workplace, and other settings for learning, and the consistency of cultural messages about the value of knowledge and learning.

Parental and Family Support for Learning

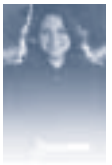
Policymakers, researchers, and educators agree that a family's involvement with education is closely linked to their children's success in school (Henderson and Berla 1994). However, parental involvement decreases as children move from elementary to middle to high school (*Indicator 54*), which is partly due to the reduced opportunities for involvement as children grow older (NCES 98–091). This indicator also shows that in 1999 white students were more likely than black or Hispanic students to have parents who attended a general meeting, participated in a school event, or acted as a volunteer or served on a committee.

Parental perceptions of school environments and practices can also be an indicator of their support for learning. Favorable perceptions are positively related to the frequency of a family's involvement at school (NCES 97–327). From 1993 to 1999, the percentage of children with parents who reported they were "very satisfied" with their child's school declined, whereas the percentage who were "very satisfied" with their child's teachers, the school's academic standards, and the school's order and discipline did not change during this period (*Indicator 55*). Despite the decrease in parents' satisfaction with their child's school, more than half of children in grades 3–12 had parents who reported they were very satisfied with that school's learning environment in 1999. In addition, parents who selected their child's school were more likely to be very satisfied with that school than parents of children attending assigned schools (*Indicator 41*). The percentages of white and black children with parents who were very satisfied with various aspects of their child's school were similar in 1999. Parents of Hispanic students were more likely to be very satisfied than the parents of white and black students (*Indicator 55*).

Family support for learning can be demonstrated not only through their support for schools but also by their involvement in their children's learning outside of school. In 1999, about half of children in grades K–8 received care before or after school from their parents, while 19 percent received care from a relative, 8 percent were cared for by a nonrelative, 19 percent attended a center-based program, and 12 percent cared for themselves (*Indicator 53*).

Differences in arrangements for before- and after-school care can affect children's opportunities for learning social skills and developing interests (Seligson 1997). Such differences in the types and duration of the care children receive before and after school can have both positive and negative effects on their development, as when young children must take care of themselves before and after school (Seppanen et al. 1993).

Parents and families also impart early literacy skills to their children both directly and indirectly. In 1999, 82 percent of parents reported that a parent or other family member read to their 3- to 5-year-old child at least three times in the past week, an in-



Summary: Societal Support for Learning

Continued

crease from 78 percent in 1993. However, most of the statistically significant increases in family activities, such as reading, telling stories, and singing songs with their child, that occurred between 1993 and 1999 were among white children from two-parent households with family incomes above the poverty threshold and with mothers who speak English at home (*Indicator 52*).

Financial Support for Learning

Finances are central to all aspects of education. Inherent in the decentralized system of public education in the United States are differences in how, to whom, and how many public dollars are allocated to schools. Differences in expenditures are of special interest when considering children in particular categories of continuing concern, such as minority status, poverty, and other at-risk factors.

Sources of funding for public education also vary across regions. School districts in the Northeast have historically relied to a greater degree on local funding than those in the West, where schools have relied more on state funding (*Indicator 63, The Condition of Education 2000*). Between 1991–92 and 1994–95, the West was the only region where the proportion of local funding rose, but this increase was not sustained in the 2 years that followed.

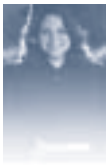
Between 1991–92 and 1996–97, public school districts serving central cities spent consistently more per student than districts that did not serve a metropolitan area (*Indicator 56*). After adjusting for geographic cost differences, however, expenditures per student were lower in central cities than in nonmetropolitan areas in 1996–97. During the same period, public school districts with high and low concentrations of children living in poverty spent more per student than districts with moderate levels of poverty. Recent trends in spending per student have narrowed the differences between low-, middle-, and high-poverty districts.

When compared with the educational investments of other OECD nations, U.S. spending per student on primary and secondary education ranked high (*Indicator 57*). At the higher education level, the United States still retains its lead among its economic competitors in terms of educational expenditures per student.

Undergraduate tuition, room, and board have been rising, making college a greater financial cost for students. In addition, the loss of potential income associated with not obtaining a postsecondary education has also increased (NCES 98–088).

Faced with the challenge of meeting these rising college costs, how and when parents begin financial planning can affect their children's access to postsecondary education and their choice of institutions to attend. In 1999, 93 percent of parents of students in grades 6–12 expected their children to continue their education after high school, and 60 percent had started saving money or making financial plans for their children's further education (*Indicator 66, The Condition of Education 2000*). Despite the increasing costs of obtaining a postsecondary education in recent years, the percentage of high school seniors who reported they would definitely complete a bachelor's degree increased considerably between 1983 and 1998 (*Indicator 19*).

The price of college attendance can also affect a student's access to postsecondary education. Students and their families are responsible for the net price of college atten-

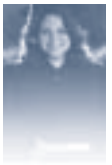


Summary: Societal Support for Learning

Continued

dance, which is the difference between the total price of attendance and grants received. In 1995–96, the net price varied based on the type of institution attended and family income; the net price was less for low- and lower middle-income students than for upper middle- and high-income students at 4-year institutions (*Indicator 58*). Nevertheless, a family at the 20th- income percentile would be required to spend 32 percent of its income to pay for tuition, room, and board at an average-priced public college or university in 1995, and 89 percent at an average-priced private one (NCES 2000–169). Most bachelor's degree recipients earn enough to repay their education loans without undue financial burden 4 years after they graduate (*Indicator 59*).

Total expenditures per full-time-equivalent (FTE) student increased about 16 percent between 1980 and 1992 at public postsecondary institutions. In contrast, expenditures rose much more (about 43 percent) at private postsecondary institutions during the same period (NCES 96–769). In 1995–96, instructional expenditures per FTE student varied depending on the number of graduate and first-professional students enrolled in the institution (*Indicator 65, The Condition of Education 2000*). Although instructional costs per FTE student were comparable among primarily undergraduate institutions, instructional expenditures per FTE student varied more and were higher among research universities and doctoral institutions.



Family Support

Early Reading Activities

In 1999, among children ages 3-5 not yet enrolled in kindergarten, those with multiple risk factors were generally less likely than those without risk factors or with only one to engage in literacy activities frequently with their families.

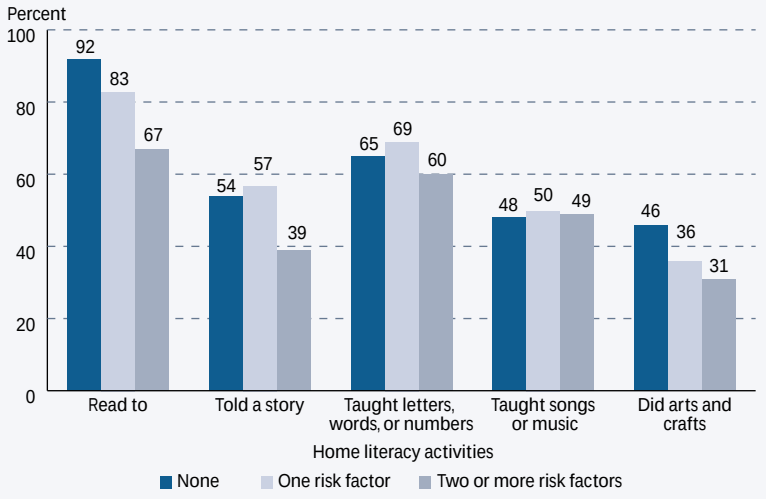
Research has shown that children whose parents read to them become better readers and do better in school (Snow, Burns, and Griffin 1998). Other family activities such as telling stories and singing songs may also encourage children's acquisition of literacy skills (National Education Goals Panel 1997) and enhance their chances for success in school (Snow 1991). Data collected by the National Household Education Surveys Program in 1993 and 1999 show how frequently families with young children engage in these literacy-building activities.

In 1999, 82 percent of children ages 3–5 who were not yet enrolled in kindergarten were read to by a family member three or more times a week. Similarly, 50 percent of preschool-aged children were told a story, and 64 percent were taught letters, words, or numbers that often. About one-half (48 percent) were taught songs or music, and more than one-third (39 percent) did arts and crafts with their families three or more times a week (see supplemental table 52-1).

With the exception of being taught songs or music, children with multiple risk factors were less likely than those with no risk factors or only one to engage in literacy activities with their families at least three times a week. In 1999, 67 percent of children with two or more risk factors were read to at least three times a week, compared with 92 percent of children with no risk factors and 83 percent of those with one. Likewise, 39 percent of children with two or more risk factors were told a story at least three times a week, compared with 54 percent of children without any risk factors and 57 percent of children with one.

Most of the increases in literacy activities between 1993 and 1999 were for children considered less at risk for school failure. For example, the percentage of children who were told a story three or more times a week increased from 43 percent in 1993 to 54 percent in 1999 for children with no risk factors, but remained similar for children with multiple risk factors.

PRESCHOOL READING ACTIVITIES: Percentage of 3- to 5-year-old children not yet enrolled in kindergarten who participated in home literacy activities with a family member three or more times in the week before the survey, by number of risk factors: 1999



NOTE: Types of literacy activities include reading to the child; telling a story; teaching letters, words, or numbers; teaching songs or music; and doing arts or crafts. Risk factors are defined as having a race/ethnicity other than white; having a mother whose home language is other than English; having a mother whose highest education is less than high school; being a member of a family with no parent or only one parent in the household; and being a member of a family whose poverty status is below the poverty threshold. See *Supplemental Note 3* for further discussion.

SOURCE: U.S. Department of Education, NCES. *Home Literacy Activities and Signs of Children's Emerging Literacy, 1993 and 1999* (NCES 2000–026), and National Household Education Surveys Program (NHES), 1999.

FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Table 52-1

NCES 2000–026

National Education Goals Panel 1997; Snow 1991; Snow, Burns, and Griffin 1998

Family Support

Before and After School Care

Among children in grades K- 8 who received care on a regular basis from someone other than a parent before and after school in 1999, more received care from a relative or attended a center-based program than received care from a nonrelative or cared for themselves.

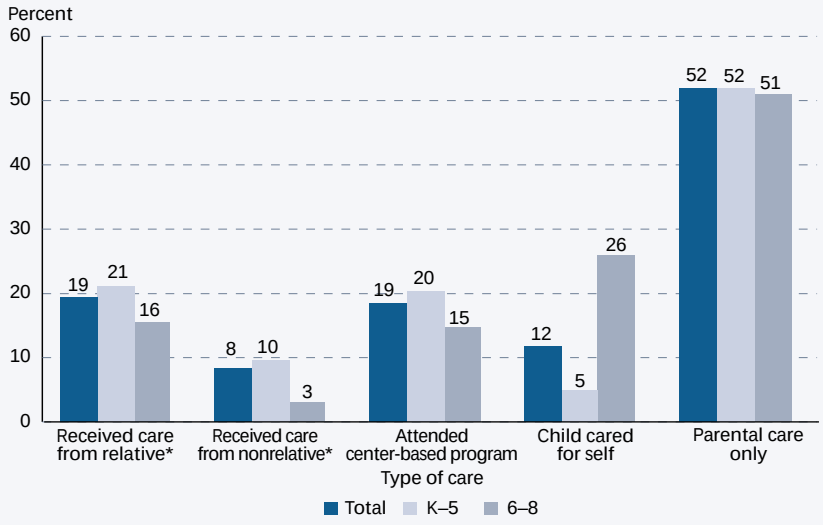
Many children spend the time before or after school either alone or in the care of someone other than a parent. The manner in which a child spends this time may influence the development of both social skills and the ability to form relationships with other people (McCartney et al. 1999).

Among children in grades K–8, 19 percent received care from a relative, 8 percent received care from a nonrelative, 19 percent attended a center-based program, and 12 percent cared for themselves in 1999. In contrast, about half of children in grades K–8 received before- and after-school care from a parent.

Black children were more likely to receive nonparental before- or after-school care than white or Hispanic children. Black and Hispanic children were more likely than white children to receive care from a relative. In addition, black children were more likely to attend center-based programs than white or Hispanic children. The percentage of children who received care from a nonrelative or who cared for themselves was similar across racial/ethnic groups in 1999 (see supplemental table 53-1).

The percentage of children who received care from a relative was greater for poor children than for nonpoor children. Whereas poor and nonpoor children were equally likely to have attended a center-based program, nonpoor children were more likely to care for themselves. The percentage of children who received care from a nonrelative, attended a center-based program, or cared for themselves was generally similar, regardless of parents' highest education level.

BEFORE AND AFTER SCHOOL CARE: Percentage of children in grades K–8 who received various types of care before and after school: 1999



* Care received from a relative or nonrelative may be provided inside or outside of the child's home.

NOTE: The National Household Education Surveys Program (NHES) asked parents or guardians about the type of care the child received on a regular basis before or after school. "Received care from a relative" includes care received from someone other than the parent or guardian. See the glossary for the definitions of the types of care arrangements. Percentages may not add to 100 because children can be included in more than one type of care arrangement. Data have been revised from previously published figures.

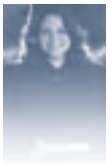
SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent Interview Survey).

FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Table 53-1

McCartney et al. 1999



Family Support

Parental Involvement in Schools

The levels of parental involvement in American elementary and secondary education are relatively high, but the frequency of such participation depends on the child's grade in school as well as parental income and educational attainment.

Effective parental involvement in education requires a working partnership among parents, teachers, and administrators. Many schools actively encourage parents to increase their involvement in their children's education. Parental involvement can include attendance at a general meeting (open houses or back-to-school nights); a scheduled meeting with a teacher (parent-teacher conferences); a school event (class plays, sports, or science fairs); or acting as a volunteer or committee member.

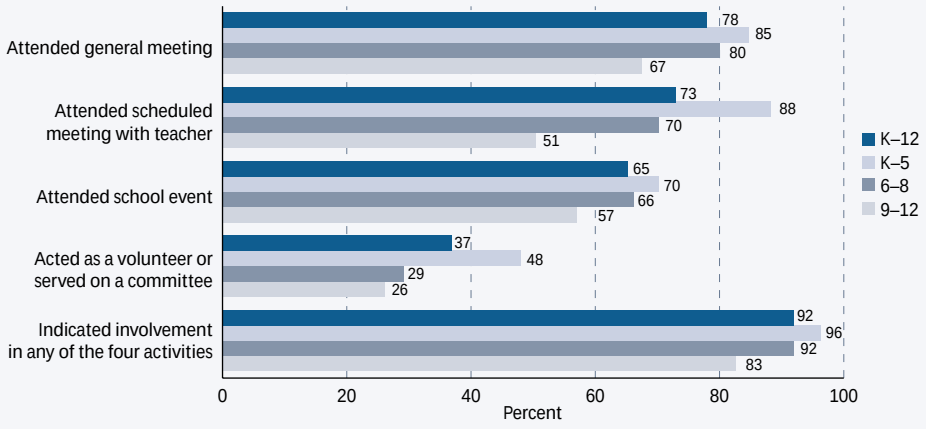
In both 1996 and 1999, at least 90 percent of children had parents who participated in at least one of these activities. However, parents in both years were least likely to participate in the activity that required the most time—acting as a volunteer or serving on a committee (see supplemental table 54-1).

Parental involvement typically is lower for children in higher grades. As an illustration, in 1999, 88 percent of children in grades K–5 had parents who reported that they had attended a scheduled meeting with a teacher. In contrast, among children in grades 6–8 and 9–12, about 70 percent and 51 percent, respectively, had parents who reported attendance at such a meeting.

Parents' involvement is related to household income and their level of education. As household income and educational attainment increase, the percentage of students whose parents reported attending a general or a scheduled meeting with a teacher, attending a school event, or serving as a volunteer or committee member also increases (see supplemental table 54-1).

Among racial/ethnic groups, white students are more likely than black and Hispanic students to have parents who report participation in school activities. Black and Hispanic students were equally likely to have parents who participated in the four categories of activities in 1999.

PARENTAL INVOLVEMENT: Percentage of students in grades K–12 whose parents reported involvement in specific activities in their child's school: 1999



NOTE: Ungraded students or children who were home schooled were not included in this analysis; these students accounted for 1.6 percent of students in grades K–12. Data have been revised from previously published figures.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent Interview Survey).

FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Table 54-1

Community Support

Parents' Attitudes Toward Schools

In 1999, at least half of children in grades 3- 12 had parents who reported that they were "very satisfied" with their child's school, their child's teacher, the school's academic standards, and the school's order and discipline.

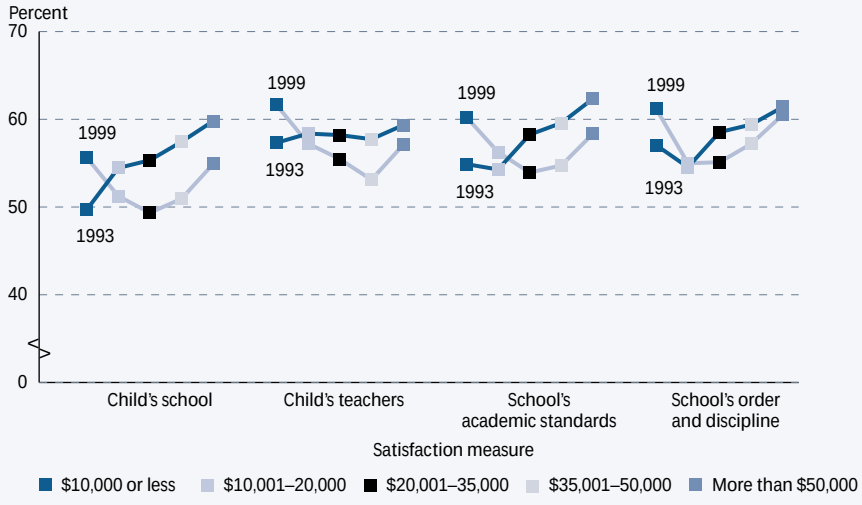
Parents' opinions of their children's schools provide an indicator of the perceived relative health of U.S. education. Examining parents' level of satisfaction with schools can help to define perceived problems within America's schools and focus reform efforts on those issues.

The percentage of children in grades 3–12 with parents who reported they were "very satisfied" with their child's school decreased from 56 percent in 1993 to 53 percent in 1999. In contrast, the percentage of those with parents who reported they were very satisfied with their child's teachers, the school's academic standards, and the school's order and discipline remained similar (see supplemental table 55-1).

In 1993, the percentage of children with parents who were very satisfied with their child's school, the school's academic standards, and the school's order and discipline was higher as household income increased. This relationship was not evident in 1999. The percentage of children with parents who were very satisfied with these three areas in 1999 was higher among those with higher and lower family income levels and lower among those at the middle income levels.

In 1993, black children in grades 3–12 were less likely than their white peers to have parents who reported that they were very satisfied with these four measures. However, between 1993 and 1999, the percentages of white children with parents who reported being very satisfied decreased, while the percentages of black children with very satisfied parents remained similar. Due to these changes, the percentages of white and black children with very satisfied parents were similar in 1999. Among all racial/ethnic groups in 1999, Hispanic children had the highest percentage of parents who were very satisfied with the four areas assessed (see supplemental table 55-1).

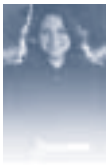
ATTITUDES TOWARD SCHOOL: Percentage of children in grades 3–12 whose parents were very satisfied with various aspects of their schools, by family income: 1993 and 1999



NOTE: Data have been revised from previously published figures.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1993 (School Safety and Discipline Survey) and 1999 (Parent Interview Survey).

FOR MORE INFORMATION:
Supplemental Notes 1, 3
Supplemental Table 55-1



Public Financial Support

Public Elementary and Secondary Expenditures

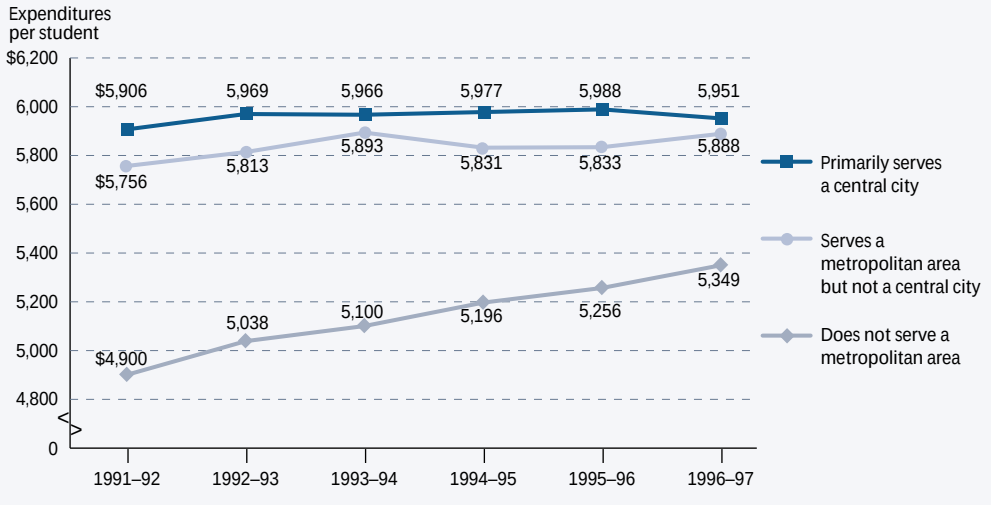
Between 1991- 92 and 1996- 97, expenditures per student increased more rapidly in school districts outside of metropolitan areas than in districts inside metropolitan areas.

Expenditures per student, which reflect the public's commitment to education and its relative ability to devote resources to education, vary with location. For example, in 1996–97, districts serving primarily central cities spent an average of $5,951 per student, while districts outside metropolitan areas spent an average of $5,349. Between 1991–92 and 1996–97, the increase in current expenditures per student was greater in districts that did not serve a metropolitan area (9 percent) than in districts serving central cities (1 percent).

Expenditures per student also vary by district poverty. In 1996–97, public school districts with high and low proportions of children in poverty spent more per student than districts with moderate proportions. Those with less than 5.0 percent or more than 35.0 percent of children living below the poverty level spent the most ($6,622 and $6,211, respectively), while those with between 15.0 and 24.9 percent spent the least ($5,311). Spending per student at low-poverty (less than 5 percent) and high-poverty (more than 35 percent) districts grew by less than 1 percent between 1991–92 and 1996–97. Spending at districts with moderate poverty levels (15.0 to 24.9 percent) grew by 5 percent.

Comparisons among types of districts can be refined by applying a Cost of Education Index (CEI) to compensate for geographical differences in the costs of educating students (NCES 98–04). Education costs are typically lower in nonmetropolitan areas than in central cities because salaries, the major component of school expenditures, are generally lower there. After adjustment for cost differences, the expenditure per student was $268 lower in central cities than nonmetropolitan areas in 1996–97 (see supplemental table 56-1). The application of the geographic CEI narrowed the gap between the low- and moderate-poverty districts from about $1,300 to under $600. The expenditure per student for the high-poverty districts was $358 higher than the moderate-poverty districts after the CEI adjustment.

EXPENDITURES PER STUDENT: Public school district expenditures per student (in constant 1996–97 dollars), by metropolitan status: 1991–92 to 1996–97



NOTE: Poverty is defined by a set of money-income thresholds determined by the Bureau of the Census that vary by family size and composition. If a family's total income is less than that family's threshold, then that family, and every individual in it, is considered to be poor. Per pupil expenditures are geographically cost adjusted with Cost of Education Indices (CEIs). While the universe of school districts was surveyed for each state in 1991–92 and 1994–95 through 1996–97, a sample of school districts was collected for some states, and a universe was collected for others in 1992–93 and 1993–94. The rise in expenditures per student in nonmetropolitan districts may be due in part to urbanization trends since 1990. Since then, the metropolitan status of school districts has not been reclassified in the Common Core of Data Universe Survey.

SOURCE: U.S. Department of Education, NCES. Common Core of Data, "Public School District Universe Survey," 1991–92 to 1996–97, "Public School District Financial Survey," 1991–92 to 1996–97, and CEIs available from the Education Finance Statistics Center (http://nces.ed.gov/edfin/).

FOR MORE INFORMATION:

Suppplemental Notes 1, 8

Supplemental Table 56-1

NCES 97–916, NCES 97–917, NCES 98–04

Public Financial Support

International Comparisons of Expenditures for Education

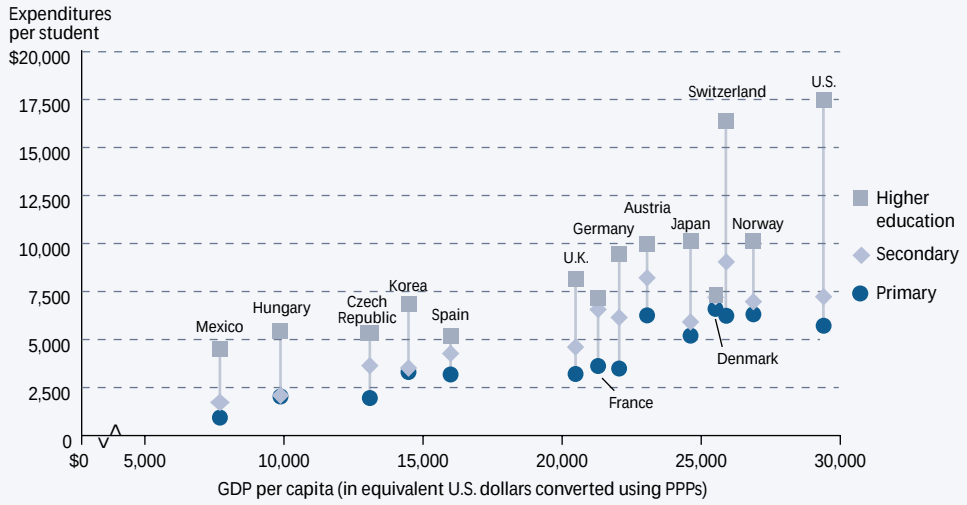
U.S. expenditures on primary and secondary education ranked high compared with other countries. U.S. spending at the higher education level was the highest of all the OECD countries.

A country's investment in education can be measured by that country's per student expenditures for education from both public and private sources, expressed in absolute terms. When making international comparisons of expenditures for education from both public and private sources, it is also useful to measure expenditures per student in relation to gross domestic product (GDP) per capita. Doing so allows a crossnational comparison of expenditures relative to countries' abilities to finance education.

There is a positive relationship between per student expenditures at all levels of education and GDP per capita (OECD 2000). Wealthier countries, on average, spent more per student for primary, secondary, and higher education in 1997 than did less wealthy countries as measured by GDP per capita. Annual expenditures per student at the primary level among members of the Organisation for Economic Co-operation and Development (OECD) ranged from $935 in Mexico to $6,596 in Denmark. At the secondary level, the range was from $1,726 in Mexico to $9,045 in Switzerland (see supplemental table 57-1). U.S. spending on primary and secondary education ranked high compared with the OECD countries, $5,718 and $7,230 at the primary and secondary levels, respectively. Only Switzerland and Austria spent more per student than the United States at the secondary level. In relative terms, however, the United States spent 19 and 25 percent of GDP per capita at the primary and secondary levels, respectively, about the same as the OECD countries as a whole, which spent an average of 19 percent of GDP per capita at the primary level and 27 percent at the secondary level.

Expenditures per student at the higher education level varied considerably among the OECD countries in 1997. At $17,466 per student, U.S. expenditures were more than twice those of 15 OECD countries. As a percentage of GDP per capita, however, expenditures per student were at least 90 percent of the U.S. rate (59 percent) in 6 countries, including 3 countries with low GDP per capita (Mexico, Poland, and Hungary) and 3 countries with high GDP per capita (Canada, Sweden, and Switzerland). It is important to note that variations in the duration and intensity of higher education among countries make it difficult to provide accurate measures of expenditures at this level (OECD 2000).

INTERNATIONAL EXPENDITURES FOR EDUCATION: Educational expenditures per student in relation to GDP per capita, by level of education for selected OECD countries: 1997



NOTE: Per student expenditures are calculated based on public and private full-time-equivalent (FTE) enrollment figures and expenditures from both public and private sources where data are available. Purchasing Power Parity (PPP) indices are used to convert other currencies to U.S. dollars. Within-country consumer price indices are used to adjust the PPP indices to account for inflation because the fiscal year has a different starting date in different countries.

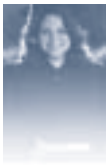
SOURCE: Organisation for Economic Co-operation and Development, Centre for Educational Research and Innovation. *Education at a Glance: OECD Indicators, 2000*, 2000.

FOR MORE INFORMATION:

Supplemental Note 9

Supplemental Table 57-1

OECD 2000



Private Financial Support

Net Price of College Attendance

One definition of the net price of college attendance is the amount that students pay using their own or borrowed funds. Net price varies by the type of institution students attend and by family income.

The price of college attendance, including tuition and fees, room and board, books, and other expenses, may affect a student's access to college. Some students receive grants from federal, state, institutional, or private sources to help pay these expenses. Students are responsible for the difference between the total price of attendance and grants, which is called the "net price." Students cover this amount with their own financial resources, help from their families, or borrowing.

The price of attendance for dependent full-time, full-year undergraduates varies by institution type. In 1995–96, the average total price was $20,000 at private, not-for-profit 4-year institutions, compared with $10,800 at public 4-year institutions and $6,800 at public 2-year institutions. The average net price of attendance—total price reduced by all grants—was $15,100 at private, not-for-profit 4-year institutions, $9,400 at public 4-year institutions, and $6,100 at public 2-year institutions. Because grants are generally need based, taking into account total price and family financial resources, the net price of attendance was less for low- and lower middle-income students than for upper middle- and high-income students at 4-year institutions.

Among other strategies, students can use loans and employment to pay the net price of attendance. The average amount students borrowed ranged from $2,400 at private, not-for-profit 4-year institutions, to $1,600 at public 4-year institutions, to about $300 at public 2-year institutions. Students from public 2-year institutions contributed the most from earnings, on average, and students from private, not-for-profit 4-year institutions, the least.

NOTE: Limited to students who attended only one institution. Averages include zero values. Income categories are described in *Supplemental Note 14*. In 1995–96, 49 percent of all undergraduates were considered financially dependent for financial aid purposes, and 58 percent of dependent students enrolled full-time, full-year.

SOURCE: U.S. Department of Education, NCES. National Postsecondary Student Aid Study (NPSAS:1996), Undergraduate Data Analysis System.

FOR MORE INFORMATION:
Supplemental Note 14
NCES 98–080

PRICE OF ATTENDING AND AID: Average price of college attendance and student financial aid for dependent full-time, full-year undergraduates, by type of institution and family income: Academic year 1995–96

Type of institution and family income	Tuition/fees	Total price	Grants	Net price	Student loans	Student earnings
Total	**$6,067**	**$12,603**	**$2,222**	**$10,379**	**$1,584**	**$3,018**
Public 4-year	3,918	10,759	1,394	9,367	1,564	2,912
Low income	3,586	10,219	3,195	7,021	1,896	2,759
Lower middle	3,649	10,396	1,540	8,855	2,150	3,256
Upper middle	3,767	10,555	690	9,865	1,453	3,104
High income	4,541	11,674	494	11,187	921	2,565
Private, not-for-profit 4-year	13,250	20,003	4,934	15,069	2,403	2,248
Low income	11,709	18,155	6,990	11,165	2,830	2,301
Lower middle	12,641	19,156	6,779	12,377	3,049	2,490
Upper middle	13,316	19,999	4,692	15,310	2,632	2,254
High income	14,661	21,832	2,472	19,359	1,510	2,064
Public 2-year	1,316	6,761	694	6,069	263	4,226
Low income	1,202	6,369	1,750	4,621	276	4,375
Lower middle	1,315	6,883	556	6,326	311	4,159
Upper middle	1,416	6,954	188	6,766	303	4,087
High income	1,331	6,849	141	6,708	112	4,262

Private Financial Support

Debt Burden 4 Years After College

Four years after they graduated, most 1992- 93 bachelor's degree recipients earned enough to repay their loans without undue financial burden.

About half of all 1992–93 bachelor's degree recipients borrowed as undergraduates (NCES 2000–188). Because excessive borrowing can cause problems later, it is important to identify and describe the postgraduate consequences. These data focus on the subset of graduates who borrowed to pay for their undergraduate education but had not enrolled for any further postsecondary education by 1997. Most of this group (53 percent of undergraduate borrowers) presumably began repaying their loans 6 months after they graduated. By 1997, those employed full time (88 percent) were earning an average of $35,300.

Among graduates who had not enrolled for further education by 1997, 51 percent had borrowed to attend college, with an average of $10,500 in loans (NCES 2000–188). By 1997, 18 percent had repaid (or had been forgiven) their education debts, leaving 33 percent still owing. Twenty-nine percent were in repayment, meaning that 4 percent had deferments, were in default, or were not required to repay their loans at that time. Those with remaining debt owed an average of $7,100, and those repaying their loans were paying an average of $151 per month.

One way to measure debt burden is to look at monthly student loan payments as a percentage of monthly income. For graduates with no further enrollment, the median debt burden in 1997 was 5 percent. Debt burden increased with the amount borrowed and decreased as income increased. While there is no firm consensus on an acceptable level of debt burden, housing lenders typically consider 8 percent for student loan debt to be reasonable (Scherschel 1998).

Undergraduate borrowing appears to have a minor discouraging effect on further postsecondary enrollment in the short term, but this effect disappears over time. Graduates who had borrowed $5,000 or more were less likely than nonborrowers to enroll for further education by 1994 (16 percent versus 20 percent) (NCES 97–286), but there was no statistically significant difference by 1997 (46 to 49 percent had enrolled, regardless of amount borrowed) (NCES 2000–188). These findings hold after controlling for sex; race/ethnicity; age at graduation; and undergraduate type of institution, major, and grade-point average.

DEBT BURDEN: Percentage distribution of 1992–93 bachelor's degree recipients repaying their loans according to the size of their debt burden in 1997, by 1996 income and amount borrowed for undergraduate education

Amount borrowed for undergraduate education and 1996 personal income	Median debt burden (percent)	Debt burden in 1997[1]			
		Less than 5 percent	5–9 percent	10–14 percent	15 percent or more
Total	**5**	**45**	**38**	**9**	**7**
Total amount borrowed					
Less than $5,000	3	84	12	3	2
$5,000–9,999	4	63	27	6	4
$10,000–14,999	6	31	54	9	7
$15,000 or more	7	21	49	16	14
Total 1996 personal income					
Less than $20,000	10	19	28	23	30
$20,000–24,999	6	34	48	11	7
$25,000–34,999	5	38	50	9	2
$35,000–49,999	4	55	38	4	3
$50,000 or more	2	85	15	(2)	(2)

[1]Loan payment as a percentage of income.

[2]Less than 0.5 percent.

NOTE: Includes bachelor's degree recipients who did not enroll for further postsecondary education and were in repayment in 1997. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. Baccalaureate and Beyond Longitudinal Study, "Second Follow-up" (B&B:1993/1997), Data Analysis System.

FOR MORE INFORMATION:

Supplemental Note 7

NCES 97–286, NCES 2000–188

Scherschel 1998

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Appendix 1
Supplemental Tables

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Enrollment in Preprimary Education

Table 1-1 Percentage of children ages 3–5 who were enrolled in center-based early childhood care and education programs, by child and family characteristics: Selected years 1991–99

Characteristic	1991	1993	1995	1996	1999
Total	**52.8**	**52.7**	**55.1**	**55.0**	**59.7**
Sex					
Male	52.4	52.5	55.0	55.0	60.8
Female	53.2	52.9	55.2	54.9	58.6
Race/ethnicity					
White	54.0	53.5	56.9	57.1	60.0
Black	58.3	57.3	59.5	64.7	73.2
Hispanic	38.8	42.8	37.4	39.4	44.2
Other	52.9	51.2	56.7	44.7	66.1
Poverty status					
Below poverty	44.2	48.9	45.1	43.8	51.5
At or above poverty	55.7	53.3	58.8	59.1	62.1
Family type					
Two parents	49.7	52.1	54.9	53.8	58.8
One or no parent	53.7	54.2	55.6	57.9	61.9
Mother's education					
Less than high school	31.5	33.1	34.8	37.3	40.3
High school diploma or equivalent	45.8	43.2	47.6	49.0	51.7
Some college, including vocational/technical	60.2	60.3	56.8	57.8	62.9
Bachelor's degree or higher	71.9	73.4	74.5	73.0	73.9
Mother's employment status					
Worked 35 hours or more per week	59.3	61.3	60.2	63.1	64.8
Worked less than 35 hours per week	58.0	56.7	62.1	64.4	64.0
Looking for work	43.2	48.1	51.8	46.9	54.6
Not in labor force	45.3	44.2	46.5	43.1	52.2

NOTE: Estimates are based on children who have yet to enter kindergarten. Center-based programs include day care centers, Head Start programs, preschool, nursery school, prekindergarten, and other early childhood programs. Poverty estimates for 1991 and 1993 are not comparable to those for later years because respondents were not asked exact household income. Children without mothers in the home are not included in estimates dealing with mother's education or mother's employment status. Unemployed mothers are not shown separately but are included in the total.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), and Federal Interagency Forum on Child and Family Statistics, *America's Children: Key National Indicators of Well-Being*, 2000.

Past and Projected Elementary and Secondary School Enrollment

Table 2-1 Public elementary and secondary school enrollment in grades K–12 (in thousands), by grade level, with projections: Fall 1965–2010

Fall of year	Total	Grades K–8	Grades 9–12
1965	42,173	30,563	11,610
1970	45,894	32,558	13,336
1975	44,819	30,515	14,304
1980	40,877	27,647	13,231
1985	39,422	27,034	12,388
1990	41,217	29,878	11,338
1991	42,047	30,506	11,541
1992	42,823	31,088	11,735
1993	43,465	31,504	11,961
1994	44,111	31,898	12,213
1995	44,840	32,341	12,500
1996	45,611	32,764	12,847
1997	46,127	33,073	13,054
1998	46,535	33,344	13,191
		Projected	
1999	46,812	33,437	13,375
2000	47,026	33,521	13,505
2001	47,176	33,557	13,619
2002	47,296	33,543	13,753
2003	47,373	33,442	13,931
2004	47,436	33,237	14,199
2005	47,475	33,051	14,423
2006	47,452	32,915	14,537
2007	47,365	32,835	14,530
2008	47,218	32,825	14,393
2009	47,109	32,877	14,232
2010	47,068	32,999	14,069

NOTE: Includes most kindergarten and some nursery school enrollment. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, NCES. Common Core of Data, various years, and *Projections of Education Statistics to 2010* (NCES 2000–071), 2000.

Past and Projected Elementary and Secondary School Enrollment

Table 2-2 Public elementary and secondary school enrollment in grades K–12 (in thousands), by region, with projections: Fall 1965–2010

		Region							
		Northeast		Midwest		South		West	
Fall of year	Total	Total	Percent	Total	Percent	Total	Percent	Total	Percent
1965	42,173	8,833	20.9	11,834	28.1	13,834	32.8	7,568	17.9
1970	45,894	9,860	21.5	12,936	28.2	14,759	32.2	8,339	18.2
1975	44,819	9,679	21.6	12,295	27.4	14,654	32.7	8,191	18.3
1980	40,877	8,215	20.1	10,698	26.2	14,134	34.6	7,831	19.2
1985	39,422	7,318	18.6	9,862	25.0	14,117	35.8	8,124	20.6
1990	41,217	7,282	17.7	9,944	24.1	14,807	35.9	9,184	22.3
1991	42,047	7,407	17.6	10,080	24.0	15,081	35.9	9,479	22.5
1992	42,823	7,526	17.6	10,198	23.8	15,357	35.9	9,742	22.7
1993	43,465	7,654	17.6	10,289	23.7	15,591	35.9	9,931	22.8
1994	44,111	7,760	17.6	10,386	23.5	15,851	35.9	10,114	22.9
1995	44,840	7,894	17.6	10,512	23.4	16,118	35.9	10,316	23.0
1996	45,611	8,006	17.6	10,638	23.3	16,373	35.9	10,594	23.2
1997	46,127	8,085	17.5	10,704	23.2	16,563	35.9	10,775	23.4
1998	46,535	8,145	17.5	10,718	23.0	16,713	35.9	10,959	23.5
					Projected				
1999	46,812	8,165	17.4	10,730	22.9	16,836	36.0	11,081	23.7
2000	47,026	8,190	17.4	10,715	22.8	16,940	36.0	11,181	23.8
2001	47,176	8,206	17.4	10,711	22.7	16,992	36.0	11,267	23.9
2002	47,296	8,211	17.4	10,699	22.6	17,039	36.0	11,347	24.0
2003	47,373	8,199	17.3	10,674	22.5	17,078	36.0	11,422	24.1
2004	47,436	8,175	17.2	10,652	22.5	17,111	36.1	11,498	24.2
2005	47,475	8,135	17.1	10,635	22.4	17,132	36.1	11,573	24.4
2006	47,452	8,077	17.0	10,606	22.4	17,137	36.1	11,631	24.5
2007	47,365	8,008	16.9	10,563	22.3	17,116	36.1	11,679	24.7
2008	47,218	7,928	16.8	10,501	22.2	17,081	36.2	11,708	24.8
2009	47,109	7,863	16.7	10,450	22.2	17,045	36.2	11,750	24.9
2010	47,068	7,813	16.6	10,416	22.1	17,023	36.2	11,817	25.1

NOTE: Includes most kindergarten and some nursery school enrollment. Details may not add to totals due to rounding. See *Supplemental Note 1* for a list of states that make up each region.

SOURCE: U.S. Department of Education, NCES. Common Core of Data, various years, and *Projections of Education Statistics to 2010* (NCES 2000–071), 2000.

Past and Projected Elementary and Secondary School Enrollment

Table 2-3 Private elementary and secondary school enrollment in grades K–12 (in thousands), by region: School years 1989–90 through 1997–98

School year	Total	Northeast	Midwest	South	West
			Grades K–12		
1989–90	4,714	1,310	1,340	1,240	824
1991–92	4,783	1,280	1,335	1,276	892
1993–94	4,743	1,235	1,294	1,363	851
1995–96	4,920	1,245	1,329	1,416	930
1997–98	4,962	1,241	1,328	1,479	915
			Grades K–8		
1989–90	3,588	947	1,052	949	639
1991–92	3,657	935	1,059	974	689
1993–94	3,641	907	1,021	1,048	664
1995–96	3,760	911	1,042	1,086	721
1997–98	3,781	911	1,036	1,126	708
			Grades 9–12		
1989–90	1,126	362	288	291	185
1991–92	1,126	346	276	302	203
1993–94	1,102	328	273	315	186
1995–96	1,160	334	286	330	209
1997–98	1,181	330	292	353	206

NOTE: Estimates exclude ungraded students. Details may not add to totals due to rounding. See *Supplemental Note 1* for a list of states that make up each region.

SOURCE: U.S. Department of Education, NCES. Private School Surveys (PSS), various years.

Racial/Ethnic Distribution of Public School Students

Table 3-1 Percentage distribution of public school students enrolled in grades K–12 who were minorities: October 1972–99

October	White	Minority enrollment			
		Total	Black	Hispanic	Other
1972	77.8	22.2	14.8	6.0	1.4
1973	78.1	21.9	14.7	5.7	1.4
1974	76.8	23.2	15.4	6.3	1.5
1975	76.2	23.8	15.4	6.7	1.7
1976	76.2	23.8	15.5	6.5	1.7
1977	76.1	23.9	15.8	6.2	1.9
1978	75.5	24.5	16.0	6.5	2.1
1979	75.8	24.2	15.7	6.6	1.9
1980	72.8	27.2	16.2	8.6	2.4
1981	72.4	27.6	16.0	8.7	2.9
1982	71.9	28.1	16.0	8.9	3.2
1983	71.3	28.7	16.1	9.2	3.4
1984	71.7	28.3	16.1	8.5	3.6
1985	69.6	30.4	16.8	10.1	3.5
1986	69.1	30.9	16.6	10.8	3.6
1987	68.5	31.5	16.6	10.8	4.0
1988	68.3	31.7	16.5	11.0	4.2
1989	68.0	32.0	16.6	11.4	4.0
1990	67.6	32.4	16.5	11.7	4.2
1991	67.1	32.9	16.8	11.8	4.2
1992	66.8	33.3	16.9	12.1	4.3
1993	67.0	33.0	16.6	12.1	4.3
1994	65.8	34.2	16.7	13.7	3.8
1995	65.5	34.5	16.9	14.1	3.5
1996	63.7	36.3	16.6	14.5	5.3
1997	63.0	37.0	16.9	14.9	5.1
1998	62.4	37.6	17.2	15.4	5.1
1999	61.9	38.1	16.5	16.2	5.5

NOTE: Percentages may not add to 100.0 due to rounding. See *Supplemental Note 1* for information on the racial/ethnic categories.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, 1972–99.

Racial/Ethnic Distribution of Public School Students

Table 3-2 Percentage distribution of public school students enrolled in grades K–12 who were minorities, by region: October 1972–99

October	White	Minority enrollment				White	Minority enrollment			
		Total	Black	Hispanic	Other		Total	Black	Hispanic	Other
	Northeast					Midwest				
1972	81.4	18.6	12.4	5.5	0.7	87.5	12.5	10.6	1.5	0.3
1973	81.3	18.7	12.5	5.5	0.7	87.7	12.3	10.6	1.2	0.5
1974	81.1	18.9	12.7	5.5	0.7	86.6	13.4	11.2	1.6	0.7
1975	80.0	20.0	13.3	6.1	0.7	86.2	13.8	11.7	1.6	0.5
1976	79.3	20.7	12.7	6.3	1.7	86.9	13.1	11.2	1.5	0.4
1977	80.4	19.6	12.6	5.8	1.3	85.7	14.3	11.8	1.7	0.8
1978	79.9	20.1	13.6	5.7	0.8	85.9	14.1	11.2	1.7	1.2
1979	78.5	21.5	15.0	6.0	0.5	86.8	13.2	10.3	1.8	1.1
1980	78.0	22.0	13.5	6.8	1.6	83.8	16.2	12.9	1.7	1.5
1981	76.5	23.5	13.3	8.2	2.0	84.4	15.6	12.1	1.9	1.6
1982	76.1	23.9	13.4	8.3	2.3	84.6	15.4	11.8	1.8	1.7
1983	76.3	23.7	13.8	7.9	2.0	83.6	16.4	12.5	2.1	1.8
1984	76.8	23.2	13.2	7.1	2.9	82.2	17.8	13.7	2.3	1.8
1985	74.1	25.9	13.4	10.4	2.1	79.7	20.3	14.7	3.2	2.3
1986	73.8	26.2	13.3	10.7	2.2	81.8	18.2	13.0	3.4	1.8
1987	74.2	25.8	13.1	9.5	3.3	80.7	19.3	13.8	3.1	2.4
1988	74.6	25.4	13.9	8.6	2.9	79.7	20.3	14.8	3.3	2.2
1989	73.8	26.2	14.1	9.1	3.0	80.5	19.5	13.8	3.4	2.2
1990	73.3	26.7	13.2	10.1	3.3	81.7	18.4	13.2	2.7	2.5
1991	72.9	27.1	14.0	9.9	3.2	81.6	18.4	13.0	2.9	2.5
1992	71.9	28.1	14.7	9.8	3.6	81.5	18.5	13.2	2.7	2.6
1993	72.2	27.8	15.2	8.8	3.8	80.8	19.2	13.4	3.6	2.2
1994	72.3	27.7	13.8	10.8	3.1	78.1	21.9	14.9	4.7	2.3
1995	70.7	29.3	14.7	11.6	2.9	79.3	20.7	13.9	4.5	2.3
1996	68.2	31.8	15.9	12.1	3.7	79.9	20.1	12.8	4.4	2.9
1997	67.7	32.3	16.1	12.3	3.8	79.3	20.7	13.3	4.5	2.9
1998	67.9	32.1	14.9	13.4	3.7	78.4	21.6	13.4	4.9	3.3
1999	68.2	31.8	14.1	13.0	4.7	76.0	24.0	14.1	5.9	4.0

Racial/Ethnic Distribution of Public School Students

Table 3-2 Percentage distribution of public school students enrolled in grades K–12 who were minorities, by region: October 1972–99—Continued

October	White	Minority enrollment				White	Minority enrollment			
		Total	Black	Hispanic	Other		Total	Black	Hispanic	Other
	South					West				
1972	69.7	30.3	24.8	5.0	0.5	72.8	27.2	6.4	15.3	5.5
1973	69.6	30.4	24.8	5.0	0.6	74.1	25.9	6.2	14.4	5.2
1974	67.8	32.2	25.6	6.1	0.5	72.7	27.3	6.8	14.9	5.6
1975	67.4	32.6	25.2	6.6	0.7	72.0	28.0	7.0	14.8	6.3
1976	67.1	32.9	25.7	6.3	0.9	72.9	27.1	7.1	14.8	5.2
1977	67.5	32.5	26.3	5.5	0.6	72.2	27.8	6.7	14.8	6.3
1978	66.4	33.6	26.3	6.2	1.1	71.4	28.6	6.8	15.2	6.6
1979	68.6	31.4	24.6	6.0	0.8	70.0	30.0	7.8	15.7	6.6
1980	64.6	35.4	25.8	8.2	1.4	66.9	33.1	6.6	20.5	6.0
1981	64.1	35.9	25.9	8.5	1.4	66.5	33.5	6.8	18.5	8.1
1982	64.1	35.9	26.9	7.9	1.1	65.2	34.8	5.4	19.9	9.5
1983	63.9	36.1	26.0	8.6	1.5	63.9	36.1	5.5	20.4	10.3
1984	66.0	34.0	24.7	7.5	1.8	63.8	36.2	6.8	19.6	9.8
1985	63.4	36.6	25.9	8.8	2.0	64.1	35.9	6.4	20.6	8.9
1986	62.2	37.8	26.6	9.0	2.2	62.5	37.5	6.1	22.0	9.4
1987	61.9	38.1	26.3	9.6	2.2	60.3	39.7	7.1	22.9	9.7
1988	62.2	37.8	25.0	10.5	2.3	60.3	39.7	6.5	22.7	10.5
1989	61.7	38.3	26.1	9.9	2.4	59.4	40.6	6.1	24.9	9.6
1990	59.9	40.1	27.4	10.6	2.1	59.0	41.0	5.5	25.1	10.4
1991	59.5	40.5	27.7	10.3	2.5	59.0	41.0	5.8	25.5	9.7
1992	59.5	40.5	27.2	10.5	2.7	58.5	41.5	5.8	26.3	9.3
1993	60.1	39.9	26.4	10.7	2.8	58.7	41.3	6.1	25.9	9.3
1994	59.2	40.8	26.2	12.4	2.2	58.4	41.6	5.7	27.5	8.5
1995	59.0	41.0	27.0	12.1	1.8	57.0	43.0	5.5	29.6	7.9
1996	57.7	42.3	26.9	12.6	2.8	52.8	47.2	5.2	29.4	12.6
1997	57.0	43.0	27.0	13.4	2.6	52.1	47.9	6.5	29.4	12.1
1998	56.0	44.0	28.1	13.1	2.9	51.9	48.1	6.8	30.1	11.2
1999	55.3	44.7	26.9	14.8	3.0	52.7	47.3	5.7	30.6	11.0

NOTE: Percentages may not add to 100.0 due to rounding. See *Supplemental Note 1* for information on the racial/ethnic categories and a list of states that are included in each region.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, 1972–99.

Parental Education, by Race/Ethnicity

Table 4-1 Percentage distribution of 6- to 18-year-olds according to parents' highest education level, by child's race/ethnicity: 1974–99

Parents' highest education level and child's race/ethnicity	1974	1979	1984	1989	1994	1999
				White		
Mother's highest education level	100.0	100.0	100.0	100.0	100.0	100.0
Less than high school	27.1	22.1	16.8	12.0	9.5	6.9
High school diploma or equivalent	51.4	50.4	50.3	48.8	37.9	35.2
Some college, including vocational/technical	12.2	16.1	18.3	21.3	31.0	31.4
Bachelor's degree or higher	9.3	11.4	14.6	17.9	21.6	26.4
Father's highest education level	100.0	100.0	100.0	100.0	100.0	100.0
Less than high school	28.6	22.4	16.2	12.2	9.1	8.1
High school diploma or equivalent	38.3	38.7	39.0	38.4	32.2	31.5
Some college, including vocational/technical	13.2	15.5	18.3	20.1	27.4	26.8
Bachelor's degree or higher	19.9	23.4	26.5	29.3	31.3	33.6
				Black		
Mother's highest education level	100.0	100.0	100.0	100.0	100.0	100.0
Less than high school	57.6	46.4	34.8	26.3	20.0	19.6
High school diploma or equivalent	32.1	36.1	42.6	44.4	40.0	37.1
Some college, including vocational/technical	6.8	12.5	15.6	19.8	30.0	29.5
Bachelor's degree or higher	3.6	4.9	7.0	9.4	10.1	13.9
Father's highest education level	100.0	100.0	100.0	100.0	100.0	100.0
Less than high school	61.3	44.3	33.1	25.4	18.2	14.6
High school diploma or equivalent	27.1	35.7	38.4	40.4	42.2	39.3
Some college, including vocational/technical	7.6	12.7	16.3	20.6	23.5	29.7
Bachelor's degree or higher	4.0	7.3	12.2	13.7	16.1	16.5
				Hispanic		
Mother's highest education level	100.0	100.0	100.0	100.0	100.0	100.0
Less than high school	61.8	60.4	60.5	55.8	51.8	49.2
High school diploma or equivalent	28.9	28.3	28.2	28.7	26.9	25.2
Some college, including vocational/technical	5.7	7.2	7.7	10.2	15.6	18.2
Bachelor's degree or higher	3.5	4.1	3.7	5.2	5.7	7.4
Father's highest education level	100.0	100.0	100.0	100.0	100.0	100.0
Less than high school	58.3	57.2	56.3	51.6	51.1	48.9
High school diploma or equivalent	24.9	25.0	25.0	27.2	23.2	26.2
Some college, including vocational/technical	8.4	9.5	10.5	13.4	17.5	14.7
Bachelor's degree or higher	8.4	8.3	8.2	7.7	8.3	10.1

NOTE: Information on parents' highest education level is available only for those parents who live in the same household with their child. The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1994 and weights were adjusted; see *Supplemental Note 2* for more information. Percentages may not add to 100.0 due to rounding. See *Supplemental Note 1* for information on the racial/ethnic categories.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

Past and Projected Undergraduate Enrollments

Table 5-1 Total enrollment in degree-granting 2- and 4-year postsecondary institutions (in thousands) by sex, enrollment status, and type of institution, with projections: Fall 1970–2010

		Sex		Enrollment status		Type of institution	
Year	Total	Male	Female	Full-time	Part-time	4-year	2-year
1970	7,376	4,254	3,122	5,280	2,096	5,057	2,319
1971	7,743	4,418	3,325	5,512	2,231	5,164	2,579
1972	7,941	4,429	3,512	5,488	2,453	5,185	2,756
1973	8,261	4,538	3,723	5,580	2,681	5,249	3,012
1974	8,798	4,765	4,033	5,726	3,072	5,394	3,404
1975	9,679	5,257	4,422	6,169	3,510	5,709	3,970
1976	9,429	4,902	4,527	6,030	3,399	5,546	3,883
1977	9,717	4,897	4,820	6,094	3,623	5,674	4,043
1978	9,691	4,766	4,925	5,967	3,724	5,663	4,028
1979	9,998	4,821	5,178	6,080	3,919	5,781	4,217
1980	10,475	5,000	5,475	6,362	4,113	5,949	4,526
1981	10,755	5,109	5,646	6,449	4,306	6,039	4,716
1982	10,825	5,170	5,655	6,484	4,341	6,053	4,772
1983	10,846	5,158	5,688	6,514	4,332	6,123	4,723
1984	10,618	5,007	5,611	6,348	4,270	6,087	4,531
1985	10,597	4,962	5,635	6,320	4,277	6,066	4,531
1986	10,798	5,018	5,780	6,352	4,446	6,118	4,680
1987	11,046	5,068	5,978	6,463	4,584	6,270	4,776
1988	11,317	5,138	6,179	6,642	4,674	6,442	4,875
1989	11,743	5,311	6,432	6,841	4,902	6,592	5,151
1990	11,959	5,380	6,579	6,976	4,983	6,719	5,240
1991	12,439	5,571	6,868	7,221	5,218	6,787	5,652
1992	12,538	5,583	6,955	7,244	5,293	6,816	5,722
1993	12,324	5,484	6,840	7,179	5,144	6,758	5,566
1994	12,263	5,422	6,840	7,169	5,094	6,733	5,530
1995	12,232	5,401	6,831	7,145	5,086	6,739	5,493
1996	12,259	5,411	6,848	7,211	5,049	6,762	5,497
1997	12,298	5,405	6,893	7,306	4,992	6,828	5,471
				Projected*			
1998	12,604	5,424	7,179	7,484	5,119	6,979	5,625
1999	12,818	5,499	7,319	7,562	5,256	7,075	5,743
2000	13,079	5,588	7,492	7,734	5,346	7,232	5,847
2001	13,294	5,671	7,623	7,879	5,415	7,363	5,931
2002	13,419	5,717	7,702	7,950	5,469	7,438	5,981
2003	13,584	5,779	7,806	8,061	5,524	7,538	6,046
2004	13,753	5,838	7,914	8,169	5,583	7,634	6,119
2005	13,927	5,895	8,031	8,279	5,647	7,735	6,192
2006	14,162	5,973	8,189	8,445	5,717	7,876	6,286
2007	14,435	6,066	8,369	8,645	5,790	8,041	6,394
2008	14,738	6,177	8,561	8,881	5,857	8,229	6,509
2009	15,002	6,278	8,724	9,091	5,911	8,398	6,604
2010	15,209	6,355	8,855	9,249	5,961	8,534	6,675

* Projections based on data through 1997 and middle alternative assumptions concerning the economy.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, NCES. *Digest of Education Statistics 2000* (NCES 2001–034), 2001, tables 174 and 188, and *Projections of Education Statistics to 2010* (NCES 2000–071), 2000, tables 12 and 21.

Participation in Adult Learning

Table 7-1 Percentage of adults age 18 and above who participated in learning activities in the past 12 months, by educational attainment and age: 1991, 1995, and 1999

			1999					
				Type of adult learning activity[2]				
					Credential[3]			
Educational attainment and age	1991 Total[1]	1995 Total[1]	Total[1]	Basic skills	Full-time	Part-time	Work-related	Personal
Total	37.9	44.3	48.1	1.9	6.5	9.3	22.2	22.2
Educational attainment								
Grade 8 or less	8.0	10.9	14.9	4.7	0	0.7	1.6	6.5
Grades 9–12[4]	16.1	23.5	25.8	7.6	1.4	4.7	6.4	10.3
High school diploma or equivalent	26.7	33.0	38.6	1.3	3.9	6.5	16.6	17.6
Some college, including vocational/ technical	52.6	58.7	58.9	0.8	13.9	13.7	24.3	26.1
Bachelor's degree or higher	56.5	62.1	64.8	([5])	5.6	11.9	37.7	31.9
Age								
18–24	69.1	68.3	69.9	8.9	35.0	13.8	16.7	22.5
25–34	42.2	53.0	60.3	2.2	7.5	15.7	29.7	25.2
35–44	46.6	51.0	51.7	0.9	2.2	10.6	28.7	25.1
45–54	33.3	47.0	49.5	0.7	1.7	7.7	27.0	24.6
55–64	23.0	28.2	35.2	0.4	0.3	4.8	18.9	17.3
65 and above	10.5	15.2	18.7	0.3	0.3	1.2	3.4	14.5

[1] Estimates include participation in basic skills, work-related, credential programs, English as a Second Language, personal interest courses, apprenticeships, or participation in credential program full or part time. Adults who participated in apprenticeships and programs for English as a Second Language are included in the totals but are not shown separately.

[2] Percentages may not add to totals because individuals may have participated in more than one type of adult learning activity.

[3] Includes credential programs provided by either postsecondary institutions or other types of providers.

[4] In 1995 and 1999, includes adults whose highest education level was grades 9–12 who had not received a high school diploma; in 1991, includes only adults whose highest education level was grades 9–11.

[5] Only adults who had not received a high school diploma or equivalent, who received a high school diploma in the past 12 months, or who received a high school diploma in a foreign country and did not have a bachelor's degree were asked about their participation in basic education/General Education Development (GED) activities.

NOTE: Data have been revised from previously published figures. See *Supplemental Note 3* for information on the National Household Education Surveys Program (NHES).

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1991, 1995, and 1999 (Adult Education Survey).

Table 7-2 Percentage of adults age 18 and above who participated in various learning activities with different providers, by type of activity: 1999

	Type of provider for various adult learning activities						
Type of activity and age	Elementary/ secondary	Post-secondary	Trade organization	Private organization	Business	Government	Other
Credential	1.5	74.0	9.7	1.6	6.7	3.8	2.6
Full-time	0.8	86.6	6.2	1.9	0.7	1.9	1.9
Part-time	2.0	65.3	12.1	1.5	10.9	5.1	3.1
Work-related	4.8	21.7	13.4	6.1	52.5	14.2	4.3
Personal	4.9	15.4	11.9	48.1	19.6	9.8	4.5

NOTE: Information on the type of provider of adult learning activities was aggregated as follows. Elementary/secondary: elementary, junior high school, or high school; postsecondary: 2-year community or junior college, 2-year vocational school, or 4-year college or university; trade organization: private vocational, trade, business, hospital, flight school, or adult learning center; private: private community organization, church or religious organization, tutor, or private instructor; business: business or industry, or professional association; and government: federal, state, county, or local government, or public library. For each type of activity, the percentages shown are based only on adults who participated in that activity. Percentages may add to more than 100.0 because individuals can take more than one work-related or personal-development course. Data have been revised from previously published figures. See *Supplemental Note 3* for information on the National Household Education Surveys Program (NHES).

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Adult Education Survey).

Students' Overall Reading and Mathematics Performance Through 1st Grade

Table 8-1 Children's reading and mathematics scale scores from kindergarten through 1st grade, by mother's education: 1998–2000

Mother's education	Kindergarten			1st grade			Total gain[2]
	Fall	Spring	Gain[1]	Fall	Spring	Gain[1]	
				Reading			
Total	**23**	**33**	**10**	**38**	**57**	**19**	**34**
Less than high school	18	27	9	32	48	16	30
High school diploma or equivalent	20	31	11	36	55	19	35
Some college, including vocational/technical	23	33	10	39	58	19	35
Bachelor's degree or higher	27	37	10	43	63	20	36
				Mathematics			
Total	**20**	**28**	**8**	**34**	**44**	**10**	**24**
Less than high school	16	23	7	28	39	11	23
High school diploma or equivalent	18	27	9	31	42	11	24
Some college, including vocational/technical	20	29	9	34	45	11	25
Bachelor's degree or higher	24	33	9	39	48	9	24

[1]Gain is calculated as the difference from fall to spring for kindergarten and 1st grade, respectively.

[2]Total gain is calculated as the difference in scale score from fall kindergarten to spring 1st grade.

NOTE: Based on those assessed in English for all rounds of the study (excludes 19 percent of Asian/Pacific Islander and 31 percent of Hispanic children) among children who entered kindergarten for the first time in fall 1998. The reading scale score ranged from 0–72, and the mathematics score from 0–64. See *Supplemental Note 8* for more information on the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K).

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.

Children's Skills and Proficiency in Reading and Mathematics Through 1st Grade

Table 9-1 Percentage of children demonstrating specific reading knowledge and skills from kindergarten through 1st grade, by mother's education: 1998–2000

	Letter recognition					Beginning sounds					Ending sounds				
	Kindergarten		1st grade		Total	Kindergarten		1st grade		Total	Kindergarten		1st grade		Total
Mother's education	Fall	Spring	Fall	Spring	gain	Fall	Spring	Fall	Spring	gain	Fall	Spring	Fall	Spring	gain
Total	**68**	**95**	**99**	**100**	**32**	**31**	**74**	**88**	**98**	**67**	**18**	**54**	**72**	**94**	**76**
Less than high school	42	87	96	99	57	11	54	76	94	83	4	33	51	87	83
High school diploma or equivalent	60	93	98	100	40	22	68	84	97	75	11	47	65	93	82
Some college, including vocational/technical	70	96	99	100	30	31	76	90	99	68	17	56	74	96	79
Bachelor's degree or higher	85	99	99	100	15	50	87	96	99	49	32	71	85	98	66
Difference[1]	-43	-12	-3	-1	42	-39	-33	-20	-5	34	-28	-38	-34	-11	17

	Sight words					Words in context				
	Kindergarten		1st grade		Total	Kindergarten		1st grade		Total
Mother's education	Fall	Spring	Fall	Spring	gain	Fall	Spring	Fall	Spring	gain
Total	**3**	**14**	**28**	**83**	**80**	**1**	**4**	**11**	**47**	**46**
Less than high school	(2)	4	9	64	64	(2)	1	2	25	25
High school diploma or equivalent	1	9	21	78	77	(2)	3	6	40	40
Some college, including vocational/technical	2	14	28	85	83	1	4	10	48	47
Bachelor's degree or higher	5	24	42	93	88	2	9	19	64	62
Difference[1]	-5	-20	-33	-29	-24	-2	-8	-17	-39	-37

[1]Difference is calculated as the difference between the scores of children whose mother has less than a high school diploma and children whose mother has a bachelor's degree or higher.

[2]Value less than 0.5 percent.

NOTE: Based on those assessed in English for all rounds (excludes 19 percent of Asian/Pacific Islander and 31 percent of Hispanic children). Based on children who entered kindergarten for the first time in fall 1998. The total gain is calculated as the difference from fall kindergarten to spring 1st grade. See *Supplemental Note 8* for more information on the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K).

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.

Children's Skills and Proficiency in Reading and Mathematics Through 1st Grade

Table 9-2 Percentage of children demonstrating specific mathematics knowledge and skills from kindergarten through 1st grade, by mother's education: 1998–2000

	Number and shape					Relative size					Ordinality and sequence				
	Kindergarten		1st grade		Total	Kindergarten		1st grade		Total	Kindergarten		1st grade		Total
Mother's education	Fall	Spring	Fall	Spring	gain	Fall	Spring	Fall	Spring	gain	Fall	Spring	Fall	Spring	gain
Total	**95**	**99**	**100**	**100**	**5**	**59**	**88**	**95**	**99**	**40**	**22**	**59**	**79**	**96**	**74**
Less than high school	86	98	99	100	14	34	75	88	97	63	7	36	57	89	82
High school diploma or equivalent	93	99	100	100	7	51	85	93	99	48	15	51	72	94	79
Some college, including vocational/technical	95	99	100	100	5	61	90	96	99	38	22	61	81	97	75
Bachelor's degree or higher	99	100	100	100	1	78	96	99	100	22	39	77	91	99	60
Difference[1]	-13	-2	-1	0	13	-44	-21	-11	-3	41	-32	-41	-34	-10	22

	Addition and subtraction					Multiplication and division				
	Kindergarten		1st grade		Total	Kindergarten		1st grade		Total
Mother's education	Fall	Spring	Fall	Spring	gain	Fall	Spring	Fall	Spring	gain
Total	**4**	**19**	**37**	**76**	**72**	**(2)**	**2**	**7**	**27**	**27**
Less than high school	1	7	17	58	57	(2)	1	2	11	11
High school diploma or equivalent	2	13	27	70	68	(2)	1	4	20	20
Some college, including vocational/technical	4	18	37	78	74	(2)	2	6	26	26
Bachelor's degree or higher	9	32	55	88	79	1	5	16	44	43
Difference[1]	-8	-25	-38	-30	-22	-1	-4	-14	-33	-32

[1]Difference is calculated as the difference between the scores of children whose mother has less than a high school diploma and children whose mother has a bachelor's degree or higher.

[2]Value less than 0.5 percent.

NOTE: Based on those assessed in English for all rounds (excludes 19 percent of Asian/Pacific Islander and 31 percent of Hispanic children). Based on children who entered kindergarten for the first time in fall 1998. The total gain is calculated as the difference from fall kindergarten to spring 1st grade. See *Supplemental Note* 8 for more information on the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K).

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.

Trends in the Reading Performance of 9-, 13-, and 17-Year-Olds

Table 10-1 Average reading scale scores, by race/ethnicity and age: 1971–99

	White			Black			Hispanic		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1971	*214	*261	291	*170	*222	*239	—	—	—
1975	*217	*262	293	181	*226	*241	*183	*233	*252
1980	221	264	293	189	233	*243	190	237	261
1984	218	*263	295	186	236	264	187	240	268
1988	218	*261	295	189	243	*274	194	240	271
1990	217	*262	297	182	241	267	189	238	275
1992	218	266	297	185	238	261	192	239	271
1994	218	265	296	185	234	266	186	*235	263
1996	220	266	295	191	234	266	195	238	265
1999	221	267	295	186	238	264	193	244	271

— Not available.

* Significantly different from 1999.

NOTE: Although Hispanic students participated in the initial NAEP in reading in 1971, separate scores were not reported for Hispanics until 1975. See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Table 10-2 Average white-black and white-Hispanic score gaps in reading achievement: 1971–99

Score gap	1971	1975	1980	1984	1988	1990	1992	1994	1996	1999
White-black										
Age 9	*44	35	32	32	29	35	33	33	29	35
Age 13	*39	*36	32	26	*18	*21	29	31	32	29
Age 17	*53	*52	*50	31	*20	29	37	30	29	31
White-Hispanic										
Age 9	—	34	31	30	24	28	26	32	25	28
Age 13	—	30	27	23	21	24	27	30	28	23
Age 17	—	*41	31	27	24	22	26	33	30	24

— Not available.

* Significantly different from 1999.

NOTE: The score gap is white minus black average scores and white minus Hispanic average scores. Score gaps may differ by 1 point from that achieved by subtracting the average scores of blacks and Hispanics from the average scores for whites due to rounding. Although Hispanic students participated in the initial NAEP in reading in 1971, separate scores were not reported for Hispanics until 1975. See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Reading Performance of 9-, 13-, and 17-Year-Olds

Table 10-3 Average reading scale scores, by sex and age: 1971–99

Year	Total			Male			Female		
	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1971	*208	*255	285	*201	*250	279	214	*261	291
1975	210	*256	286	*204	*250	280	216	262	291
1980	215	258	285	210	254	282	*220	263	*289
1984	211	257	289	207	253	284	214	*262	294
1988	212	257	290	207	252	*286	216	263	294
1990	209	*257	290	204	251	284	215	263	296
1992	211	260	290	206	254	284	215	265	296
1994	211	258	288	207	251	282	215	266	295
1996	212	258	288	207	251	281	218	264	295
1999	212	259	288	209	254	281	215	265	295

* Significantly different from 1999.

NOTE: See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Table 10-4 Average reading scale scores, by type of school and age: 1980–99

Year	Public			Private		
	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1980	*214	257	284	227	271	298
1984	209	255	287	223	271	303
1988	210	256	289	223	268	300
1990	208	255	289	228	270	311
1992	209	257	288	225	276	310
1994	209	256	286	225	276	306
1996	210	256	287	227	273	294
1999	210	257	286	226	276	307

* Significantly different from 1999.

NOTE: See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education. NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Reading Performance of 9-, 13-, and 17-Year-Olds

Table 10-5 Reading performance levels

Level 350: Learn from specialized reading materials
Students at this level can extend and restructure the ideas presented in specialized and complex texts. They are also able to understand the links between ideas, even when those links are not explicitly stated, and to make appropriate generalizations. Performance at this level suggests the ability to synthesize and learn from specialized reading materials.

Level 300: Understand complicated information
Students at this level can understand complicated literary and informational passages, including material about topics they study at school. They can also analyze and integrate less familiar material about topics they study at school as well as provide reactions to and explanations of the text as a whole. Performance at this level suggests the ability to find, understand, summarize, and explain relatively complicated information.

Level 250: Interrelate ideas and make generalizations
Students at this level use intermediate skills and strategies to search for, locate, and organize the information they find in relatively lengthy passages and can recognize paraphrases of what they have read. They can also make inferences and reach generalizations about main ideas and the author's purpose from passages dealing with literature, science, and social studies. Performance at this level suggests the ability to search for specific information, interrelate ideas, and make generalizations.

Level 200: Partially developed skills and understanding
Students at this level can locate and identify facts from simple informational paragraphs, stories, and news articles. In addition, they can combine ideas and make inferences based on short, uncomplicated passages. Performance at this level suggests the ability to understand specific or sequentially related information.

Level 150: Simple, discrete reading tasks
Students at this level can follow brief written directions. They can also select words, phrases, or sentences to describe a simple picture and can interpret simple written clues to identify a common object. Performance at this level suggests the ability to carry out simple, discrete reading tasks.

NOTE: See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).
SOURCE: U.S. Department of Education. NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Achievement Gap in Reading Between White and Black Students

Table 11-1 Trends in the black-white gap in average reading scale scores, by age: 1971–99

Age	1971	1975	1980	1984	1988	1990	1992	1994	1996	1999
9	44	35	32	32	29	35	33	33	29	35
13	39	36	32	26	18	21	29	31	32	29
17	53	52	50	31	20	29	37	30	29	31

NOTE: The gap is determined by subtracting the average black score from the average white score in table 11-2. Score gaps may differ by 1 point from that achieved by subtracting the average scores of blacks from the average scores for whites due to rounding.

SOURCE: U.S. Department of Education, NCES. National Assessment of Educational Progress (NAEP), 1999 Long-Term Trend Assessment, and *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Table 11-2 Trends in average reading scale scores, by age, score quartile, and race/ethnicity: 1971–99

Age and score quartile	1971	1975	1980	1984	1988	1990	1992	1994	1996	1999	Difference 1971–88*	Difference 1988–99*
White												
Age 9												
Total	**214**	**217**	**221**	**218**	**218**	**217**	**218**	**218**	**220**	**221**	**4**	**3**
Lower quartile	168	174	180	172	171	166	172	173	176	179	3	8
Middle two quartiles	217	219	224	219	219	218	219	220	221	222	2	4
Upper quartile	255	254	258	262	262	266	260	259	260	261	7	-2
Age 13												
Total	**261**	**262**	**264**	**263**	**261**	**262**	**266**	**265**	**266**	**267**	**0**	**5**
Lower quartile	223	222	228	222	222	222	223	221	223	223	-1	1
Middle two quartiles	263	264	266	264	263	263	268	267	268	269	0	6
Upper quartile	295	299	297	299	298	300	306	305	305	306	2	8
Age 17												
Total	**291**	**293**	**293**	**295**	**295**	**297**	**297**	**296**	**295**	**295**	**3**	**0**
Lower quartile	242	246	252	250	252	250	249	245	248	247	10	-6
Middle two quartiles	294	295	295	297	297	299	301	299	297	297	2	0
Upper quartile	335	337	329	335	333	339	339	340	339	338	-2	5
Black												
Age 9												
Total	**170**	**181**	**189**	**186**	**189**	**182**	**185**	**185**	**191**	**186**	**18**	**-3**
Lower quartile	126	138	144	142	146	137	141	141	150	146	20	1
Middle two quartiles	171	183	192	186	187	180	183	184	189	183	16	-5
Upper quartile	213	221	230	230	233	230	231	232	236	230	21	-4
Age 13												
Total	**222**	**226**	**233**	**236**	**243**	**241**	**238**	**234**	**234**	**238**	**21**	**-5**
Lower quartile	184	184	198	197	208	201	191	190	191	195	24	-13
Middle two quartiles	223	226	233	236	242	242	238	235	235	238	19	-4
Upper quartile	260	268	267	274	279	281	283	277	274	281	19	2
Age 17												
Total	**239**	**241**	**243**	**264**	**274**	**267**	**261**	**266**	**266**	**264**	**36**	**-10**
Lower quartile	189	187	200	223	233	222	211	215	223	220	44	-12
Middle two quartiles	239	243	244	264	275	269	262	268	266	265	36	-10
Upper quartile	287	290	283	304	314	310	306	313	310	305	27	-9

*Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, NCES. National Assessment of Educational Progress (NAEP), 1999 Long-Term Trend Assessment, and *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Mathematics Performance of 9-, 13-, and 17-Year-Olds

Table 12-1 Average mathematics scale scores, by race/ethnicity and age: 1973–99

	White			Black			Hispanic		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1973	*225	*274	*310	*190	*228	*270	*202	*239	*277
1978	*224	*272	*306	*192	*230	*268	*203	*238	*276
1982	*224	*274	*304	*195	*240	*272	*204	*252	*277
1986	*227	*274	*308	*202	249	279	*205	254	*283
1990	*235	*276	*309	208	249	289	214	255	*284
1992	*235	*279	*312	208	250	286	212	259	292
1994	237	281	312	212	252	286	210	256	291
1996	237	281	313	212	252	286	215	256	292
1999	239	283	315	211	251	283	213	259	293

* Significantly different from 1999.

NOTE: See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Table 12-2 Average white-black and white-Hispanic score gaps in mathematics achievement: 1973–99

Score gap	1973	1978	1982	1986	1990	1992	1994	1996	1999
White-black									
Age 9	*35	32	29	25	27	27	25	25	28
Age 13	*46	*42	34	*24	27	29	29	29	32
Age 17	*40	*38	32	29	*21	26	27	27	31
White-Hispanic									
Age 9	23	21	*20	21	21	23	27	22	26
Age 13	*35	*34	22	19	22	20	25	25	24
Age 17	*33	30	27	24	26	20	22	21	22

* Significantly different from 1999.

NOTE: The score gap is white minus black average scores and white minus Hispanic average scores. Score gaps may differ by 1 point from that achieved by subtracting the average scores of blacks and Hispanics from the average scores for whites due to rounding. See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Mathematics Performance of 9-, 13-, and 17-Year-Olds

Table 12-3 Average mathematics scale scores, by sex and age: 1973–99

Year	Total			Male			Female		
	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1973	*219	*266	*304	*218	*265	309	*220	*267	*301
1978	*219	*264	*300	*217	*264	*304	*220	*265	*297
1982	*219	*269	*298	*217	*269	*301	*221	*268	*296
1986	*222	*269	*302	*222	*270	*305	*222	*268	*299
1990	*230	*270	*305	*229	*271	*306	230	*270	*303
1992	*230	*273	307	231	*274	309	*228	272	305
1994	231	274	306	232	276	309	230	273	304
1996	231	274	307	233	276	310	229	272	305
1999	232	276	308	233	277	310	231	274	307

* Significantly different from 1999.

NOTE: See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Table 12-4 Average mathematics scale scores, by type of school and age: 1978–99

Year	Public			Private		
	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1978	*217	*263	*300	*230	*279	314
1982	*217	*267	*297	*232	*281	311
1986	*220	*269	*301	*230	*276	320
1990	229	*269	*304	238	*280	318
1992	*228	272	305	242	283	320
1994	229	273	304	245	285	319
1996	230	273	306	239	286	316
1999	231	274	307	242	288	321

* Significantly different from 1999.

NOTE: See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education. NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Mathematics Performance of 9-, 13-, and 17-Year-Olds

Table 12-5 Mathematics performance levels

Level 350: Multistep problem solving and algebra

Students at this level can apply a range of reasoning skills to solve multistep problems. They can solve routine problems involving fractions and percents, recognize properties of basic geometric figures, and work with exponents and square roots. They can solve a variety of two-step problems using variables, identify equivalent algebraic expressions, and solve linear equations and inequalities. They are developing an understanding of functions and coordinate systems.

Level 300: Moderately complex procedures and reasoning

Students at this level are developing an understanding of numbers systems. They can compute with decimals, simple fractions, and commonly encountered percents. They can identify geometric figures, measure lengths and angles, and calculate areas of rectangles. These students are also able to interpret simple inequalities, evaluate formulas, and solve simple linear equations. They can find averages, make decisions based on information drawn from graphs, and use logical reasoning to solve problems. They are developing the skills to operate with signed numbers, exponents, and square roots.

Level 250: Numerical operations and beginning problem solving

Students at this level have an initial understanding of the four basic operations. They are able to apply whole number addition and subtraction skills to one-step word problems and money situations. In multiplication, they can find the product of a two-digit and a one-digit number. They can also compare information from graphs and charts and are developing an ability to analyze simple logical relations.

Level 200: Beginning skills and understandings

Students at this level have considerable understanding of two-digit numbers. They can add two-digit numbers but are still developing an ability to regroup in subtraction. They know some basic multiplication and division facts, recognize relations among coins, can read information from charts and graphs, and use simple measurement instruments. They are developing some reasoning skills.

Level 150: Simple arithmetic facts

Students at this level know some basic addition and subtraction facts, and most can add two-digit numbers without regrouping. They recognize simple situations in which addition and subtraction apply. They are also developing rudimentary classification skills.

NOTE: See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).
SOURCE: U.S. Department of Education. NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Science Performance of 9-, 13-, and 17-Year-Olds

Table 13-1 Average science scale scores, by race/ethnicity and age: 1970–99

Year	White			Black			Hispanic		
	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1970	*236	*263	*312	*179	*215	258	—	—	—
1973	*231	*259	304	*177	*205	250	—	—	—
1977	*230	*256	*298	*175	*208	*240	*192	*213	*262
1982	*229	*257	*293	*187	*217	*235	*189	225	*249
1986	*232	*259	*298	196	222	253	199	226	*259
1990	237	264	*301	196	226	253	206	232	*261
1992	239	267	304	200	224	256	205	*238	270
1994	240	267	306	201	224	257	201	232	261
1996	239	266	307	202	226	260	207	232	269
1999	240	266	306	199	227	254	206	227	276

—Not available.

*Significantly different from 1999.

NOTE: The NAEP in science was first administered to 17-year-olds in 1969 and to 9- and 13-year-olds in 1970. Although Hispanic students participated in the initial assessments, their scores were not reported separately until 1977. See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Table 13-2 Average white-black and white-Hispanic score gaps in science achievement: 1970–99

Score gap	1970	1973	1977	1982	1986	1990	1992	1994	1996	1999
White-black										
Age 9	*57	*55	*55	42	36	41	39	39	37	41
Age 13	*49	*53	*48	40	38	38	43	43	40	39
Age 17	54	54	57	58	45	48	48	49	47	52
White-Hispanic										
Age 9	—	—	38	40	32	31	34	39	32	34
Age 13	—	—	43	32	33	32	*30	34	34	39
Age 17	—	—	35	*44	38	39	34	45	38	30

—Not available.

* Significantly different from 1999.

NOTE: The score gap is white minus black average scores and white minus Hispanic average scores. Score gaps may differ by 1 point from that achieved by subtracting the average scores of blacks and Hispanics from the average scores for whites due to rounding. The NAEP in science was first administered to 17-year-olds in 1969 and to 9- and 13-year-olds in 1970. Although Hispanic students participated in the initial assessments, their scores were not reported separately until 1977. See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Science Performance of 9-, 13-, and 17-Year-Olds

Table 13-3 Average science scale scores, by sex and age: 1970–99

	Total			Male			Female		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1970	*225	255	*305	228	257	*314	*223	253	*297
1973	*220	*250	296	*223	*252	304	*218	*247	288
1977	*220	*247	*290	*222	*251	297	*218	*244	*282
1982	*221	*250	*283	*221	256	*292	*221	*245	*275
1986	*224	*251	*288	227	256	*295	*221	*247	*282
1990	229	255	*290	230	259	*296	227	252	*285
1992	231	*258	294	*235	260	299	227	*256	289
1994	231	257	294	232	259	300	230	254	289
1996	230	256	296	231	260	300	228	252	292
1999	229	256	295	231	259	300	228	253	291

*Significantly different from 1999.

NOTE: The NAEP in science was first administered to 17-year-olds in 1969 and to 9- and 13-year-olds in 1970. See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Table 13-4 Average science scale scores, by type of school and age: 1977–99

	Public			Private		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1977	*218	*245	*288	235	268	308
1982	*220	*249	*282	231	264	*292
1986	*223	251	*287	233	263	321
1990	228	254	*289	237	269	308
1992	229	*257	292	240	265	312
1994	229	255	292	242	268	310
1996	228	254	295	238	268	304
1999	228	254	293	239	269	311

* Significantly different from 1999.

NOTE: See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education. NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Science Performance of 9-, 13-, and 17-Year-Olds

Table 13-5 Science performance levels

Level 350: Integrates specialized scientific information

Students at this level can infer relationships and draw conclusions using detailed scientific knowledge from the physical sciences, particularly chemistry. They can also apply basic principles of genetics and interpret the social implications of research in this field.

Level 300: Analyzes scientific procedures and data

Students at this level can evaluate the appropriateness of the design of an experiment. They have more detailed scientific knowledge and the skill to apply their knowledge in interpreting information from text and graphs. These students also exhibit a growing understanding of principles from the physical sciences.

Level 250: Applies general scientific information

Students at this level can interpret data from simple tables and make inferences about the outcomes of experimental procedures. They exhibit knowledge and understanding of the life sciences, including a familiarity with some aspects of animal behavior and of ecological relationships. These students also demonstrate some knowledge of basic information from the physical sciences.

Level 200: Understands simple scientific principles

Students at this level are developing some understanding of simple scientific principles, particularly in the life sciences. For example, they exhibit some rudimentary knowledge of the structure and function of plants and animals.

Level 150: Knows everyday science facts

Students at this level know some general scientific facts of the type that could be learned from everyday experiences. They can read simple graphs, match the distinguishing characteristics of animals, and predict the operation of familiar apparatuses that work according to mechanical principles.

NOTE: See *Supplemental Note 4* for information on the National Assessment of Educational Progress (NAEP).
SOURCE: U.S. Department of Education. NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

International Comparisons of 8th-Graders' Performance in Mathematics and Science

Table 14-1 Average mathematics and science performance of 8th-graders, by sex and country: 1999

Country	Mathematics: mean score			Science: mean score		
	Total	Male	Female	Total	Male	Female
International average	**487**	**489**	**485**	**488**	**495**	**480**
Australia	525	526	524	540	549	532
Belgium-Flemish	558	556	560	535	544	526
Bulgaria	511	511	510	518	525	511
Canada	531	533	529	533	*540	526
Chile	392	397	388	420	*432	409
Chinese Taipei	585	587	583	569	*578	561
Cyprus	476	474	479	460	465	455
Czech Republic	520	*528	512	539	*557	523
England	496	505	487	538	*554	522
Finland	520	522	519	535	540	530
Hong Kong SAR	582	581	583	530	537	522
Hungary	532	535	529	552	*565	540
Indonesia	403	405	401	435	444	427
Iran, Islamic Republic of	422	*432	408	448	*461	430
Israel[1]	466	*474	459	468	476	461
Italy	479	484	475	493	503	484
Japan	579	582	575	550	556	543
Jordan	428	425	431	450	442	460
Korea, Republic of	587	590	585	549	*559	538
Latvia-LSS[2]	505	508	502	503	*510	495
Lithuania[3]	482	483	480	488	*499	478
Macedonia, Republic of	447	447	446	458	458	458
Malaysia	519	517	521	492	498	488
Moldova	469	471	468	459	465	454
Morocco	337	344	326	323	330	312
Netherlands	540	542	538	545	*554	536
New Zealand	491	487	495	510	513	506
Philippines	345	337	352	345	339	351
Romania	472	470	475	472	475	468
Russian Federation	526	526	526	529	*540	519
Singapore	604	606	603	568	578	557
Slovak Republic	534	536	532	535	*546	525
Slovenia	530	531	529	533	*540	527
South Africa	275	283	267	243	253	234
Thailand	467	465	469	482	484	481
Tunisia	448	*460	436	430	*442	417
Turkey	429	429	428	433	434	431
United States	502	505	498	515	*524	505

* The average male score for this country is significantly different from the average female score for this country.

[1] Did not meet international sampling and/or other guidelines. See *Supplemental Note 5* for details.

[2] Only Latvian-speaking schools were tested.

[3] Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

NOTE: Eighth grade in most countries. See *Supplemental Note 5* for details. The international average is the average of the national average of the 38 countries.

SOURCE: U.S. Department of Education, NCES. *Pursuing Excellence: Comparisons of International Eighth-Grade Mathematics and Science Achievement from a U.S. Perspective, 1995 and 1999* (NCES 2001–028), 2000.

International Comparisons of 8th-Graders' Performance in Mathematics and Science

Table 14-2 Average mathematics and science performance of 8th-graders, by country: 1995 and 1999

	Mathematics: mean score			Science: mean score		
Country	1995	1999	1995–99 difference[1]	1995	1999	1995–99 difference[1]
International average	**519**	**521**	**2**	**518**	**521**	**3**
Australia[2]	519	525	6	527	540	14
Belgium-Flemish	550	558	8	533	535	2
Bulgaria[2]	527	511	-16	545	518	*-27
Canada	521	531	*10	514	533	*19
Cyprus	468	476	*9	452	460	8
Czech Republic	546	520	*-26	555	539	-16
England[2]	498	496	-1	533	538	5
Hong Kong SAR	569	582	13	510	530	20
Hungary	527	532	5	537	552	*16
Iran, Islamic Republic of	418	422	4	463	448	-15
Italy	491	485	-6	497	498	1
Japan	581	579	-2	554	550	-5
Korea, Republic of	581	587	6	546	549	3
Latvia-LSS[2,3]	488	505	*17	476	503	*27
Lithuania[2,4]	472	482	10	464	488	*25
Netherlands[2]	529	540	11	541	545	3
New Zealand	501	491	-10	511	510	-1
Romania[2]	474	472	-1	471	472	1
Russian Federation	524	526	2	523	529	7
Singapore	609	604	-4	580	568	-12
Slovak Republic	534	534	0	532	535	3
Slovenia[2]	531	530	-1	541	533	-8
United States	492	502	9	513	515	2

* 1999 average is statistically different from the 1995 average.

[1] Difference is calculated by subtracting the 1995 score from the 1999 score. Details may not sum due to rounding.

[2] Did not meet international sampling and/or other guidelines in 1995, 1999, or both years. See *Supplemental Note 5* for details.

[3] Only Latvian-speaking schools were tested.

[4] Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

NOTE: Eighth grade in most countries. See *Supplemental Note 5* for details. International average is the average of the national averages of the 23 countries. Scores for 1995 are based on rescaled data.

SOURCE: U.S. Department of Education, NCES. *Pursuing Excellence: Comparisons of International Eighth-Grade Mathematics and Science Achievement from a U.S. Perspective, 1995 and 1999* (NCES 2001–028), 2000.

International Comparisons of 8th-Graders' Performance in Mathematics and Science

Table 14-3 Score difference from the international average for all participating countries, by mathematics and science performance of 4th-graders in 1995 and 8th-graders in 1999

Country	Mathematics		Science	
	4th-graders in 1995	8th-graders in 1999	4th-graders in 1995	8th-graders in 1999
International average	**517**	**524**	**514**	**524**
Australia[1]	0	1	*28	*16
Canada	*-12	7	*12	*9
Cyprus	*-42	*-48	*-64	*-64
Czech Republic	*23	-4	*18	*15
England[1]	*-33	*-28	*14	*14
Hong Kong SAR	*40	*58	-6	5
Hungary[1]	4	8	-6	*28
Iran, Islamic Republic of	*-130	*-102	*-134	*-76
Italy[1]	-7	*-39	10	*-26
Japan	*50	*55	*39	*25
Korea, Republic of	*63	*63	*62	*24
Latvia-LSS[1,2]	*-18	*-19	*-27	*-21
Netherlands[1]	*32	16	*17	*21
New Zealand	*-48	*-33	-9	*-15
Singapore	*73	*80	10	*44
Slovenia[1]	8	6	8	9
United States	0	*-22	*28	-9

* The average score for this country is significantly different from the international average for the indicated year.

[1] Did not meet international sampling and/or other guidelines for 4th grade in 1995. See *Supplemental Note* 5 for details.

[2] Only Latvian-speaking schools were tested.

NOTE: Fourth and 8th grade in most countries. See *Supplemental Note* 5 for details. International average is the average of the national averages of the 17 countries. Scores for 1995 are based on rescaled data.

SOURCE: U.S. Department of Education, NCES. *Pursuing Excellence: Comparisons of International Eighth-Grade Mathematics and Science Achievement from a U.S. Perspective, 1995 and 1999* (NCES 2001–028), 2000.

Adult Literacy Habits and Media Use

Table 15-1 Percentage distribution of the population age 25 and above according to their reading habits, by selected personal and community characteristics: 1999

Characteristic	Number of magazines read regularly				Frequency of having read a newspaper			Read a book in the past 6 months		Read regularly*
	5 or more	3–4	1–2	0	Daily	Weekly	Monthly/ hardly ever	Yes	No	
Total	**19.9**	**28.4**	**33.4**	**18.3**	**56.5**	**26.3**	**17.2**	**64.3**	**35.7**	**50.2**
Sex										
Male	21.5	27.9	32.3	18.3	59.1	24.9	16.0	57.0	43.1	45.9
Female	18.5	28.8	34.5	18.2	54.1	27.7	18.2	71.0	29.0	54.2
Race/ethnicity										
White	21.4	30.1	33.7	14.8	61.0	25.6	13.5	66.2	33.8	53.1
Black	16.3	31.8	29.1	22.7	50.8	28.8	20.4	64.0	36.0	46.9
Hispanic	9.6	15.2	34.7	40.5	28.7	28.1	43.2	45.4	54.7	28.5
Other	24.1	19.8	36.7	19.4	53.3	28.9	17.8	71.4	28.6	50.2
Age										
25–34	16.8	28.7	37.8	16.7	40.5	38.7	20.8	67.6	32.4	48.9
35–44	21.1	27.0	35.2	16.7	50.8	31.6	17.7	68.9	31.2	53.2
45–54	21.6	27.9	32.8	17.6	58.3	23.8	18.0	66.6	33.4	53.8
55–64	19.8	31.7	30.8	17.8	64.4	19.1	16.5	59.2	40.9	49.0
65 and above	20.2	28.0	27.7	24.0	77.8	11.0	11.3	54.2	45.8	43.9
Education										
Less than high school	7.0	16.8	32.8	43.4	39.3	25.7	35.0	37.2	62.8	21.8
High school diploma or equivalent	17.8	29.1	35.9	17.3	57.0	27.8	15.3	60.2	39.8	45.9
Some college, including vocational/technical	18.2	36.5	36.1	9.3	59.0	23.5	17.5	75.8	24.2	59.9
Bachelor's degree or higher	30.8	32.2	29.5	7.5	64.9	25.1	10.1	83.4	16.6	70.8
Household income										
$15,000 or less	10.4	19.1	31.0	39.5	43.9	27.7	28.4	49.6	50.5	30.5
$15,001–30,000	16.1	28.3	33.9	21.7	53.6	26.5	19.9	57.8	42.2	43.9
$30,001–50,000	18.0	28.1	37.7	16.2	55.4	28.1	16.5	65.2	34.9	49.9
$50,001–75,000	20.2	32.4	34.1	13.3	58.3	27.4	14.3	67.2	32.2	53.6
More than $75,000	31.5	30.7	28.7	9.2	66.5	22.4	11.1	76.0	24.0	65.8

Adult Literacy Habits and Media Use

Table 15-1 Percentage distribution of the population age 25 and above according to their reading habits, by selected personal and community characteristics: 1999—Continued

Characteristic	Number of magazines read regularly				Frequency of having read a newspaper			Read a book in the past 6 months		Read regularly*
	5 or more	3–4	1–2	0	Daily	Weekly	Monthly/ hardly ever	Yes	No	
Marital status										
Never married	21.7	29.4	33.3	15.6	52.2	29.5	18.3	70.7	29.3	53.7
Married/remarried	20.5	29.6	33.1	16.8	57.2	26.3	16.5	63.3	36.7	50.7
Divorced/separated/widowed	16.9	23.6	34.5	25.0	56.9	24.4	18.7	63.6	36.4	46.2
Number of children										
None	21.2	29.3	31.6	17.9	63.7	21.7	14.6	63.1	36.9	50.6
One	21.4	29.4	33.0	16.3	46.6	36.3	17.1	68.0	32.0	53.5
Two or more	16.3	25.9	37.6	20.3	47.0	30.3	22.7	64.5	35.5	47.5
Employment status										
Employed	20.9	29.6	34.0	15.5	54.8	29.2	16.0	67.7	32.3	53.7
Unemployed, looking for work	19.8	23.4	36.7	20.1	38.7	39.4	21.9	74.1	26.0	48.1
Not in labor force	17.7	26.2	31.7	24.4	62.2	18.4	19.4	55.4	44.6	42.4
Region										
Northeast	21.1	29.2	32.4	17.2	62.8	22.5	14.7	64.2	35.8	51.3
South	17.8	28.7	34.0	19.4	55.0	28.7	16.3	66.0	34.0	50.7
Midwest	20.5	28.6	35.4	15.5	58.6	28.2	13.2	60.4	39.6	49.7
West	21.4	26.9	31.2	20.6	50.2	24.2	25.5	65.9	34.1	49.0
Urbanicity										
Urban, inside urban area	19.1	29.1	32.5	19.4	55.3	25.4	19.3	66.2	33.8	50.7
Urban, outside urban area	23.4	25.9	35.7	15.0	64.1	24.0	11.9	63.1	36.9	52.7
Rural	20.4	27.8	34.8	17.0	56.0	29.8	14.2	59.9	40.1	47.9

* This category consists of people who reported doing all three of the following activities: read a newspaper at least once a week, read one or more magazines regularly, and read a book in the past 6 months.

NOTE: Percentages may not add to 100.0 due to rounding. See *Supplemental Note 3* for more information on the National Household Education Surveys Program (NHES). See *Supplemental Note 1* for information on the racial/ethnic, region, and urbanicity categories. Adults were asked about their reading activities for literature printed in English only; the survey may underestimate the reading habits of adults whose primary language is not English.

SOURCE: U.S. Department of Education, NCES. *National Household Education Surveys Program (NHES) 1999 Data Files: Adult Education and Life-Long Learning Survey* (NCES 2000–079), 2000.

Community Service Participation in Grades 6-12

Table 16-1 Number and percentage of students in grades 6–12 who participated in community service and service-learning, by selected characteristics: 1996 and 1999

Characteristic	Number of students (thousands)		Participation in community service		Participation in service-learning among students who did community service	
	1996	1999	1996	1999	1996	1999
Total	**25,726**	**26,921**	**49**	**52**	**56**	**57**
Grade level						
6–8	11,535	11,633	47	48	59	62
9–10	7,429	7,955	45	50	54	53
11–12	6,760	7,318	56	61	54	56
Sex						
Male	13,190	13,666	45	47	54	56
Female	12,537	13,255	53	57	58	59
Race/ethnicity						
White	17,322	17,827	53	56	52	54
Black	4,112	4,126	43	48	68	69
Hispanic	3,281	3,511	38	38	65	69
Other	1,012	1,457	50	54	57	58
Language spoken most at home by student						
English	24,164	24,885	50	53	56	57
Other	1,562	2,036	32	35	65	68
Parents' education						
Less than high school	2,469	2,517	34	37	69	69
High school diploma or equivalent	7,775	7,175	42	46	60	64
Some college, including vocational/technical	7,472	8,068	48	50	57	59
Bachelor's degree	3,881	4,291	58	62	50	53
Professional/graduate degree	4,129	4,870	64	64	51	49
School type						
Public	23,343	24,618	47	50	54	56
Private						
Religious	1,851	1,741	69	71	71	67
Nonsectarian	533	561	57	68	65	67
Enrollment						
Less than 300	2,754	3,011	49	56	61	63
300–599	7,782	7,849	50	48	54	61
600–999	6,439	6,610	48	52	57	57
1,000 or more	8,751	9,451	49	54	56	54
School practice						
Requires and arranges service	4,242	4,971	56	60	67	71
Requires service only	394	465	19	35	—	53
Arranges service only	17,446	18,282	52	54	56	56
Neither requires nor arranges service	3,644	3,202	30	29	27	32

—Not available.

NOTE: Details may not add to totals due to rounding. See *Supplemental Note 1* for information on racial/ethnic categories, parents' education, and community service. See *Supplemental Note 3* for information on the National Household Education Surveys Program (NHES).

SOURCE: U.S. Department of Education, NCES. *Youth Service-Learning and Community Service Among 6th- Through 12th-Grade Students in the United States: 1996 and 1999* (NCES 2000–028), 2000.

Community Service Participation in Grades 6-12

Table 16-2 Percentage distribution of students in grades 6–12 who reported school practices to promote student community service, by selected characteristics: 1996 and 1999

Characteristic	School requires and arranges community service		School requires but does not arrange community service		School arranges but does not require community service		School neither requires nor arranges community service	
	1996	1999	1996	1999	1996	1999	1996	1999
Total	**16**	**18**	**2**	**2**	**68**	**68**	**14**	**12**
Grade level								
6–8	13	15	2	2	67	68	18	15
9–10	21	23	2	2	65	66	12	9
11–12	18	20	1	1	71	70	11	9
Sex								
Male	15	19	2	2	69	67	14	12
Female	18	18	1	2	66	69	14	11
Race/ethnicity								
White	15	16	1	1	69	71	15	12
Black	19	21	2	3	66	63	12	13
Hispanic	22	27	3	3	64	59	11	11
Other	18	23	1	1	68	64	14	12
School type								
Public	4	16	2	2	70	70	15	12
Private								
Religious	42	40	2	2	46	49	10	8
Nonsectarian	31	39	1	2	60	47	8	12
Enrollment								
Less than 300	15	16	1	4	65	64	19	16
300–599	16	17	2	2	66	68	16	13
600–999	15	18	1	1	69	69	14	12
1,000 or more	18	21	2	1	69	68	11	10

NOTE: Percentages may not add to 100 due to rounding. See *Supplemental Note 1* for information on racial/ethnic categories and *Supplemental Note 3* for more information on the National Household Education Surveys Program (NHES).

SOURCE: U.S. Department of Education, NCES. *Youth Service-Learning and Community Service Among 6th- Through 12th-Grade Students in the United States: 1996 and 1999* (NCES 2000–028), 2000.

Education and Health

Table 17-1 Percentage of the population age 25 and above who reported being in excellent or very good health, by educational attainment and selected characteristics: 1997

Characteristic	Less than high school	High school diploma or equivalent	Some college, including vocational/ technical	Bachelor's degree or higher	Total
Total	**38.7**	**57.8**	**67.6**	**79.7**	**61.4**
Sex					
Male	42.3	60.4	69.0	80.2	63.9
Female	35.5	55.7	66.5	79.2	59.2
Family income					
Less than $20,000	31.0	42.5	49.5	64.3	40.5
$20,000–34,999	41.9	55.1	61.7	71.2	55.9
$35,000–54,999	48.8	63.2	71.3	79.7	67.5
$55,000–74,999	54.0	72.8	76.1	81.7	75.2
$75,000 or more	59.8	71.5	77.9	86.0	80.3
Race/ethnicity					
White	37.7	58.7	69.1	81.1	63.7
Black	31.8	51.6	60.2	70.4	50.9
Hispanic	45.2	61.0	67.4	77.8	56.3
Asian/Pacific Islander	47.1	55.2	60.0	71.7	61.0
American Indian/Alaskan Native	32.6	50.8	62.2	71.5	49.0
Age					
25–34	56.7	71.5	77.3	88.0	74.9
35–44	48.5	65.7	72.6	84.3	69.8
45–54	40.4	56.1	66.2	79.7	63.2
55–64	29.1	49.3	57.3	72.8	51.2
65 and above	27.6	40.1	46.1	55.3	38.3
Metropolitan area status					
2.5 million or more	42.4	60.1	67.5	80.1	63.9
1–2.49 million	40.8	60.2	68.6	81.2	64.8
Less than 1 million	38.5	57.9	67.7	79.7	61.6
Nonmetropolitan area	33.9	53.8	66.3	75.4	54.9
Region					
Northeast	39.9	61.1	68.5	81.0	63.6
Midwest	37.5	59.0	68.7	80.5	62.8
South	36.8	54.8	66.5	78.1	58.4
West	42.8	58.0	67.4	80.2	63.1

NOTE: Includes those who responded excellent or very good on a scale of excellent, very good, good, fair, and poor.

SOURCE: U.S. Department of Health and Human Services, Centers for Disease Control, National Center for Health Statistics. National Health Interview Survey, 1997.

Annual Earnings of Young Adults

Table 18-1 Median annual earnings (in constant 2000 dollars) of all wage and salary workers ages 25–34, by sex and educational attainment level: March 1970–99

	Male				Female			
Year	Grades 9–11	High school diploma or equivalent	Some college including vocational/ technical	Bachelor's degree or higher	Grades 9–11	High school diploma or equivalent	Some college including vocational/ technical	Bachelor's degree or higher
1970	$30,346	$36,726	$40,074	$45,484	$8,925	$15,166	$18,150	$27,656
1971	31,039	36,935	38,947	45,219	10,045	15,656	17,942	29,345
1972	30,845	38,951	39,342	46,065	10,235	16,217	19,188	29,047
1973	32,579	39,326	39,118	45,610	11,122	15,929	20,301	28,401
1974	29,965	37,122	37,765	42,491	9,833	15,815	18,885	27,463
1975	26,882	34,318	36,681	40,089	10,161	15,810	19,594	27,249
1976	27,191	34,740	35,920	41,279	10,080	16,544	18,815	26,170
1977	26,970	34,968	35,779	41,175	10,527	16,820	20,613	25,757
1978	26,928	35,197	36,802	41,422	8,839	16,424	19,139	25,460
1979	26,214	34,533	36,455	40,033	11,687	16,585	19,788	25,770
1980	23,575	32,100	33,459	38,242	10,624	16,469	20,454	25,042
1981	21,939	29,898	31,849	38,691	9,842	16,055	19,776	24,777
1982	19,773	27,785	31,030	37,253	10,427	15,680	18,905	25,551
1983	19,598	27,945	31,622	37,809	10,542	15,857	19,662	26,438
1984	18,111	28,622	32,995	38,864	9,341	16,564	20,072	26,702
1985	19,395	27,536	32,707	41,276	10,415	16,618	19,582	28,053
1986	19,204	27,660	32,602	41,608	10,690	16,534	20,075	29,437
1987	20,305	28,082	31,804	41,743	11,404	16,932	21,171	30,164
1988	19,469	28,759	31,570	40,720	9,305	16,640	21,780	30,131
1989	19,559	28,040	31,479	40,656	10,037	16,020	21,118	30,889
1990	18,628	26,259	30,051	38,770	9,139	15,872	21,223	30,503
1991	16,471	25,563	29,161	39,019	9,910	15,539	20,534	29,516
1992	16,596	24,389	27,668	39,070	11,724	15,339	20,575	30,684
1993	16,201	24,231	27,218	38,014	8,905	15,172	19,909	30,245
1994	16,588	24,589	28,149	37,437	9,248	15,993	19,244	29,822
1995	17,847	24,213	26,891	37,553	9,436	15,346	19,603	29,328
1996	16,926	24,663	28,233	38,593	9,789	15,366	19,579	28,940
1997	18,191	25,618	28,453	38,410	10,279	16,276	19,817	31,024
1998	18,569	26,717	31,118	41,695	10,989	15,863	20,736	31,789
1999	18,582	26,842	31,208	42,341	10,174	16,770	21,008	32,145

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey methodology for the CPS was changed and weights were adjusted. See *Supplemental Note 2* for further discussion. The Consumer Price Index (CPI) was used to adjust earnings into constant dollars; see *Supplemental Note 1*.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

Annual Earnings of Young Adults

Table 18-2 Ratio of median annual earnings of all wage and salary workers ages 25–34 whose highest level of education was grades 9–11, some college, or a bachelor's degree or higher, compared with those with a high school diploma or equivalent, by sex: March 1970–99

Year	Grades 9–11		Some college, including vocational/technical		Bachelor's degree or higher	
	Male	Female	Male	Female	Male	Female
1970	0.83	0.59	1.09	1.20	1.24	1.82
1971	0.84	0.64	1.05	1.15	1.22	1.87
1972	0.79	0.63	1.01	1.18	1.18	1.79
1973	0.83	0.70	0.99	1.27	1.16	1.78
1974	0.81	0.62	1.02	1.19	1.14	1.74
1975	0.78	0.64	1.07	1.24	1.17	1.72
1976	0.78	0.61	1.03	1.14	1.19	1.58
1977	0.77	0.63	1.02	1.23	1.18	1.53
1978	0.77	0.54	1.05	1.17	1.18	1.55
1979	0.76	0.70	1.06	1.19	1.16	1.55
1980	0.73	0.65	1.04	1.24	1.19	1.52
1981	0.73	0.61	1.07	1.23	1.29	1.54
1982	0.71	0.66	1.12	1.21	1.34	1.63
1983	0.70	0.66	1.13	1.24	1.35	1.67
1984	0.63	0.56	1.15	1.21	1.36	1.61
1985	0.70	0.63	1.19	1.18	1.50	1.69
1986	0.69	0.65	1.18	1.21	1.50	1.78
1987	0.72	0.67	1.13	1.25	1.49	1.78
1988	0.68	0.56	1.10	1.31	1.42	1.81
1989	0.70	0.63	1.12	1.32	1.45	1.93
1990	0.71	0.58	1.14	1.34	1.48	1.92
1991	0.64	0.64	1.14	1.32	1.53	1.90
1992	0.68	0.76	1.13	1.34	1.60	2.00
1993	0.67	0.59	1.12	1.31	1.57	1.99
1994	0.67	0.58	1.14	1.20	1.52	1.86
1995	0.74	0.61	1.11	1.28	1.55	1.91
1996	0.69	0.64	1.14	1.27	1.56	1.88
1997	0.71	0.63	1.11	1.22	1.50	1.91
1998	0.70	0.69	1.16	1.31	1.56	2.00
1999	0.69	0.61	1.16	1.25	1.58	1.92

NOTE: This ratio is most useful when compared with 1.0. For example, the ratio of 1.58 for males in 1999 whose highest level of education was a bachelor's degree or higher means that they earned 58 percent more than males who had a high school diploma or equivalent. The ratio of 0.69 for males in 1999 whose highest level of education was grades 9–11 means that they earned 31 percent less than males who had a high school diploma or equivalent. The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey methodology for the CPS was changed and weights were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

Annual Earnings of Young Adults

Table 18-3 Ratio of median annual earnings of all male to all female wage and salary workers ages 25–34, by educational attainment: March 1970–99

Year	Grades 9–11	High school diploma or equivalent	Some college, including vocational/technical	Bachelor's degree or higher
1970	3.40	2.42	2.21	1.64
1971	3.09	2.36	2.17	1.54
1972	3.01	2.40	2.05	1.59
1973	2.93	2.47	1.93	1.61
1974	3.05	2.35	2.00	1.55
1975	2.65	2.17	1.87	1.47
1976	2.70	2.10	1.91	1.58
1977	2.56	2.08	1.74	1.60
1978	3.05	2.14	1.92	1.63
1979	2.24	2.08	1.84	1.55
1980	2.22	1.95	1.64	1.53
1981	2.23	1.86	1.61	1.56
1982	1.90	1.77	1.64	1.46
1983	1.86	1.76	1.61	1.43
1984	1.94	1.73	1.64	1.46
1985	1.86	1.66	1.67	1.47
1986	1.80	1.67	1.62	1.41
1987	1.78	1.66	1.50	1.38
1988	2.09	1.73	1.45	1.35
1989	1.95	1.75	1.49	1.32
1990	2.04	1.65	1.42	1.27
1991	1.66	1.65	1.42	1.32
1992	1.42	1.59	1.34	1.27
1993	1.82	1.60	1.37	1.26
1994	1.79	1.54	1.46	1.26
1995	1.89	1.58	1.37	1.28
1996	1.73	1.61	1.44	1.33
1997	1.77	1.57	1.44	1.24
1998	1.69	1.68	1.50	1.31
1999	1.83	1.60	1.49	1.32

NOTE: This ratio is most useful when compared with 1.0. For example, the ratio of 1.32 in 1999 for those whose highest level of education was a bachelor's degree or higher means that males who had attained a bachelor's degree or higher earned 32 percent more than females with the same level of educational attainment. The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey methodology for the CPS was changed and weights were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

Educational Plans

Table 19-1 Percentage distributions of high school seniors according to their plans for postsecondary education, by sex: 1983, 1990, and 1998

	1983			1990			1998		
Postsecondary plans	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**
Attend a technical/vocational school									
Definitely will	9.6	10.2	8.8	8.7	9.1	8.2	8.2	9.4	7.0
Probably will	18.9	20.6	17.3	15.2	16.5	13.7	13.8	16.7	11.0
Definitely/probably won't	71.5	69.2	73.9	76.1	74.4	78.1	78.0	73.9	82.0
Graduate from a 2-year college program									
Definitely will	13.2	10.7	15.4	16.2	13.8	18.6	17.0	14.5	19.3
Probably will	23.4	22.1	24.7	22.6	22.2	22.9	22.0	23.0	20.7
Definitely/probably won't	63.4	67.1	59.9	61.2	64.0	58.5	61.0	62.5	60.1
Graduate from a 4-year college program									
Definitely will	35.8	35.1	36.8	48.1	45.8	50.9	55.4	50.0	60.9
Probably will	22.4	23.4	21.4	22.2	24.0	20.4	22.7	24.5	21.0
Definitely/probably won't	41.8	41.5	41.8	29.7	30.2	28.7	21.9	25.4	18.1
Attend graduate or professional school									
Definitely will	10.8	10.4	11.2	15.3	14.2	16.6	20.5	17.1	23.8
Probably will	23.4	22.8	24.1	30.4	29.8	31.3	32.9	31.4	34.8
Definitely/probably won't	65.9	66.8	64.7	54.3	56.0	52.1	46.6	51.6	41.4

NOTE: Percentages may not add to 100.0 due to rounding. The data do not meet NCES standards for response rates. Students were asked how likely it was that they would participate in different types of postsecondary education. The 1990 estimates are revised slightly from those published in *Indicator 24, The Condition of Education 2000*.

SOURCE: University of Michigan, Institute for Social Research. Monitoring the Future Survey: 1983, 1990, and 1998.

Peer Culture of High School Seniors

Table 20-1 Percentage distributions of 12th-graders according to the importance they placed on various student characteristics for having high status in their school, by sex: 1983, 1990, and 1998

Student characteristics	1983			1990			1998		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Being a good athlete									
Great or very great	48.2	51.1	46.3	55.3	57.2	53.9	53.0	56.2	50.0
Moderate	29.1	30.6	27.6	26.2	24.9	27.0	27.5	26.0	29.5
Little or no	22.6	18.3	26.1	18.4	17.9	19.1	19.4	17.8	20.6
Planning to attend college									
Great or very great	40.3	37.8	42.8	49.3	45.4	53.2	48.0	43.3	52.7
Moderate	31.1	31.7	30.9	29.3	28.7	30.3	27.5	28.2	26.6
Little or no	28.7	30.5	26.3	21.4	25.9	16.5	24.5	28.5	20.7
Getting good grades									
Great or very great	49.3	47.5	50.2	48.4	45.6	51.5	45.2	41.5	48.6
Moderate	34.4	33.6	35.8	33.2	32.2	34.2	30.6	30.5	30.4
Little or no	16.2	18.9	14.0	18.4	22.2	14.3	24.3	28.0	21.1
Leading student activities									
Great or very great	40.3	39.0	41.7	41.9	35.8	48.4	41.1	39.7	42.5
Moderate	33.3	34.9	32.1	35.0	36.0	33.7	34.2	33.9	34.8
Little or no	26.3	26.1	26.2	23.1	28.1	17.8	24.7	26.3	22.6
Coming from the right family									
Great or very great	34.7	33.0	35.3	33.8	32.3	35.4	34.0	32.5	35.0
Moderate	30.6	28.7	32.9	32.9	31.8	34.2	27.5	27.0	28.6
Little or no	34.7	38.3	31.8	33.3	35.9	30.4	38.5	40.6	36.4
Having a nice car									
Great or very great	28.2	30.8	25.3	32.0	35.0	29.4	30.3	31.9	28.2
Moderate	31.6	33.1	30.5	33.0	32.1	33.2	29.6	30.8	29.1
Little or no	40.2	36.2	44.2	35.1	32.9	37.4	40.1	37.3	42.6
Knowing a lot about intellectual matters									
Great or very great	24.7	26.1	22.8	29.0	29.7	28.8	27.6	29.1	26.0
Moderate	36.7	37.4	35.8	38.9	39.9	38.1	35.0	34.1	36.0
Little or no	38.7	36.5	41.4	32.1	30.5	33.1	37.4	36.8	38.0

NOTE: Percentages may not add to 100.0 due to rounding. The data do not meet NCES standards for response rates.

SOURCE: University of Michigan, Institute for Social Research. Monitoring the Future Survey: 1983, 1990, and 1998.

Status Dropout Rates, by Race/Ethnicity

Table 23-1 Status dropout rates of 16- to 24-year olds, by race/ethnicity: October 1972–99

	Race/ethnicity (percent)*			
Year	Total	White	Black	Hispanic
1972	14.6	12.3	21.3	34.3
1973	14.1	11.6	22.2	33.5
1974	14.3	11.9	21.2	33.0
1975	13.9	11.4	22.9	29.2
1976	14.1	12.0	20.5	31.4
1977	14.1	11.9	19.8	33.0
1978	14.2	11.9	20.2	33.3
1979	14.6	12.0	21.1	33.8
1980	14.1	11.4	19.1	35.2
1981	13.9	11.4	18.4	33.2
1982	13.9	11.4	18.4	31.7
1983	13.7	11.2	18.0	31.6
1984	13.1	11.0	15.5	29.8
1985	12.6	10.4	15.2	27.6
1986	12.2	9.7	14.2	30.1
1987	12.7	10.4	14.1	28.6
1988	12.9	9.6	14.5	35.8
1989	12.6	9.4	13.9	33.0
1990	12.1	9.0	13.2	32.4
1991	12.5	8.9	13.6	35.3
1992	11.0	7.7	13.7	29.4
1993	11.0	7.9	13.6	27.5
1994	11.5	7.7	12.6	30.0
1995	12.0	8.6	12.1	30.0
1996	11.1	7.3	13.0	29.4
1997	11.0	7.6	13.4	25.3
1998	11.8	7.7	13.8	29.5
1999	11.2	7.3	12.6	28.6

* Due to relatively small sample sizes, American Indians/Alaskan Natives and Asians/Pacific Islanders are included in the total but are not shown separately.

NOTE: Numbers for years 1987 through 1999 reflect new editing procedures instituted by the Bureau of the Census for cases with missing data on school enrollment items. Numbers for years 1992 through 1999 reflect new wording of the educational attainment item in the CPS beginning in 1992. Numbers for years 1994 through 1999 reflect changes in the CPS due to newly instituted computer-assisted interviewing and the change in the population controls used in the 1990 Census-based estimates, with adjustments for undercounting in the 1990 Census. See *Supplementary Note 2* for more information.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, various years.

Status Dropout Rates, by Race/Ethnicity

Table 23-2 Status dropout rates and number and percentage distribution of dropouts ages 16–24, by selected characteristics: October 1999

Characteristic	Status dropout rate (percent)	Number of status dropouts (thousands)	Population (thousands)	Percent of all dropouts	Percent of population
Total	**11.2**	**3,829**	**34,173**	**100.0**	**100.0**
Sex					
Male	11.9	2,032	17,106	53.1	50.1
Female	10.5	1,797	17,066	46.9	49.9
Race/ethnicity[1]					
White	7.3	1,636	22,408	42.7	65.6
Black	12.6	621	4,942	16.2	14.5
Hispanic	28.6	1,445	5,060	37.7	14.8
Asian/Pacific Islander	4.3	65	1,515	1.7	4.4
Age					
16	3.5	139	3,995	3.6	11.7
17	6.7	278	4,137	7.3	12.1
18	12.6	489	3,870	12.8	11.3
19	13.6	559	4,121	14.6	12.1
20–24	13.1	2,366	18,050	61.8	52.8
Immigration status					
Born outside the 50 states and the District of Columbia					
Hispanic	44.2	944	2,250	26.0	6.6
Non-Hispanic	7.0	133	1,909	3.5	5.6
First generation[2]					
Hispanic	16.1	240	1,494	6.3	4.4
Non-Hispanic	5.0	94	1,893	2.5	5.5
Second generation or more[3]					
Hispanic	16.0	211	1,316	5.5	3.9
Non-Hispanic	8.5	2,156	25,130	56.3	74.1
Region					
Northeast	8.7	531	6,133	13.9	17.9
Midwest	8.3	676	8,177	17.7	23.8
South	12.7	1,516	11,902	39.6	34.8
West	13.8	1,106	8,021	28.9	23.5

[1]Due to relatively small sample sizes, American Indians/Alaskan Natives are included in the total but are not shown separately.

[2]Individuals defined as "first generation" were born in the 50 states or the District of Columbia, and one or both of their parents were born outside the 50 states and the District of Columbia.

[3]Individuals defined as "second generation or more" were born in the 50 states or the District of Columbia, as were both of their parents.

NOTE: Percentages may not add to 100.0 due to rounding. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Survey, 1999.

Mathematics Curriculum and College Enrollment

Table 24-1 Percentage of 1992 high school graduates who completed advanced mathematics courses in high school, by 8th-grade mathematics proficiency and parents' education according to whether they had taken algebra in the 8th grade

8th-grade mathematics proficiency	Parents with no college (first generation)		Parents with some college		Parents with bachelor's degree or higher	
	No algebra in 8th grade	Algebra in 8th grade	No algebra in 8th grade	Algebra in 8th grade	No algebra in 8th grade	Algebra in 8th grade
Total	**18.4**	**49.8**	**30.1**	**74.7**	**50.9**	**89.9**
Below level 1	6.4	—	6.7	—	36.5	—
Level 1 (simple arithmetic)	12.8	43.6	22.0	35.5	32.9	65.2
Level 2 (simple operations)	29.2	56.8	39.6	67.6	57.2	87.4
Level 3 (simple problem solving)	53.8	82.5	67.4	92.6	72.5	94.5

— Sample size too small for a reliable estimate.

NOTE: An example of how the percentages in the tables should be read is as follows. Beginning in row "Level 1" under "8th-grade mathematics proficiency," the 12.8 means "among students who tested at level 2 proficiency, 12.8 percent of first-generation students who did not take algebra in 8th grade completed advanced mathematics in high school."

SOURCE: U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994), Data Analysis System.

Perceptions of College Costs

Table 25-1 Among 6th- to 12th-graders and their parents who reported postsecondary education plans for the student, the percentage distributions according to the accuracy of their estimates for tuition and fees for the postsecondary institution that students planned to attend: 1999

Student or parent characteristic	Percentage of students				Percentage of students' parents			
	Estimated tuition within 25 percent of actual*	Over-estimated	Under-estimated	Could not estimate	Estimated tuition within 25 percent of actual*	Over-estimated	Under-estimated	Could not estimate
Total	**16.3**	**11.9**	**5.2**	**66.6**	**26.0**	**21.0**	**7.1**	**45.8**
Grade								
6–8	11.4	3.0	2.2	83.6	22.9	15.6	5.7	55.9
9–10	16.4	10.4	4.5	68.7	26.2	21.6	5.7	46.5
11–12	24.0	28.1	10.7	37.2	31.0	29.1	11.1	28.9
Parents' education								
Less than high school	13.6	7.5	4.3	74.6	7.2	5.0	2.2	85.5
High school diploma or equivalent	14.7	10.6	5.1	69.6	17.5	13.8	5.1	63.5
Some college, including vocational/technical	14.8	11.0	5.5	68.7	23.9	24.0	8.2	43.9
Bachelor's degree or higher	19.1	14.6	5.2	61.0	38.0	27.0	8.8	26.2
Household income								
$15,000 or less	12.5	9.0	5.3	73.3	12.1	13.7	6.3	67.9
$15,001–30,000	15.9	10.3	6.0	67.9	18.6	15.4	5.4	60.6
$30,001–50,000	14.8	11.7	5.8	67.7	24.6	20.2	7.3	47.9
$50,001–75,000	17.0	14.0	4.9	64.1	32.9	24.4	8.6	34.1
More than $75,000	20.2	13.9	3.8	62.1	38.1	29.1	7.8	25.0

*An accurate estimate was within 25 percent of the actual average tuition and fees for the type of postsecondary institution students intended to attend in their state of residence.

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent and Youth Interview Surveys).

Immediate Transition to College

Table 26-1 Percentage of high school completers who were enrolled in college the October after completing high school, by family income and race/ethnicity: October 1972–99

		Family income[1]				Race/ethnicity[2]				
		Low		Middle	High	White	Black		Hispanic	
October	Total	Annual	3-year average	Annual	Annual	Annual	Annual	3-year average	Annual	3-year average
1972	49.2	26.1	([3])	45.2	63.8	49.7	44.6	([3])	45.0	([3])
1973	46.6	20.3	([3])	40.9	64.4	47.8	32.5	41.4	54.1	48.8
1974	47.6	—	—	—	—	47.2	47.2	40.5	46.9	53.1
1975	50.7	31.2	([3])	46.2	64.5	51.1	41.7	44.5	58.0	52.7
1976	48.8	39.1	32.3	40.5	63.0	48.8	44.4	45.3	52.7	53.6
1977	50.6	27.7	32.4	44.2	66.3	50.8	49.5	46.8	50.8	48.8
1978	50.1	31.4	29.8	44.3	64.0	50.5	46.4	47.5	42.0	46.1
1979	49.3	30.5	31.6	43.2	63.2	49.9	46.7	45.2	45.0	46.3
1980	49.3	32.5	32.2	42.5	65.2	49.8	42.7	44.0	52.3	49.6
1981	53.9	33.6	32.9	49.2	67.6	54.9	42.7	40.3	52.1	48.7
1982	50.6	32.8	33.6	41.7	70.9	52.7	35.8	38.8	43.2	49.4
1983	52.7	34.6	34.0	45.2	70.3	55.0	38.2	38.0	54.2	46.7
1984	55.2	34.5	36.3	48.4	74.0	59.0	39.8	39.9	44.3	49.3
1985	57.7	40.2	35.9	50.6	74.6	60.1	42.2	39.5	51.0	46.1
1986	53.8	33.9	36.8	48.5	71.0	56.8	36.9	43.5	44.0	42.3
1987	56.8	36.9	37.6	50.0	73.8	58.6	52.2	44.2	33.5	45.0
1988	58.9	42.5	42.4	54.7	72.8	61.1	44.4	49.7	57.1	48.5
1989	59.6	48.1	45.6	55.4	70.7	60.7	53.4	48.0	55.1	52.7
1990	60.1	46.7	44.8	54.4	76.6	63.0	46.8	48.9	42.7	52.5
1991	62.5	39.5	42.4	58.4	78.2	65.3	46.4	47.2	57.2	52.6
1992	61.9	40.9	43.6	57.0	79.0	64.3	48.2	50.0	55.0	58.2
1993	61.5	50.4	44.0	56.9	79.3	62.9	55.6	51.3	62.2	55.7
1994	61.9	41.0	41.2	57.8	78.4	64.5	50.8	52.4	49.1	55.0
1995	61.9	34.2	41.5	56.1	83.4	64.3	51.2	52.9	53.7	51.6
1996	65.0	48.6	47.1	62.7	78.0	67.4	56.0	55.4	50.8	57.6
1997	67.0	57.0	50.6	60.8	82.2	68.2	58.5	58.8	65.6	55.3
1998	65.6	46.4	50.9	64.9	77.3	68.5	61.9	59.8	47.4	51.9
1999	62.9	49.4	([3])	59.5	76.0	66.3	58.9	([3])	42.3	([3])

— Not available. Data on family income were not available in 1974.

[1]Low income is the bottom 20 percent of all family incomes, high income is the top 20 percent of all family incomes, and middle income is the 60 percent in between. See *Supplemental Note 2* for further discussion.

[2]Included in the total but not shown separately are high school completers from other racial/ethnic groups.

[3]Due to small sample sizes for the low income, black, and Hispanic categories, 3-year averages also were calculated for each category. For example, the 3-year average for blacks in 1973 is the average percentage of black high school completers ages 16–24 who were enrolled in college the October after completing high school in 1972, 1973, and 1974. Thus, 3-year averages cannot be calculated for 1972 and 1998 and for groups of 3 years in which some data are not available (e.g., 1973–75 for the low-income category).

NOTE: Includes those ages 16–24 completing high school in a given year. The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey methodology for the Current Population Survey was changed and weights were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, various years.

Immediate Transition to College

Table 26-2 Percentage distribution of high school completers who were enrolled in college the October after completing high school according to sex and type of institution: October 1972–99

	Male			Female		
October	Total	2-year	4-year	Total	2-year	4-year
1972	52.7	—	—	46.0	—	—
1973	50.0	14.6	35.4	43.4	15.2	28.2
1974	49.4	16.6	32.8	45.9	13.9	32.0
1975	52.6	19.0	33.6	49.0	17.4	31.6
1976	47.2	14.5	32.7	50.3	16.6	33.8
1977	52.1	17.2	35.0	49.3	17.8	31.5
1978	51.1	15.6	35.5	49.3	18.3	31.0
1979	50.4	16.9	33.5	48.4	18.1	30.3
1980	46.7	17.1	29.7	51.8	21.6	30.2
1981	54.8	20.9	33.9	53.1	20.1	33.0
1982	49.1	17.5	31.6	52.0	20.6	31.4
1983	51.9	20.2	31.7	53.4	18.4	35.1
1984	56.0	17.7	38.4	54.5	21.0	33.5
1985	58.6	19.9	38.8	56.8	19.3	37.5
1986	55.8	21.3	34.5	51.9	17.3	34.6
1987	58.3	17.3	41.0	55.3	20.3	35.0
1988	57.1	21.3	35.8	60.7	22.4	38.3
1989	57.6	18.3	39.3	61.6	23.1	38.5
1990	58.0	19.6	38.4	62.2	20.6	41.6
1991	57.9	22.9	35.0	67.1	26.8	40.3
1992	60.0	22.1	37.8	63.8	23.9	40.0
1993	58.7	22.4	36.3	64.0	22.4	41.6
1994	60.6	23.0	37.5	63.2	19.1	44.1
1995	62.6	25.3	37.4	61.3	18.1	43.2
1996	60.1	21.5	38.5	69.7	24.6	45.1
1997	63.6	21.4	42.2	70.3	24.1	46.2
1998	62.4	24.4	38.0	69.1	24.3	44.8
1999	61.4	21.0	40.5	64.4	21.1	43.3

— Not available. Data for type of institution were not collected until 1973.

NOTE: Includes those ages 16–24 completing high school in a given year. The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey methodology for the Current Population Survey was changed and weights were adjusted. See *Supplemental Note 2* for further discussion. Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, various years.

Immediate Transition to College

Table 26-3 Percentage of high school completers who were enrolled in college the October after completing high school, by parents' education: October 1990–99

Parents' education[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total	**60.1**	**62.5**	**61.9**	**61.5**	**61.9**	**61.9**	**65.0**	**67.0**	**65.6**	**62.9**
Less than high school	33.9	42.6	33.1	47.1	43.0	27.3	45.0	51.4	49.8	36.3
High school diploma or equivalent	49.0	51.0	55.5	52.3	49.9	47.0	56.1	61.7	57.2	54.4
Some college, including vocational/technical	65.6	67.5	67.5	62.7	65.0	70.2	66.6	62.6	67.7	60.3
Bachelor's degree or higher	83.1	87.2	81.3	87.9	82.5	87.7	85.2	86.1	82.3	82.2
Not available[2]	47.7	42.1	38.0	42.0	43.1	30.8	45.6	51.3	50.1	53.1

[1]Parents' highest education level is defined as either the highest educational attainment of the two parents who reside with the student, or if only one parent is in the residence, the highest educational attainment of that parent; or when neither parent resides with the student, the highest educational attainment of the head of the household.

[2]Parents' highest education level is not available for those who do not live with their parents and who are classified as the head of the household (not including those who live in college dormitories), and for those whose parents' educational attainment was not reported. In 1998, approximately 12 percent of high school completers ages 16–24 were in this category.

NOTE: Includes those ages 16–24 completing high school in a given year. The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey methodology for the Current Population Survey was changed and weights were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, various years.

Persistence of Beginning Postsecondary Students

Table 27-1 Number of 1995–96 beginning postsecondary students enrolled and percentage distribution according to attainment by 1998, by initial goal and transfer status

Initial goal and transfer status	Number enrolled (thousands)	Highest degree attained by 1998			No degree		
					Still enrolled		
		Certificate	Associate's	Bachelor's	Less-than 4-year	4-year	Not enrolled
Total[1]	**3,321**	**10.4**	**5.1**	**0.3**	**17.2**	**34.6**	**32.3**
Certificate[2]	469	51.7	2.0	(3)	8.2	1.6	36.5
Did not transfer	430	52.3	1.6	—	6.7	0.9	38.5
Upward or lateral transfer	35	41.2	7.5	(3)	24.9	10.1	16.4
Associate's degree	882	6.2	14.5	0.1	31.6	6.6	41.1
Did not transfer	710	6.2	9.3	—	34.3	2.4	47.8
Downward transfer	19	21.4	8.3	—	33.2	—	37.2
Upward or lateral transfer	153	4.4	39.3	0.4	18.6	26.8	10.5
Bachelor's degree or transfer	1,603	1.5	2.7	0.7	12.5	63.2	19.4
Did not transfer	1,217	1.3	2.2	0.9	8.7	65.3	21.7
Downward transfer	96	5.1	3.1	—	60.6	12.1	19.1
Lateral transfer	289	1.0	4.8	0.2	12.7	71.5	9.8

—Not applicable.

[1]Includes students without a specific degree goal.

[2]Includes a small number with a downward transfer.

[3] Value less than 0.05 percent.

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998).

Remediation and Degree Completion

Table 29-1 Percentage distribution of postsecondary education students in degree-granting institutions according to type and amount of remedial coursework and degree completion: 1980–93

	Type and amount of remedial coursework				
Highest degree	Any reading	Two or fewer courses: mathematics only	Two or more courses but no reading courses (and not two mathematics courses)	Only one course, not mathematics or reading	No courses
Total	**100**	**100**	**100**	**100**	**100**
None	66	55	57	45	44
Associate's	13	10	17	10	5
Bachelor's or more	21	35	26	45	51

NOTE: Higher education students were 1982 high school seniors who attended college by age 29–30. Students who attended only subbaccalaureate vocational/technical schools are not included. See *Supplemental Note 6* for the definition of remedial courses. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Postsecondary Education Transcript Study" (HS&B:So PETS).

Table 29-2 Percentage distribution of students who took any remedial reading or mathematics courses in college according to other remedial coursework taken: 1980–93

	Number of additional remedial courses					Any remedial mathematics	Any remedial reading
Remedial courses	None	One	Two	Three	Four or more		
Any remedial reading courses	15.1	23.2	19.7	12.6	29.3	66.7	—
Any remedial mathematics courses	46.0	23.0	14.9	6.4	9.7	—	23.6

— Not applicable.

NOTE: See *Supplemental Note 6* for the definition of remedial courses. Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Postsecondary Education Transcript Study" (HS&B:So PETS).

Table 29-3 Percentage distribution of postsecondary education students according to type and amount of remedial coursework in college and types of degree-granting institutions attended: 1980–93

			Type and amount of remedial coursework				
Institution attended	Percentage of all students	Total	Any reading	Two or fewer courses: mathematics only	Two or more courses but no reading courses (and not two mathematics courses)	Only one course, not mathematics or reading	No courses
Total	**100**	**100**	**13**	**14**	**17**	**9**	**47**
4-year only	44	100	9	13	9	9	60
2-year only	29	100	18	13	22	9	37
2-year and 4-year only	18	100	12	19	24	9	36
Other combinations*	9	100	13	15	22	9	41

* Attendance at subbaccalaureate vocational/technical school in addition to 2-year and/or 4-year institutions.

NOTE: Higher education students were 1982 high school seniors who attended college by age 29–30. Students who attended only subbaccalaureate vocational/technical schools are not included. See *Supplemental Note 6* for the definition of remedial courses. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Postsecondary Education Transcript Study" (HS&B:So PETS).

Degrees Earned by Women

Table 30-1 Percentage of master's and doctoral degrees earned by women, by field of study: 1970–71 and 1997–98

Field of study	Master's degrees		Doctoral degrees	
	1970–71	1997–98	1970–71	1997–98
Total*	**40.1**	**57.1**	**14.3**	**42.0**
Health professions and related sciences	55.3	77.7	16.5	62.5
Education	56.2	76.4	21.0	63.2
Psychology	40.6	73.1	24.0	67.5
English language and literature/letters	60.6	66.1	28.8	59.1
Communications	34.6	61.3	13.1	52.4
Visual and performing arts	47.4	58.8	22.2	51.3
Biological/life sciences	33.6	52.4	16.3	42.5
Social sciences and history	28.5	46.7	13.9	40.8
Business management and administrative services	3.9	38.6	2.8	31.4
Mathematics	27.1	41.0	7.6	25.7
Agriculture and natural resources	5.9	43.0	2.9	28.5
Physical sciences	13.3	35.9	5.6	25.2
Computer and information sciences	10.3	29.0	2.3	16.3
Engineering	1.1	19.9	0.6	12.2

*Includes other fields of study not shown separately.

NOTE: See *Supplemental Note 11* for information on the fields of study.

SOURCE: U.S. Department of Education, NCES. 1970–71 Higher Education General Information Survey (HEGIS), "Degrees and Other Formal Awards Conferred" survey and 1997–98 Integrated Postsecondary Education Data System (IPEDS), "Completions" survey.

Educational Attainment

Table 31-1 Percentage of 25- to 29-year-olds who completed high school, by race/ethnicity and sex: March 1971–2000

	All*			White			Black			Hispanic		
March	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
1971	77.7	79.1	76.5	81.7	83.0	80.5	58.8	56.7	60.5	48.3	51.3	45.7
1972	79.8	80.5	79.2	83.4	84.1	82.7	64.1	61.7	66.0	47.6	47.1	47.9
1973	80.2	80.6	79.8	84.0	84.2	83.9	64.1	63.2	64.9	52.3	54.2	50.6
1974	81.9	83.1	80.8	85.5	86.0	85.0	68.4	71.5	65.8	54.1	55.9	52.5
1975	83.1	84.5	81.7	86.6	88.0	85.2	71.1	72.3	70.1	53.1	52.2	53.9
1976	84.7	86.0	83.5	87.7	89.0	86.4	74.0	72.8	74.9	58.1	57.6	58.4
1977	85.4	86.6	84.2	88.6	89.2	88.0	74.5	77.5	72.0	58.0	61.9	54.6
1978	85.3	86.0	84.6	88.5	88.8	88.2	77.4	78.7	76.3	56.5	58.5	54.6
1979	85.6	86.3	84.9	89.2	89.8	88.5	74.7	74.0	75.3	57.1	55.5	58.6
1980	85.4	85.4	85.5	89.2	89.1	89.2	76.7	74.8	78.3	57.9	57.0	58.8
1981	86.3	86.5	86.1	89.8	89.7	89.9	77.6	78.8	76.6	59.8	59.1	60.4
1982	86.2	86.3	86.1	89.1	89.1	89.1	81.0	80.4	81.5	61.0	60.6	61.2
1983	86.0	86.0	86.0	89.3	89.3	89.3	79.5	79.0	79.9	58.4	57.8	58.9
1984	85.9	85.6	86.3	89.4	89.4	89.4	79.1	75.9	81.7	58.6	56.7	60.1
1985	86.2	85.9	86.4	89.5	89.2	89.9	80.5	80.6	80.5	61.0	58.6	63.1
1986	86.1	85.9	86.4	89.6	88.7	90.4	83.5	86.4	81.0	59.1	58.2	60.0
1987	86.0	85.5	86.4	89.4	88.9	90.0	83.5	84.5	82.6	59.8	58.6	61.0
1988	85.9	84.7	87.1	89.7	88.4	90.9	80.9	80.9	80.9	62.3	59.9	64.8
1989	85.5	84.4	86.5	89.3	88.2	90.4	82.3	80.5	83.8	61.0	61.0	61.1
1990	85.7	84.4	87.0	90.1	88.6	91.6	81.8	81.4	82.0	58.2	56.6	59.9
1991	85.4	84.9	85.8	89.8	89.2	90.5	81.8	83.6	80.1	56.7	56.4	57.2
1992	86.3	86.1	86.5	90.6	90.3	91.1	80.9	82.7	79.3	60.9	61.1	60.6
1993	86.7	86.0	87.4	91.2	90.7	91.8	82.7	84.8	80.8	60.9	58.2	63.9
1994	86.1	84.5	87.6	91.1	90.0	92.3	84.1	82.8	85.3	60.3	58.0	63.0
1995	86.9	86.3	87.4	92.5	92.0	93.0	86.8	88.4	85.3	57.2	55.7	58.7
1996	87.3	86.5	88.1	92.6	92.0	93.1	86.0	87.9	84.5	61.1	59.7	62.9
1997	87.4	85.8	88.9	92.9	91.7	94.0	86.9	85.8	87.8	61.8	59.2	64.8
1998	88.1	86.6	89.6	93.6	92.5	94.6	88.2	88.4	88.1	62.8	59.9	66.3
1999	87.8	86.1	89.5	93.0	91.9	94.1	88.7	88.2	89.2	61.6	57.4	65.9
2000	88.1	86.7	89.4	94.0	92.9	95.2	86.8	87.6	86.3	62.8	59.2	66.4

* Included in the totals but not shown separately are those from other racial/ethnic categories. See *Supplemental Note 1* for more information about the racial/ethnic categories.

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey instrument for the CPS was changed and weights were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

Educational Attainment

Table 31-2 Percentage of 25- to 29-year-old high school completers with some college, by race/ethnicity and sex: March 1971–2000

	All*			White			Black			Hispanic		
March	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
1971	43.6	48.7	38.4	44.9	50.2	39.5	30.9	29.0	32.2	30.6	38.3	22.8
1972	45.1	50.7	39.5	46.3	52.3	40.2	33.3	31.7	34.6	32.1	37.2	28.3
1973	45.3	51.4	39.4	46.6	53.0	40.2	33.5	33.5	33.5	31.6	39.4	24.5
1974	48.9	53.8	44.1	50.4	55.6	45.2	35.4	36.9	34.1	39.2	44.1	34.5
1975	50.1	56.0	44.1	51.2	57.3	44.9	38.7	41.0	36.8	41.1	50.4	32.6
1976	52.1	58.2	46.0	53.8	60.1	47.4	37.2	40.5	34.7	36.3	42.3	31.2
1977	53.2	58.0	48.5	54.8	59.9	49.7	41.7	44.2	39.6	41.1	42.6	39.5
1978	54.4	59.3	49.6	55.9	61.4	50.3	44.9	45.2	44.4	43.6	47.2	40.1
1979	54.1	57.7	50.6	55.7	59.4	51.9	41.7	40.7	42.5	44.0	50.7	38.0
1980	52.3	55.8	49.0	53.8	57.3	50.3	42.3	43.6	41.3	39.9	45.5	34.7
1981	50.1	52.7	47.5	51.2	54.1	48.3	42.5	43.0	42.2	39.6	41.7	37.7
1982	49.9	51.5	48.3	50.7	52.2	49.1	45.8	47.4	44.6	39.6	40.6	38.7
1983	50.6	52.1	49.0	51.6	53.4	49.7	41.6	42.0	41.2	42.9	41.1	44.6
1984	50.1	50.9	49.3	51.0	51.7	50.3	41.6	41.6	41.7	45.6	47.5	44.0
1985	50.8	51.5	50.1	51.8	52.5	51.2	42.7	42.4	42.9	44.2	45.9	42.9
1986	51.0	51.4	50.8	52.3	52.8	51.8	43.4	41.5	45.2	42.9	42.8	43.0
1987	50.7	50.4	51.0	51.4	51.5	51.4	43.0	38.4	47.0	44.6	46.3	43.1
1988	50.8	51.6	50.1	51.8	52.4	51.2	41.2	42.9	39.7	44.9	44.3	45.6
1989	51.3	52.0	50.5	52.8	53.4	52.2	42.1	42.2	41.9	44.3	44.8	43.9
1990	52.0	51.8	52.1	53.6	53.4	53.8	44.1	43.0	45.0	40.1	40.4	39.8
1991	53.1	52.3	53.8	54.9	54.7	55.1	43.2	38.3	47.7	42.2	40.9	43.4
1992	56.7	56.0	57.4	58.8	58.3	59.2	44.7	42.3	46.9	46.8	44.5	49.6
1993	58.9	57.6	60.1	61.0	60.3	61.6	48.4	43.6	52.5	48.8	46.1	51.9
1994	60.5	58.9	62.0	62.7	61.0	64.3	49.6	48.7	50.3	51.5	48.3	55.0
1995	62.2	60.6	63.9	64.6	62.6	66.7	52.0	51.2	52.5	50.3	48.0	52.7
1996	64.7	63.1	66.3	67.0	65.5	68.4	55.9	54.5	57.1	50.9	47.0	55.6
1997	65.4	64.0	66.8	68.2	66.9	69.5	53.7	50.2	56.5	53.9	51.9	56.1
1998	65.6	63.0	68.1	68.5	66.2	70.8	56.6	52.9	59.7	51.7	48.9	54.7
1999	66.1	63.6	68.5	68.7	66.1	71.2	57.8	52.1	62.3	50.6	47.7	53.2
2000	66.2	63.5	68.8	68.2	65.1	71.2	60.8	57.5	63.2	52.2	48.9	55.2

* Included in the totals but not shown separately are those from other racial/ethnic categories. See *Supplemental Note 1* for more information about the racial/ethnic categories.

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey instrument for the CPS was changed and weights were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

Educational Attainment

Table 31-3 Percentage of 25- to 29-year-old high school completers with a bachelor's degree or higher, by race/ethnicity and sex: March 1971–2000

	All*			White			Black			Hispanic		
March	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
1971	22.0	25.8	18.1	23.1	27.0	19.1	11.5	12.1	10.9	10.5	15.4	5.8
1972	23.7	27.3	20.2	24.9	28.6	21.1	13.1	11.6	14.3	7.8	9.5	6.4
1973	23.6	26.8	20.5	24.8	28.3	21.3	12.7	11.3	13.8	10.8	12.4	9.7
1974	25.3	28.7	21.8	27.2	31.1	23.2	11.5	12.3	11.0	10.1	8.9	11.2
1975	26.3	29.7	22.9	27.5	31.1	23.7	14.7	15.3	14.2	16.6	19.7	13.4
1976	28.0	32.0	24.1	29.3	33.5	25.0	17.6	16.5	18.6	12.7	17.9	8.2
1977	28.1	31.2	25.1	29.8	33.4	26.3	16.9	16.5	17.3	11.5	11.3	11.7
1978	27.3	30.2	24.4	28.9	32.6	25.3	15.2	13.6	16.5	17.1	16.4	17.9
1979	27.0	29.9	24.2	28.6	31.6	25.5	16.6	17.8	15.7	12.9	14.2	11.4
1980	26.3	28.1	24.5	28.0	30.1	26.0	15.0	14.0	15.8	13.2	15.0	11.8
1981	24.7	26.6	22.8	26.3	28.4	24.2	14.9	15.4	14.5	12.5	14.4	10.9
1982	25.2	26.9	23.4	26.7	28.8	24.6	15.6	14.6	16.4	15.9	17.8	14.2
1983	26.2	27.8	24.6	27.4	29.4	25.4	16.2	16.5	15.9	17.8	16.8	18.8
1984	25.5	27.1	24.0	27.0	28.5	25.4	14.8	17.1	13.0	18.1	17.0	19.2
1985	25.7	26.9	24.6	27.3	28.6	26.0	14.4	12.9	15.6	18.2	18.6	17.7
1986	26.0	26.7	25.3	28.1	29.1	27.1	14.2	11.9	16.3	15.3	15.4	15.2
1987	25.6	26.1	25.2	27.6	28.0	27.1	13.8	14.0	13.6	14.5	15.7	13.4
1988	26.4	27.6	25.2	28.0	29.1	26.9	14.8	15.3	14.4	18.1	19.8	16.3
1989	27.3	28.3	26.5	29.5	30.5	28.5	15.4	15.0	15.6	16.5	15.7	17.2
1990	27.1	28.0	26.2	29.3	30.0	28.6	16.4	18.6	14.5	14.0	12.9	15.2
1991	27.2	27.0	27.3	29.7	29.7	29.8	13.4	13.7	13.1	16.3	14.4	18.1
1992	27.3	26.9	27.8	30.0	29.5	30.4	13.7	14.2	13.2	15.6	14.3	17.0
1993	27.3	27.2	27.4	29.8	30.0	29.5	16.1	14.8	17.2	13.6	12.1	15.3
1994	27.0	26.6	27.4	29.7	29.8	29.6	16.2	14.0	17.9	13.3	11.3	15.5
1995	28.4	28.4	28.5	31.2	30.9	31.4	17.8	19.7	16.1	15.5	14.0	17.1
1996	31.1	30.2	32.0	34.1	33.6	34.7	17.0	13.9	19.6	16.4	17.1	15.6
1997	31.8	30.7	32.9	35.2	34.1	36.2	16.4	13.7	18.5	17.8	16.1	19.6
1998	31.0	29.6	32.4	34.5	32.9	36.1	17.9	16.1	19.3	16.5	15.9	17.1
1999	32.1	31.2	33.0	36.1	34.8	37.3	16.9	14.9	18.6	14.4	13.0	15.8
2000	33.0	32.2	33.7	36.2	34.8	37.6	20.6	20.9	20.2	15.4	14.0	16.6

* Included in the totals but not shown separately are those from other racial/ethnic categories. See *Supplemental Note 1* for more information about the racial/ethnic categories.

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey instrument for the CPS was changed and weights were adjusted. See *Supplemental Note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

International Comparisons of Educational Attainment

Table 32-1 Percentage of the population that had completed secondary and higher education, by age, sex, and country: 1998

G-7 countries	Secondary education[1]					Higher education[2]				
	25–64	25–34	35–44	45–54	55–64	25–64	25–34	35–44	45–54	55–64
Canada										
Total	**79.7**	**86.7**	**82.7**	**76.9**	**64.8**	**18.6**	**22.6**	**17.9**	**18.5**	**13.0**
Male	78.5	85.7	81.4	77.2	61.8	19.7	21.8	18.8	21.0	15.7
Female	79.0	87.7	83.9	76.5	58.6	17.2	23.4	17.1	16.0	8.5
France[3]										
Total	**60.7**	**75.3**	**63.4**	**55.7**	**40.9**	**10.5**	**14.7**	**9.8**	**9.7**	**6.3**
Male	63.8	74.8	65.9	60.8	47.0	11.6	14.1	10.9	11.6	8.9
Female	57.8	75.8	61.1	50.7	35.2	9.4	15.3	8.7	7.9	3.8
Germany										
Total	**83.8**	**87.5**	**86.8**	**83.9**	**76.0**	**14.0**	**13.9**	**16.3**	**15.4**	**10.1**
Male	88.6	89.1	89.8	89.3	86.0	17.0	14.8	18.8	19.7	14.8
Female	78.8	85.8	83.8	78.4	66.0	10.8	13.0	13.7	10.9	5.4
Italy										
Total	**41.0**	**54.5**	**49.7**	**35.0**	**19.5**	**8.7**	**9.2**	**11.1**	**9.2**	**4.8**
Male	42.5	51.7	50.4	39.7	23.4	9.2	8.1	11.5	10.5	6.6
Female	39.6	57.3	49.1	30.4	15.9	8.3	10.4	10.8	7.9	3.1
Japan										
Total	**79.9**	**93.5**	**91.4**	**77.3**	**57.0**	**17.7**	**23.5**	**22.8**	**15.0**	**9.3**
Male	80.0	92.2	89.7	77.0	60.0	27.0	33.1	34.3	24.3	16.2
Female	79.9	94.6	93.1	77.5	54.2	8.3	13.7	11.1	5.8	2.8
United Kingdom[3]										
Total	**60.2**	**63.0**	**61.7**	**58.0**	**53.0**	**15.4**	**17.0**	**16.6**	**15.0**	**10.7**
Male	69.5	68.3	72.3	72.0	64.1	16.8	18.3	18.4	17.1	11.6
Female	49.8	55.1	51.1	46.6	38.8	13.9	15.7	14.7	12.9	9.0
United States										
Total	**86.5**	**87.9**	**88.0**	**87.3**	**79.5**	**26.6**	**27.5**	**26.3**	**28.8**	**22.0**
Male	85.8	86.8	87.0	86.6	80.2	27.8	26.2	26.9	31.8	26.4
Female	87.1	89.0	89.0	87.9	78.9	25.3	28.7	25.8	25.9	17.9

[1]Includes individuals who have completed at least upper secondary education.

[2]Includes individuals who have completed undergraduate or advanced research programs.

[3]Not all secondary education programs met minimum criteria required by the International Standard Classification of Education (ISCED).

SOURCE: Organisation for Economic Co-operation and Development, Centre for Educational Research and Innovation. *Education at a Glance: OECD Indicators 2000*, 2000.

Trends in English and Foreign Language Coursetaking

Table 33-1 Percentage distribution of high school graduates according to the type of English courses they completed: 1982, 1987, 1990, 1992, 1994, and 1998

Year	No English[1]	Low academic level[2]	Regular English (no low or honors) courses	Advanced academic level[3]			Total
				Less than 50 percent honors	50–74 percent honors	75–100 percent honors	
1982	0.1	10.0	76.7	6.1	3.3	3.8	13.3
1987	0.7	22.1	55.6	7.9	5.0	8.7	21.5
1990	0.6	19.6	60.2	7.0	3.6	9.1	19.6
1992	0.2	18.0	57.3	7.6	5.8	11.1	24.4
1994	0.8	17.6	56.5	7.7	5.4	12.0	25.1
1998	0.9	13.7	56.1	9.1	7.7	12.4	29.3

[1]Indicates that student transcript records did not list any recognized English courses; however, these students may have studied some English. If students took only English as a second language (ESL) courses for credit, they would be listed in this category.

[2]Low academic level courses include all general English courses classified as "below grade level." Students may have taken a general English course classified as "honors" and be classified in the low academic level if the percentage of "below grade level" courses completed was greater than the percentage of "honors" courses completed.

[3]Includes students who completed a general English course classified as "below grade level" if they completed a greater percentage of "honors" courses than "below grade level" courses.

NOTE: For each graduate, the percentages of completed courses classified as "below level," "at grade level," and "honors" were calculated. (Not all students completed 4 years of English.) After the percentage of completed courses at each level had been calculated, the percentage of graduates who fit the category requirements for each level was determined, as explained in *Supplemental Note 6*. Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Second Follow-up" (HS&B:1980/1984); National Education Longitudinal Study of 1988 Eighth Graders, "High School Transcript Study" (NELS:1992); and 1987, 1990, 1992, 1994, and 1998 National Assessment of Educational Progress (NAEP) High School Transcript Studies.

Table 33-2 Percentage distribution of high school graduates according to the highest level of foreign language courses completed: 1982, 1987, 1990, 1992, 1994, and 1998

Year	Highest level of primary foreign language coursework completed*					
	None	Low academic level	Advanced academic level			Total
			Year 3	Year 4	AP	
1982	45.6	39.8	8.9	4.5	1.2	14.6
1987	33.3	47.5	11.9	5.4	1.9	19.2
1990	26.9	51.4	12.9	5.6	3.2	21.7
1992	22.5	51.8	14.8	7.7	3.2	25.7
1994	22.3	51.8	15.0	7.8	3.1	25.9
1998	19.4	50.7	17.4	8.6	4.1	30.0

*These figures include only students who studied Spanish, French, German, or Latin because these are the only foreign languages commonly offered in high schools for 4 years or more. Some students in each category also studied more than one foreign language.

NOTE: The distribution of graduates among the various levels of foreign language courses was determined by the level of the most academically advanced course they had completed. Graduates who had completed courses in different languages were counted according to the highest level of course completed. Graduates may have completed advanced levels of courses without having taken courses at lower levels. See *Supplemental Note 6* for more details on these levels. Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Second Follow-up" (HS&B:1980/1984); National Education Longitudinal Study of 1988 Eighth Graders, "High School Transcript Study" (NELS:1992); and 1987, 1990, 1992, 1994, and 1998 National Assessment of Educational Progress (NAEP) High School Transcript Studies.

Trends in High School Occupational Coursetaking

Table 35-1 Average credits earned in vocational education and percentage distribution of credits earned by public high school graduates, by vocational curriculum: 1982–98

Vocational curriculum	1982	1990	1992	1994	1998
			Average credits earned		
Total	**4.68**	**4.19**	**3.99**	**3.96**	**3.99**
Occupational education	3.03	2.89	2.84	2.79	2.87
General labor market preparation	0.95	0.73	0.62	0.64	0.61
Family and consumer sciences education	0.69	0.57	0.54	0.52	0.51
			Percentage distribution of credits earned*		
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Occupational education	59.4	64.2	67.9	67.1	68.4
General labor market preparation	25.4	21.5	18.2	19.1	18.1
Family and consumer sciences education	15.2	14.3	13.9	13.7	13.5

*These percentages represent the average percentage distribution for graduates earning vocational credits.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "First Follow-up" (HS&B:1980/1982) and High School Transcript Study; National Education Longitudinal Study of 1988 Eighth Graders, "Second Follow-up" (NELS:1988/1992) and High School Transcript Study; and 1990, 1994, and 1998 National Assessment of Educational Progress (NAEP) High School Transcript Studies.

Table 35-2 Percentage of public high school graduates who were investors, concentrators, and investors who concentrated in occupational education: 1982–98

Level of occupational coursetaking	1982	1990	1992	1994	1998
Occupational investors[1]	46.2	43.0	42.2	42.0	43.8
Occupational concentrators[2]	33.7	27.8	24.9	25.4	25.0
Occupational investors who were concentrators	72.8	64.6	59.1	60.6	57.0

[1]Graduates with 3.0 or more occupational credits.

[2]Graduates with 3.0 or more occupational credits in a single program area.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "First Follow-up" (HS&B:1980/1982) and High School Transcript Study; National Education Longitudinal Study of 1988 Eighth Graders, "Second Follow-up" (NELS:1988/1992) and High School Transcript Study; and 1990, 1994, and 1998 National Assessment of Educational Progress (NAEP) High School Transcript Studies.

Trends in High School Occupational Coursetaking

Table 35-3 Percentage of public high school graduates completing advanced academic coursework, by occupational investment and academic subject: 1982–98

Level of occupational coursetaking and academic subject	1982	1990	1992	1994	1998	Absolute change, 1982 to 1998
Total graduates						
Advanced mathematics	22.6	28.7	34.0	36.3	38.3	15.7
Advanced science	27.7	45.5	47.8	51.8	57.2	29.5
Advanced English	12.1	19.0	22.8	23.8	24.3	12.2
Occupational investors (3.0 or more occupational credits)						
Advanced mathematics	11.7	15.3	21.1	21.8	28.2	16.5
Advanced science	14.8	27.0	32.2	35.0	44.7	29.9
Advanced English	7.3	10.2	14.0	13.8	18.0	10.7
All other students (less than 3.0 occupational credits)						
Advanced mathematics	32.0	38.8	43.5	46.7	46.2	14.2
Advanced science	38.7	59.5	59.3	63.9	66.9	28.2
Advanced English	16.2	25.5	29.1	30.9	29.3	13.1

NOTE: See *Supplemental Note 6* for descriptions of advanced coursetaking in mathematics, science, and English.

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "First Follow-up" (HS&B:1980/1982) and High School Transcript Study; National Education Longitudinal Study of 1988 Eighth Graders, "Second Follow-up" (NELS:1988/1992) and High School Transcript Study; and 1990, 1994, and 1998 National Assessment of Educational Progress (NAEP) High School Transcript Studies.

International Comparisons of Quality in 8th-Grade Mathematics Lessons

Table 36-1 Percentage distribution of teachers' responses to the question "What was the main thing you wanted students to learn from today's lesson?", by response and country: 1994–95

Questionnaire response*	United States	Germany	Japan
Mathematical skills	61	55	25
Mathematical thinking	21	31	73
Social/motivational	4	2	0
Test preparation	5	0	0
Indeterminable	9	13	2

*Mathematical skills = Teacher responses that emphasized the teaching of how to solve specific kinds of problems, use of standard formulas, etc.; Mathematical thinking = Teacher responses that emphasized students' exploration, development, and comprehension of mathematical concepts, or the discovery of multiple solutions to a problem; Social/motivational = Teacher responses that emphasized nonmathematical goals, such as "listening to others," or the creation of interest in some aspect of mathematics; Test preparation = Teacher responses that focused on preparing for an upcoming test; and Indeterminable = Teacher responses that were not possible to categorize, usually because they were too vague or incomplete.

NOTE: Percentages may not add to 100 due to rounding. See *Supplemental Note 5* for more detail on the Third International Mathematics and Science Study (TIMSS).

SOURCE: U.S. Department of Education, NCES. *The TIMSS Videotape Classroom Study: Methods and Findings From an Exploratory Research Project on Eighth-Grade Mathematics Instruction in Germany, Japan, and the United States* (NCES 1999–074), 1999.

Table 36-2 Percentage distribution of 8th-grade mathematics lessons containing task-controlled tasks, solver-controlled tasks, or a combination of task- and solver-controlled tasks, by country: 1994–95

Locus of control*	United States	Germany	Japan
All task	83	48	17
Combination of task and solver	8	33	43
All solver	9	19	40

*A task-controlled teacher demonstrates a particular solution method to students and asks them to replicate that solution; a solver-controlled teacher encourages students to find alternative solution paths on their own.

NOTE: Percentages may not add to 100 due to rounding. See *Supplemental Note 5* for more detail on the Third International Mathematics and Science Study (TIMSS).

SOURCE: U.S. Department of Education, NCES. *The TIMSS Videotape Classroom Study: Methods and Findings From an Exploratory Research Project on Eighth-Grade Mathematics Instruction in Germany, Japan, and the United States* (NCES 1999–074), 1999.

Table 36-3 Percentage of lessons with nodes coded as including illustrations, motivations, increase in complexity, and deductive reasoning, by country: 1994–95

Codes	United States	Germany	Japan
Illustration	46	47	48
Motivation	8	40	45
Increase in complexity	3	17	4
Deductive reasoning	0	20	61

NOTE: For the purposes of analysis, lessons were broken down into nodes (i.e., segments of lesson content) and links between nodes. The character of instruction of each node and the type of relationship established by each link was identified and coded. For a full explanation of nodes, links, and the coded categories, see NCES 1999–074. See *Supplemental Note 5* for more detail on the Third International Mathematics and Science Study (TIMSS).

SOURCE: U.S. Department of Education, NCES. *The TIMSS Videotape Classroom Study: Methods and Findings From an Exploratory Research Project on Eighth-Grade Mathematics Instruction in Germany, Japan, and the United States* (NCES 1999–074), 1999.

Class Size of Kindergartens

Table 37-1 Average size of kindergarten classrooms and percentage distribution according to class size and selected characteristics: Fall 1998

Characteristic	Average class size	Class size*	
		15 or fewer students	More than 15 students
Total	**19**	**20**	**80**
Program type			
Full-day	20	19	81
Part-day	18	22	78
Control of school			
Public	20	15	85
Private	18	41	59
Percent minority			
Less than 10	19	30	70
10–24	19	19	81
25–49	19	18	88
50–75	19	20	80
More than 75	20	14	86

* Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, "Kindergarten Class of 1998–99," Fall 1998.

Student/Teacher Ratios in Public Elementary and Secondary Schools

Table 38-1 Public elementary and secondary student/teacher ratios, by instructional level, school type, and enrollment: 1990–98

Instructional level, school type, and enrollment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Elementary	**18.2**	**18.2**	**18.1**	**18.3**	**18.0**	**18.1**	**17.9**	**17.4**	**17.0**
Less than 300	16.0	16.1	15.9	16.0	15.7	15.7	15.6	15.3	15.1
300–999	18.4	18.4	18.3	18.4	18.2	18.2	17.9	17.5	17.1
1,000 or more	19.6	19.7	19.8	19.9	19.7	19.8	19.6	19.1	18.7
Secondary	**16.7**	**17.0**	**17.4**	**17.4**	**17.6**	**17.7**	**17.6**	**17.4**	**17.1**
Less than 300	12.3	12.3	12.3	12.6	12.7	12.8	12.7	12.5	12.5
300–999	15.8	16.1	16.4	16.5	16.5	16.6	16.4	16.2	16.0
1,000 or more	18.3	18.6	19.0	18.7	19.0	19.1	19.1	18.8	18.5
Combined	**15.8**	**16.1**	**15.8**	**16.1**	**16.1**	**16.0**	**15.7**	**15.3**	**14.6**
Less than 300	11.0	11.2	10.9	11.2	11.3	10.3	10.0	9.7	10.4
300–999	16.1	16.2	15.5	16.1	15.9	16.1	16.0	15.7	15.1
1,000 or more	18.3	18.6	19.0	18.8	18.9	19.0	18.7	18.3	17.8
Special education*	**6.5**	**6.8**	**7.0**	**7.4**	**6.9**	**7.2**	**7.4**	**7.6**	**7.3**
Less than 300	6.0	5.9	6.1	6.3	6.3	6.2	6.4	6.6	6.2
300–999	7.3	8.5	8.9	10.0	9.3	9.6	9.4	9.3	10.3
1,000 or more	7.3	8.5	10.6	9.7	5.9	7.8	8.0	11.5	8.6
Alternative education*	**14.2**	**15.8**	**16.5**	**17.4**	**18.0**	**16.6**	**16.6**	**16.5**	**16.4**
Less than 300	10.9	12.7	14.2	14.2	13.7	13.0	13.0	13.0	13.1
300–999	18.1	18.9	18.6	20.8	21.7	21.8	20.4	20.5	20.2
1,000 or more	19.3	24.4	23.0	22.4	28.5	22.3	25.6	23.7	22.4

*Includes students at both the elementary and secondary levels.

NOTE: Data from schools that did not report both student enrollment and the number of teachers employed were not included in the calculations of these student/teacher ratios. Teacher data for elementary schools include prekindergarten. Revised from previous estimates.

SOURCE: U.S. Department of Education, NCES. Common Core of Data (CCD), various years.

Teachers' Readiness to Use Computers and the Internet

Table 39-1 Percentage of public school teachers who reported using computers and the Internet for various activities at school, by how well prepared they felt to use computers or the Internet for instruction: 1999

Teachers' feelings of preparedness	Create instructional materials	Gather information for lesson plans	Access model lesson plans	Access research and best practice examples	Multimedia presentations	Administrative recordkeeping	Communicate with colleagues	Communicate with parents	Communicate with students	Post homework/ assignments
All public school teachers	**78**	**59**	**34**	**37**	**36**	**51**	**50**	**25**	**12**	**17**
Not at all	50	28	12	11	12	34	28	9	4	9
Somewhat	80	59	31	34	30	48	48	24	10	17
Well/very well	88	71	47	52	55	62	63	32	17	20

NOTE: Excludes teachers who reported that computers were not available to them anywhere in the school.
SOURCE: U.S. Department of Education, NCES. Fast Response Survey System, "Public School Teachers' Use of Computers and the Internet," FRSS 70, 1999.

Table 39-2 Percentage of public school teachers who reported assigning students various activities that use computers or the Internet, by how well prepared they felt to use computers or the Internet for instruction: 1999

Teachers' feelings of preparedness	Practice drills	Solve problems/ analyze data	Word processing/ spreadsheets	Graphical presentations	Demonstrations/ simulations	Multimedia projects	CD-ROM research	Internet research
All public school teachers	**50**	**50**	**61**	**43**	**39**	**45**	**48**	**51**
Not at all	20	14	27	19	14	23	19	23
Somewhat	49	47	56	37	32	38	44	46
Well/very well	63	66	80	63	59	63	66	68

NOTE: Excludes teachers who reported that computers were not available to them anywhere in the school.
SOURCE: U.S. Department of Education, NCES. Fast Response Survey System, "Public School Teachers' Use of Computers and the Internet," FRSS 70, 1999.

Table 39-3 Percentage distribution of public school teachers who reported participating in professional development activities related to using computers or the Internet according to how well prepared they felt and according to hours of professional development, by level of preparedness: 1999

Teachers' degree and feelings of preparedness	All public school teachers	Hours of professional development			
		0 hours	1–8 hours	9–32 hours	More than 32 hours
All teachers reporting professional development in using computers or the Internet during the last 3 years	**100**	**10**	**43**	**34**	**12**
Teachers' feelings of preparedness					
Not at all	**13**	32	19	5	2
Somewhat	**53**	47	55	61	32
Well/very well	**33**	22	26	34	66

NOTE: Teachers who reported that computers were not available to them anywhere in the school are included. Percentages may not add to 100 due to rounding.
SOURCE: U.S. Department of Education, NCES. Fast Response Survey System, "Public School Teachers' Use of Computers and the Internet," FRSS 70, 1999.

Teachers' Readiness to Use Computers and the Internet

Table 39-4 Percentage distribution of public school teachers according to how well prepared they felt to use computers and the Internet for instruction, by number of years of teaching experience: 1999

Teachers' feelings of preparedness	All public school teachers	Years of teaching experience			
		3 or fewer	4–9	10–19	20 or more
Not at all	**13**	10	10	14	16
Somewhat	**53**	45	49	55	57
Well/very well	**33**	45	41	31	27

NOTE: Excludes teachers who reported that computers were not available to them anywhere in the school. Percentages may not add to 100 due to rounding.
SOURCE: U.S. Department of Education, NCES. Fast Response Survey System, "Public School Teachers' Use of Computers and the Internet," FRSS 70, 1999.

Table 39-5 Percentage of public school teachers who reported various conditions were barriers to their using computers and the Internet for instruction, by extent to which they felt these conditions were barriers: 1999

Type of barriers	Total	Teachers' perceptions		
		Small barrier	Moderate barrier	Great barrier
Lack of release time for teachers to learn, practice, or plan ways to use computers or the Internet	82	23	23	37
Lack of time in schedule for students to use computers in class	80	21	27	32
Not enough computers	78	18	21	38
Lack of good instructional software	71	29	22	20
Lack of support regarding ways to integrate telecommunications into the curriculum	68	27	23	18
Inadequate training opportunities	67	27	21	18
Outdated, incompatible, or unreliable computers	66	20	20	25
Lack of technical support or advice	64	26	22	16
Concern about student access to inappropriate materials	59	28	18	13
Internet is not easily accessible	58	16	16	27
Lack of administrative support	43	20	14	9

NOTE: Excludes teachers who reported that computers were not available to them anywhere in the school. Percentages may not add to totals due to rounding.
SOURCE: U.S. Department of Education, NCES. Fast Response Survey System, "Public School Teachers' Use of Computers and the Internet," FRSS 70, 1999.

Teachers' Readiness to Use Computers and the Internet

Table 39-6 Percentage distribution of public school teachers according to how well prepared they felt to use computers and the Internet for instruction, by school characteristics: 1999

School characteristic	Not at all prepared	Somewhat prepared	Well prepared	Very well prepared
All public school teachers with access to computers or the Internet at school	**13**	**53**	**23**	**10**
School instructional level				
Elementary	12	55	23	10
Secondary	15	50	23	12
Percent of students eligible for free or reduced-price lunch				
Less than 11 percent	10	53	25	12
11–30 percent	13	52	25	10
31–49 percent	14	51	24	10
50–70 percent	16	58	16	10
71 percent or more	13	55	22	10
Percent minority enrollment in school				
Less than 6 percent	11	55	24	10
6–20 percent	13	52	24	11
21–49 percent	16	55	20	10
50 percent or more	13	52	24	11

NOTE: Less than 1 percent of all public school teachers reported no computers or the Internet were available to them anywhere in their school. These teachers were not included in the estimates presented in this table. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES. Fast Response Survey System, "Public School Teachers' Use of Computers and the Internet," FRSS 70, 1999.

Inclusion of Students With Disabilities in Regular Education Classrooms

Table 40-1 Percentage distribution of students ages 6–21 with disabilities, by educational environment and disability type: 1988–89 and 1997–98

	Percentage of the day in a regular education classroom						Separate facilities		Residential facilities		Home/ hospital	
	80 or more		79–40		Less than 40							
Type of disability	1988–89	1997–98	1988–89	1997–98	1988–89	1997–98	1988–89	1997–98	1988–89	1997–98	1988–89	1997–98
All disabilities	**30.5**	**46.4**	**39.0**	**29.0**	**24.3**	**20.4**	**4.6**	**2.9**	**0.9**	**0.7**	**0.8**	**0.5**
Specific learning disabilities	19.6	43.8	57.9	39.3	20.9	16.0	1.3	0.6	0.1	0.1	0.1	0.2
Speech or language impairments	75.6	87.8	19.0	7.3	3.8	4.4	1.4	0.3	0.1	0.04	0.1	0.1
Mental retardation	5.9	12.6	22.4	29.6	58.9	51.7	11.3	5.2	1.2	0.6	0.3	0.4
Emotional disturbance	14.1	24.9	30.0	23.3	35.8	33.5	13.4	13.1	3.8	3.6	2.9	1.6
Multiple disabilities	7.0	10.0	14.1	17.3	46.2	45.1	25.9	22.3	4.0	2.9	2.8	2.5
Hearing impairments	26.9	38.8	21.0	19.0	33.5	25.4	8.5	7.3	9.8	9.2	0.2	0.2
Orthopedic impairments	29.3	46.6	18.6	21.3	33.5	26.2	11.1	3.7	0.7	0.3	6.9	2.0
Other health impairments	29.9	41.4	20.3	33.8	19.6	18.3	7.8	1.7	0.8	0.3	21.6	4.7
Visual impairments	39.8	48.1	25.4	20.1	20.3	17.3	4.7	6.7	9.4	7.1	0.5	0.7
Autism	—	18.3	—	12.7	—	52.1	—	14.6	—	1.8	—	0.5
Deaf-blindness	11.6	13.6	5.3	11.3	29.9	39.0	25.9	19.9	26.1	14.8	1.2	1.5
Traumatic brain injury	—	29.8	—	26.2	—	30.1	—	9.8	—	1.6	—	2.4

- Not available.

NOTE: Students with disabilities are those served under Part B of the Individuals with Disabilities Education Act (IDEA) in the United States and outlying areas. See *Supplemental Note 12* for definitions of the different types of disabilities and educational environments. Autism and traumatic brain injury were first required to be reported separately in 1992–93. Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, Office of Special Education and Rehabilitative Services. (2000). *22nd Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act.*

School Choice and Parental Satisfaction

Table 41-1 Percentage distribution of students in grades 3–12 who attended a chosen or assigned school, by child's race/ethnicity, parents' highest education level, and household income: 1993, 1996, and 1999

Child's race/ethnicity, parents' highest education level, and household income	1993			1996			1999		
	Public			Public			Public		
	Assigned	Chosen	Private	Assigned	Chosen	Private	Assigned	Chosen	Private
Total	**80.3**	**10.9**	**8.8**	**76.9**	**13.3**	**9.9**	**76.5**	**14.2**	**9.3**
Race/ethnicity									
White	81.4	8.5	10.2	78.0	10.7	11.3	77.7	11.1	11.2
Black	77.4	18.9	3.7	74.2	20.8	5.1	72.0	22.5	5.6
Hispanic	79.7	13.6	6.7	76.4	16.1	7.5	77.3	18.2	4.5
Other	73.4	14.5	12.1	70.4	18.6	11.1	74.1	16.3	9.6
Parents' highest education level									
Less than high school	84.4	13.3	2.3	79.1	17.4	3.5	79.3	18.1	2.6
High school diploma or equivalent	83.6	11.2	5.2	83.0	11.6	5.4	81.0	13.8	5.2
Some college, including technical/ vocational	80.1	11.1	8.8	77.0	14.6	8.4	77.9	15.1	7.0
Bachelor's degree	76.9	8.7	14.3	71.4	13.4	15.3	72.4	12.8	14.9
Graduate/advanced degree	73.1	9.9	16.9	68.3	11.3	20.4	69.2	12.5	18.3
Household income									
$10,000 or less	82.9	14.0	3.0	76.6	19.5	3.9	73.7	22.2	4.1
$10,001–20,000	82.3	13.9	3.8	80.0	15.3	4.7	77.4	17.9	4.8
$20,001–35,000	81.8	10.6	7.7	78.7	14.0	7.4	79.4	15.1	5.4
$35,001–50,000	80.4	9.7	9.9	78.0	11.9	10.1	77.4	13.2	9.4
More than $50,000	75.9	8.5	15.6	73.6	10.2	16.3	75.0	10.3	14.6

NOTE: Ungraded students and homeschoolers were excluded from the estimate. Data have been revised from previously published figures. Percentages may not add to 100.0 due to rounding. See *Supplemental Note 3* for information on the National Household Education Surveys Program (NHES). See *Supplemental Note 1* for information on the racial/ethnic categories.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1993 (School Safety and Discipline Survey), 1996 (Parent Interview Survey), and 1999 (Parent Interview Survey).

School Choice and Parental Satisfaction

Table 41-2 Percentage of students in grades 3–12 with parents who were very satisfied with aspects of their child's school, by school choice type, grade level, and race/ethnicity: 1993 and 1999

Grade level and race/ethnicity	Child's school		Child's teachers		School's academic standards		School's order and discipline	
	1993	1999	1993	1999	1993	1999	1993	1999
Total	**55.9**	**52.9**	**58.3**	**56.9**	**58.4**	**56.8**	**58.5**	**58.2**
				Public-assigned				
Total	**52.3**	**48.1**	**56.0**	**53.6**	**55.0**	**52.7**	**55.1**	**54.0**
Grade level								
3–5	60.6	56.7	67.1	67.7	59.4	57.3	62.7	63.9
6–8	48.3	46.3	53.2	50.4	52.9	52.3	52.3	52.8
9–12	48.7	43.0	49.0	45.5	53.2	49.5	51.2	47.4
Race/ethnicity								
White	53.4	48.0	56.3	53.2	56.4	52.1	56.1	53.1
Black	45.8	44.1	52.5	49.8	48.6	51.0	50.7	52.2
Hispanic	55.7	54.6	58.2	60.7	55.3	58.8	55.1	61.0
Other	46.9	44.1	56.8	51.9	55.1	49.1	53.4	51.5
				Public-chosen				
Total	**61.2**	**61.6**	**61.5**	**62.1**	**63.0**	**63.4**	**63.0**	**63.4**
Grade level								
3–5	68.5	66.8	70.2	70.9	66.3	67.5	72.6	70.4
6–8	59.6	63.1	61.5	62.4	62.0	66.6	61.6	66.1
9–12	55.7	56.9	53.7	55.3	60.7	58.5	55.6	56.7
Race/ethnicity								
White	63.4	62.0	64.8	62.3	64.7	63.1	64.9	62.7
Black	58.4	60.4	54.2	63.2	62.5	64.1	62.2	63.1
Hispanic	59.4	65.8	63.5	64.3	61.8	67.8	60.9	67.5
Other	57.4	51.5	60.3	49.6	50.3	51.0	53.3	59.2
				Private				
Total	**82.5**	**78.7**	**75.2**	**75.5**	**83.4**	**80.8**	**84.4**	**85.3**
Grade level								
3–5	83.8	79.4	75.6	81.8	84.4	79.4	86.9	85.8
6–8	82.6	78.5	76.5	72.2	83.3	80.3	83.9	83.2
9–12	81.2	78.2	73.8	71.5	82.4	83.0	82.3	86.9
Race/ethnicity								
White	82.6	81.4	74.8	77.8	83.6	81.9	83.9	87.3
Black	77.2	64.3	76.5	63.9	78.7	77.8	84.0	69.7
Hispanic	81.8	78.4	81.9	75.6	83.1	79.2	87.1	85.0
Other	88.6	66.8	70.1	63.1	87.0	72.7	87.6	84.5

NOTE: Includes those who responded "very satisfied" from a scale of "very satisfied," "somewhat satisfied," "somewhat dissatisfied," and "very dissatisfied." Ungraded students and homeschoolers were excluded from the estimate. Data have been revised from previously published figures. See *Supplemental Note 3* for more information on the National Household Education Surveys Program (NHES). See *Supplemental Note 1* for information on the racial/ethnic categories.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1993 (School Safety and Discipline Survey) and 1999 (Parent Interview Survey).

Qualifications of College Graduates Who Enter Teaching

Table 42-1 Percentage distributions of 1992–93 bachelor's degree recipients according to whether their college entrance examination scores were available and the quartile ranking of available scores, by selected characteristics: 1997[1]

Characteristics of graduates	All graduates	Of all graduates, percentage with scores[2]		Of graduates with scores available, percentage whose scores ranked in the		
		Unavailable	Available	Bottom quartile	Middle half	Top quartile
Total	**100.0**	**20.4**	**79.6**	**23.4**	**52.7**	**23.9**
College major						
Education	11.7	17.3	82.7	28.1	57.8	14.1
Business/management	25.2	24.6	75.4	25.3	56.9	17.8
Humanities	9.8	17.7	82.3	20.6	48.0	31.4
Mathematics/computer/natural sciences	19.6	15.4	84.6	13.0	49.8	37.3
Social sciences	15.2	18.1	81.9	22.7	51.7	25.7
Other	18.4	25.4	74.6	31.9	50.9	17.2
Status in teacher pipeline, 1997[3]						
Pipeline-eligible but did not enter pipeline	63.7	20.0	80.0	21.3	53.3	25.4
Considered teaching or applied to teach	19.2	22.1	77.9	25.7	49.6	24.7
Had taught but not prepared	2.5	17.7	82.3	20.2	45.0	34.8
Prepared	14.6	18.8	81.2	27.8	57.4	14.8
Prepared but had not taught	4.5	18.9	81.1	29.1	54.3	16.6
Prepared and have taught	10.1	18.7	81.3	27.2	58.8	14.0
Certified to teach[4]						
Certified	11.8	18.4	81.6	26.8	59.7	13.5
Not certified	88.2	20.6	79.4	22.9	51.7	25.4
By 1997 had taught at[5]						
Only public schools	(*)	20.2	79.8	25.9	58.7	15.4
Only private schools	(*)	10.1	89.9	18.0	49.5	32.5
Both public and private schools	(*)	12.9	87.1	30.5	48.5	21.0
By 1997 had taught[5]						
Only in elementary school(s)	(*)	20.0	80.0	28.6	57.6	13.8
Only in secondary school(s)	(*)	16.5	83.6	22.7	52.8	24.5
Only in combined school(s)	(*)	11.6	88.4	19.5	64.2	16.3
In a mix of these school levels	(*)	17.3	82.7	20.5	63.9	15.6
Teaching status in 1997[5]						
Still teaching	(*)	17.3	82.7	26.8	57.4	15.8
Not teaching	(*)	12.6	87.4	18.7	54.1	27.2

*Not applicable.

[1]Excludes 1992–93 bachelor's degree recipients who had taught before receiving their bachelor's degree.

[2]SAT scores may have been reported by the Educational Testing Service, the graduate's institution, or self-reported. When SAT scores were not available, ACT scores were used. See *Supplemental Note 7* for details.

[3]The "teacher pipeline" is an analytic framework that organizes graduates by the number of steps they have taken toward becoming teachers. For more details on these steps, see *Supplemental Note 7*.

[4]Those who were certified at the probationary, regular, or advanced level in any U.S. state are classified as certified.

[5]Percentage distribution among those who actually taught.

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. 1993 Baccalaureate and Beyond Longitudinal Study, "Second Follow-up" (B&B: 1993/1997), Data Analysis System.

Qualifications of College Graduates Who Enter Teaching

Table 42-2 Percentage distributions of 1992–93 bachelor's degree recipients who taught after receiving a bachelor's degree according to major, by selected characteristics: 1997

		Major field of study					
Characteristics of graduates who taught	Total	Education	Business/ management	Humanities	Social sciences	Mathematics/ computer/ natural sciences	Other
Distribution, by major	100.0	54.6	4.6	12.1	13.3	9.6	5.9
Certified to teach*							
Yes	77.0	91.9	55.8	64.9	55.5	63.7	43.7
No	23.0	8.1	44.2	35.1	44.5	36.3	56.3
Had student teaching							
Yes	58.1	84.6	3.9	34.1	21.6	34.9	14.9
No	41.9	15.4	96.1	65.9	78.4	65.1	85.1
By 1997 had taught at							
Only public schools	83.4	84.7	—	81.1	73.8	78.8	91.3
Only private schools	12.9	10.9	—	16.7	24.7	17.8	6.2
Both public and private schools	3.8	4.5	—	2.2	1.6	3.4	2.6
By 1997 had taught							
Only in elementary school(s)	52.4	64.1	—	43.5	31.3	31.9	51.4
Only in secondary school(s)	30.7	19.7	—	39.5	52.5	51.7	35.0
Only in combined school(s)	4.5	3.7	—	6.0	7.9	5.5	6.0
In a mix of these school levels	12.4	12.4	—	11.0	8.4	11.0	7.6
Last taught at a school in							
Central city	33.2	30.0	—	46.6	29.1	34.3	41.6
Urban fringe/large town	28.4	30.2	—	32.2	24.7	20.6	25.4
Rural/small town	38.4	39.8	—	21.2	46.2	45.2	33.1
Teaching status in 1997							
Still teaching	79.4	84.8	69.4	74.1	69.1	79.0	58.6
Not teaching	20.6	15.2	30.6	25.9	30.9	21.0	41.4

—Sample size too small for a reliable estimate.

*Those who were certified at the probationary, regular, or advanced level in any U.S. state are classified as certified.

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. 1993 Baccalaureate and Beyond Longitudinal Study, "Second Follow-up" (B&B: 1993/1997), Data Analysis System.

Teacher Preparation in 8th-Grade Mathematics and Science

Table 43-1 Percentage of 8th-graders taught science by teachers who reported various main areas of study for their bachelor's and master's degrees: 1999

Major/main area of study[1]	United States	International average[2]
Biology	47	42
Physics	13	23
Chemistry	21	30
Science education	43	44
Mathematics/mathematics education	14	25
Education	56	30
Other	45	29

[1]More than one category could be selected.

[2]The item response rate for this question was less than 70 percent in some nations. Countries could exclude from their sample up to 10 percent of schools or students that would be difficult to test.

NOTE: Eighth grade in most nations. The international average is the average of the national averages of the nations that reported data.

SOURCE: NCES 2001–028, based on data from Martin et al. (2000). *TIMSS 1999 International Science Report: Findings from IEA's Repeat of the Third International Mathematics and Science Study at the Eighth Grade*, Exhibit R3.1. Chestnut Hill, MA: Boston College.

School-Related Violence and Safety

Table 44-1 Percentage of high school students who reported they were threatened or injured with a weapon on school property, engaged in a physical fight on school property, or reported carrying a weapon to school, by sex, race/ethnicity, and grade: 1993, 1995, 1997, and 1999

	Was threatened or injured with a weapon[1]				In a physical fight[1]				Carried a weapon[2]			
Student characteristics	**1993**	**1995**	**1997**	**1999**	**1993**	**1995**	**1997**	**1999**	**1993**	**1995**	**1997**	**1999**
Total	**7.3**	**8.4**	**7.4**	**7.7**	**16.2**	**15.5**	**14.8**	**14.2**	**11.8**	**9.8**	**8.5**	**6.9**
Sex												
Male	9.2	10.9	10.2	9.6	23.5	21.0	20.0	18.5	17.9	14.3	12.5	11.0
Female	5.4	5.8	4.0	5.8	8.6	9.5	8.6	9.8	5.1	4.9	3.7	2.8
Race/ethnicity												
American Indian or Alaska Native, not Hispanic or Latino	(†)	(†)	(†)	13.2	(†)	(†)	(†)	16.2	(†)	(†)	(†)	11.6
Asian, not Hispanic or Latino	(†)	(†)	(†)	7.7	(†)	(†)	(†)	10.4	(†)	(†)	(†)	6.5
Black or African American, not Hispanic or Latino	(†)	(†)	(†)	7.6	(†)	(†)	(†)	18.7	(†)	(†)	(†)	5.0
Native Hawaiian or other Pacific Islander, not Hispanic or Latino	(†)	(†)	(†)	15.6	(†)	(†)	(†)	25.3	(†)	(†)	(†)	9.3
White, not Hispanic or Latino	(†)	(†)	(†)	6.6	(†)	(†)	(†)	12.3	(†)	(†)	(†)	6.4
More than one race, not Hispanic or Latino	(†)	(†)	(†)	9.3	(†)	(†)	(†)	16.9	(†)	(†)	(†)	11.4
Hispanic or Latino, regardless of race	(†)	(†)	(†)	9.8	(†)	(†)	(†)	15.7	(†)	(†)	(†)	7.9
Grade												
9	9.4	9.6	10.1	10.5	23.1	21.6	21.3	18.6	12.6	10.7	10.2	7.2
10	7.3	9.6	7.9	8.2	17.2	16.5	17.0	17.2	11.5	10.4	7.7	6.6
11	7.3	7.7	5.9	6.1	13.8	13.6	12.5	10.8	11.9	10.2	9.4	7.0
12	5.5	6.7	5.8	5.1	11.4	10.6	9.5	8.1	10.8	7.6	7.0	6.2

†The response categories for race/ethnicity changed in 1999 making comparisons with earlier years problematic.

[1]In the past 12 months.

[2]On one or more of the past 30 days.

NOTE: Response rates for 1995, 1997, and 1999 were less than 70 percent for this survey, and a full nonresponse bias analysis has not been done to date. For definitions of the racial/ethnic categories used in this indicator, see *Supplemental Note 1*.

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics. National Health Interview Survey—Youth Risk Behavior Survey, 1993, 1995, 1997, and 1999.

Overcrowding in Schools

Table 45-1 Percentage of public schools with an inadequate or unsatisfactory building, building feature, or environmental feature, by categories of underenrolled and overcrowded: 1999

	Underenrolled			Overcrowded	
Condition of facility[1]	**More than 25 percent under capacity**	**6–25 percent under capacity**	**Within 5 percent of capacity**	**6–25 percent over capacity**	**More than 25 percent over capacity**
At least one type of onsite building in less than adequate condition[2]	17	19	19	43	45
At least one building feature in less than adequate condition[3]	50	46	48	61	59
At least one environmental factor in unsatisfactory condition[4]	42	41	39	57	46

[1]Categories for condition are not mutually exclusive.

[2]The condition of all onsite buildings is computed across original buildings, permanent additions, and temporary buildings. Ratings of "less than adequate" encompass the ratings of "fair," "poor," and "replace."

[3]The condition of all building features is computed across nine building features (e.g., roofs, plumbing). Ratings of "less than adequate" encompass the ratings of "fair," "poor," and "replace."

[4]The condition of all environmental factors is computed across six environmental factors (e.g., heating, ventilation). Ratings of "unsatisfactory" include the ratings of "unsatisfactory" and "very unsatisfactory."

SOURCE: U.S. Department of Education, NCES. Fast Response Survey System (FRSS), *Condition of America's Public School Facilities: 1999* (NCES 2000–032), 2000, and unpublished data.

Overcrowding in Schools

Table 45-2 Percentage distribution of public schools reporting that they are underenrolled, at capacity, or overcrowded, by selected school characteristics: 1999

Characteristic	Underenrolled			Overcrowded	
	More than 25 percent under capacity	6–25 percent under capacity	Within 5 percent of capacity	6–25 percent over capacity	More than 25 percent over capacity
Total	**19**	**33**	**26**	**14**	**8**
Instructional level					
Elementary	17	31	28	15	8
Secondary	21	43	17	11	8
Combined	33	21	31	9	*6
Enrollment					
Less than 300	41	30	16	10	4
300–599	15	37	29	14	5
600 or more	8	31	30	18	14
Locale					
Central city	16	33	24	15	11
Urban fringe/large town	12	36	28	17	8
Rural/small town	27	30	26	11	6
Region					
Northeast	18	39	27	11	4
South	17	30	26	18	8
Midwest	21	39	26	10	5
West	16	26	26	18	15
Percent minority					
Less than 5	23	38	23	12	4
6–20	11	38	26	16	8
21–50	19	30	27	18	6
More than 50	18	24	30	13	15
Percentage of students eligible for free or reduced-price school lunch					
Less than 20	15	38	24	16	6
20–39	19	34	26	13	8
40–69	15	33	29	16	7
70 or more	27	26	24	12	12

* This estimate is unreliable because it has a coefficient of variation greater than 50 percent.

NOTE: Percentages may not add to 100 due to rounding. Some differences that appear large may not be statistically significant due to large standard errors relative to the size of the estimates.

SOURCE: U.S. Department of Education, NCES. Fast Response Survey System (FRSS), *Condition of America's Public School Facilities: 1999* (NCES 2000–032), 2000, and unpublished data.

Instructional Methods of Postsecondary Faculty

Table 46-1 Percentage of postsecondary instructional faculty and staff who used specific assessment methods in some or all of their undergraduate classes, by teaching discipline: Fall 1998

Teaching discipline	Essay exams	Multiple-choice exams	Short-answer exams	Term/ research papers	Student evaluations of work	Multiple written drafts
Total	**59.7**	**57.3**	**62.4**	**60.1**	**44.3**	**39.4**
Agriculture/home economics	63.4	60.8	79.5	69.5	42.9	30.5
Business	61.3	76.6	69.6	65.2	41.0	34.8
Education	63.1	56.4	59.3	67.6	56.9	49.4
Engineering	44.6	40.6	60.9	52.8	37.4	27.9
Fine arts	51.5	42.3	54.5	52.3	59.8	30.2
Health sciences	47.6	72.0	56.6	57.5	44.8	31.9
Humanities	80.1	40.1	59.5	72.0	57.8	66.2
Natural sciences	48.1	55.9	68.5	41.3	27.1	23.2
Social sciences	70.9	65.5	62.9	76.5	32.3	41.5

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

Technology in Postsecondary Teaching

Table 48-1 Percentage of full-time postsecondary instructional faculty and staff according to access to the Internet, use of electronic mail, and use of course-specific Web site, by principal field of teaching: Fall 1998

Principal field of teaching	Access to Internet	Used e-mail	Used course-specific Web site
Total	**96.7**	**69.0**	**40.2**
Business	97.3	74.7	44.3
Education and teacher education	98.3	74.9	43.2
Engineering and computer sciences	99.0	82.3	57.7
Fine arts	93.1	59.3	38.4
Health sciences	97.2	50.3	32.7
Human services	94.4	63.2	31.4
Humanities	95.1	69.7	37.8
Life sciences	97.6	71.6	39.7
Natural/physical sciences and mathematics	98.4	73.0	40.7
Social sciences	97.0	79.3	38.2
Vocational fields	93.0	49.1	43.6

NOTE: See *Supplemental Note 10* for information on the categories for principal field of teaching.

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

Early Reading Activities

Table 52-1 Percentage of 3- to 5-year-old children not yet enrolled in kindergarten who participated in home literacy activities with a family member three or more times in the week before the survey, by selected child and family characteristics: 1993 and 1999

Characteristic	Read to[1]		Told a story		Taught letters, words, or numbers		Taught songs or music		Did arts and crafts	
	1993	1999	1993	1999	1993	1999	1993	1999	1993	1999
Total	**78**	**82**	**43**	**50**	**58**	**64**	**41**	**48**	**34**	**39**
Age										
3	79	82	46	53	57	66	45	57	34	41
4	78	82	41	48	58	63	39	43	33	38
5	76	79	36	45	58	65	33	38	33	35
Sex										
Male	77	81	43	50	58	64	38	47	31	38
Female	79	82	43	50	58	65	44	50	36	40
Race/ethnicity										
White	85	89	44	53	58	65	40	49	36	44
Black	66	72	39	44	63	67	49	48	28	27
Hispanic	58	62	38	40	54	57	39	46	25	32
Other	73	82	50	54	59	69	34	54	32	33
Mother's home language[2]										
English	81	85	44	52	58	66	42	49	34	40
Not English	42	48	36	31	52	45	33	44	23	25
Mother's highest education[2]										
Less than high school	60	63	37	36	56	60	40	43	25	28
High school diploma or equivalent	76	77	41	49	56	64	41	50	30	38
Some college, including vocational/technical	83	85	45	52	60	67	42	52	38	40
Bachelor's degree	90	92	48	55	56	66	39	47	37	43
Graduate/professional training or degree	90	93	50	52	60	61	44	45	42	49
Mother's employment status[2]										
Employed	79	82	44	50	57	65	41	48	33	37
Unemployed, looking for work	71	73	43	49	66	64	49	47	34	40
Not in labor force	79	84	43	50	58	65	40	51	34	43
Family type										
Two parents	81	85	44	52	57	64	40	48	35	42
None or one parent	71	74	41	44	59	65	44	49	30	33
Poverty status										
Below poverty threshold	68	70	39	42	59	59	45	48	27	34
Above poverty threshold	82	85	44	52	57	66	40	49	36	41
Number of risk factors[2, 3]										
None	87	92	43	54	56	65	39	48	37	46
One	82	83	47	57	62	69	43	50	36	36
Two or more	64	67	40	39	59	60	44	49	26	31

[1]In 1993, respondents were asked about reading frequency in one of the two versions of the survey questionnaire. The percentages presented in the table are for all of the respondents who answered three or more times on either version of the questionnaire.

[2]Excludes 86 children in 1993 and 106 children in 1999 who did not have a mother (birth, adoptive, step, or foster) residing in their household and the survey respondent on the telephone was not a female.

[3]Risk factors are defined as having a race/ethnicity other than white, non-Hispanic; having a mother whose home language is other than English; having a mother whose highest education is less than high school; being a member of a family with no parent or only one parent in the household; and being a member of a family whose poverty status is below the poverty threshold.

SOURCE: U.S. Department of Education, NCES. *Home Literacy Activities and Signs of Children's Emerging Literacy, 1993 and 1999* (NCES 2000–026), and National Household Education Surveys Program (NHES), 1993 and 1999.

Before and After School Care

Table 53-1 Percentage of children in grades K–8 who received various types of care before or after school, by selected student characteristics: 1999

Student characteristic	Received care from relative[1]			Received care from nonrelative[1]			Attended center-based program			Child cared for self			Parental care		
	Total	K–5	6–8	Total	K–5	6–8	Total	K–5	6–8	Total	K–5	6–8	Total	K–5	6–8
Total	**19.4**	**21.1**	**15.9**	**7.5**	**9.6**	**3.1**	**18.5**	**20.3**	**14.8**	**11.6**	**4.8**	**25.6**	**51.8**	**52.4**	**50.5**
Race/ethnicity															
White	16.5	18.1	13.2	7.8	10.2	2.9	16.5	18.8	11.8	11.7	4.2	27.0	54.6	55.3	53.1
Black	28.0	29.5	24.7	7.0	8.2	4.2	27.8	29.0	25.2	12.5	6.3	26.1	40.0	40.6	38.6
Hispanic	21.4	22.9	18.1	6.8	8.6	2.7	15.8	16.2	15.1	9.5	4.6	20.7	54.0	54.8	52.2
Other	22.1	24.7	16.7	7.6	9.7	3.3	21.1	22.2	19.0	12.3	8.0	20.6	48.0	47.0	[3]49.9
Household income															
$10,000 or less	22.5	24.6	17.3	7.0	8.6	3.2	18.9	19.5	17.5	10.9	6.5	21.8	51.6	50.8	53.5
$10,001–20,000	26.1	28.0	22.1	6.8	9.0	2.0	18.0	18.3	17.4	11.6	6.1	23.2	47.8	48.2	46.9
$20,001–35,000	21.2	22.5	18.2	7.7	9.7	3.5	19.0	20.5	15.8	11.3	4.9	24.9	50.5	51.4	48.4
$35,001–50,000	18.9	21.3	14.5	6.4	8.4	2.7	16.2	17.2	14.5	11.6	3.8	26.4	53.8	55.4	50.8
More than $50,000	14.8	15.9	12.5	8.3	10.8	3.5	19.3	22.7	12.5	12.0	4.0	27.7	53.1	53.8	51.9
Parents' highest education level															
Less than high school	19.0	20.6	15.9	5.1	6.8	2.1	15.2	16.1	13.4	11.2	6.2	20.3	57.9	58.0	57.7
High school diploma or equivalent	24.4	26.3	20.5	6.7	8.7	2.5	17.5	18.5	15.3	12.1	5.2	26.6	48.8	50.0	46.2
Some college, including vocational/technical	22.0	24.2	17.2	8.9	11.1	4.3	19.5	21.2	15.8	12.0	5.3	26.2	47.8	48.0	47.2
Bachelor's degree	13.9	14.7	12.0	7.3	9.2	2.9	19.4	21.8	13.9	10.2	3.3	25.7	56.5	57.2	54.9
Graduate/professional degree	11.5	12.5	9.5	7.7	10.2	3.0	19.2	22.1	13.6	11.4	3.9	25.7	56.4	57.0	55.4
Poverty status[2]															
Poor	23.2	25.2	18.4	6.1	7.6	2.6	18.3	18.3	18.1	10.0	5.6	20.0	52.5	52.3	53.1
Nonpoor	18.3	19.8	15.2	7.9	10.2	3.3	18.5	20.8	13.9	12.1	4.6	27.1	51.6	52.4	49.8
Family structure															
Two biological/adoptive parents	13.3	14.7	10.3	6.5	8.4	2.4	15.9	16.8	13.9	9.1	3.3	21.9	60.6	61.7	58.2
One biological/adoptive parent	30.3	32.6	25.3	9.7	12.1	4.5	23.0	26.7	15.2	15.1	7.3	31.5	36.2	35.4	38.1
One biological/adoptive and one stepparent	20.1	21.8	17.5	7.4	10.2	3.2	18.6	21.6	14.0	13.9	4.6	27.9	48.6	48.8	48.4
Other relatives	17.6	21.3	9.3	4.2	4.5	3.6	21.0	16.3	[3]31.4	11.9	7.0	[3]22.8	55.6	59.1	[3]47.9
Step- or foster parents	[3]19.0	[3]16.7	[3]21.5	[3]3.2	[3]6.1	[3]0.0	[3]15.0	[3]20.2	[3]9.4	[3]14.3	[3]7.9	[3]21.0	[3]56.3	[3]57.0	[3]55.5

[1] Care received from a relative or nonrelative may be provided inside or outside of the child's home.

[2] The poverty measure combines information about household income and composition. See *Supplemental Note 3* for more information.

[3] Interpret with caution; standard errors are large due to small sample size.

NOTE: The National Household Education Surveys Program (NHES) asked parents or guardians about the type of care the child received on a regular basis before or after school. "Received care from a relative" includes care received from someone other than the parent or guardian. Percentages may not add to 100.0 because children can be included in more than one type of care arrangement. Data have been revised from previously published figures. See *Supplemental Note 1* for information on the racial/ethnic categories. See the glossary for the definitions of type of care arrangements.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent Interview Survey).

Parental Involvement in Schools

Table 54-1 Percentage of students in grades K–12 whose parents reported involvement in their child's school, by grade and selected characteristics: 1996 and 1999

Characteristic	Attended general meeting		Attended scheduled meeting with teacher		Attended school event		Acted as a volunteer or served on a committee		Indicated involvement in any of the four activities	
	1996	1999	1996	1999	1996	1999	1996	1999	1996	1999
Total	**76.9**	**78.3**	**71.8**	**72.8**	**66.7**	**65.4**	**38.7**	**36.8**	**91.7**	**91.5**
Grade										
K–5	83.2	84.6	86.1	87.5	71.7	70.4	48.9	47.6	96.2	96.3
6–8	77.9	79.6	69.5	70.4	65.7	65.7	30.4	29.1	91.5	92.1
9–12	65.4	67.3	49.7	51.3	59.1	57.3	28.4	25.6	84.2	83.4
Race/ethnicity										
White	79.0	80.5	72.6	73.6	71.6	71.6	44.1	42.7	93.5	93.8
Black	71.6	74.6	68.8	71.1	56.4	53.8	26.9	26.2	86.4	87.0
Hispanic	73.6	73.1	71.5	71.0	54.7	51.4	26.4	24.5	89.0	86.8
Other	73.2	76.6	71.6	73.1	64.2	62.3	35.4	30.6	89.9	90.3
Household income										
$10,000 or less	65.2	66.8	68.7	67.3	50.1	49.6	23.2	21.2	83.9	84.1
$10,001–20,000	68.1	69.1	68.1	70.2	58.8	52.5	27.0	22.9	87.5	86.0
$20,001–35,000	73.3	74.2	70.2	70.4	63.4	59.3	33.1	31.1	90.6	89.1
$35,001–50,000	80.5	80.7	75.0	74.5	71.8	71.0	42.9	38.5	94.2	93.8
More than $50,000	86.8	86.7	74.2	76.2	77.5	76.2	52.9	49.7	96.4	96.3
Parents' highest education level										
Less than high school	57.5	57.3	62.7	59.9	42.2	37.7	16.9	13.0	79.1	75.9
High school diploma or equivalent	71.5	72.7	69.2	69.7	60.2	58.7	30.1	26.0	89.3	88.4
Some college, including vocational/technical	77.9	79.1	72.5	73.7	69.2	66.9	39.2	37.4	92.9	93.1
Bachelor's degree	87.4	87.3	77.4	80.3	76.4	75.6	52.3	49.8	96.8	97.1
Graduate/professional school	88.5	88.9	76.3	76.0	81.9	78.9	56.7	54.3	97.2	96.8
Family structure										
Two biological/adoptive parents	82.2	84.2	74.0	76.2	71.3	71.0	46.9	46.1	94.5	95.0
One biological/adoptive parent	69.2	71.2	70.3	69.5	60.4	58.2	28.3	25.6	88.0	87.2
One biological/adoptive and one stepparent	72.7	73.9	69.3	68.8	63.3	64.2	26.9	29.4	90.8	90.1
Other relatives	60.3	67.1	54.0	64.4	50.5	47.4	20.3	20.5	76.4	81.9
Step- or foster parents	*69.0	*58.7	*67.5	*59.4	*55.0	*52.9	*23.5	*19.5	86.2	81.3

* Interpret with caution; standard errors are large due to small sample size.

NOTE: Data have been revised from previously published figures. Ungraded students or children who were home schooled are not included in this analysis; these students accounted for 1.6 percent of the students in grades K–12. Percentages may not add to 100.0 because parents can be included in more than one type of involvement. See *Supplemental Note 3* for more information. See *Supplemental Note 1* for information on the racial/ethnic categories.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1996 (Parent and Family Involvement in Education Survey) and 1999 (Parent Interview Survey).

Parents' Attitudes Toward Schools

Table 55-1 Percentage of children in grades 3–12 with parents who were very satisfied with various aspects of the school their child attends, by selected family characteristics: 1993 and 1999

Characteristic	Child's school		Child's teachers		School's academic standards		School's order and discipline	
	1993	1999	1993	1999	1993	1999	1993	1999
Total	**55.9**	**52.9**	**58.3**	**56.8**	**58.4**	**56.8**	**58.5**	**58.2**
Race/ethnicity								
White	57.2	53.3	58.9	56.9	59.8	56.7	59.7	58.0
Black	49.3	49.0	53.7	53.6	52.4	55.4	54.1	55.6
Hispanic	57.9	57.6	60.5	62.1	58.0	61.3	58.0	63.3
Other	53.5	47.6	58.9	52.6	58.3	51.7	57.5	55.9
Household income								
$10,000 or less	49.6	56.6	57.3	62.5	54.9	60.7	57.0	62.6
$10,001–20,000	54.4	50.0	58.3	56.5	54.2	55.9	54.5	55.0
$20,001–35,000	55.3	49.2	58.2	54.8	58.2	54.3	58.5	55.2
$35,001–50,000	57.4	52.3	57.7	54.6	59.6	55.0	59.4	57.0
More than $50,000	59.8	55.0	59.3	57.4	62.3	58.2	61.4	60.1
Parents' highest education level								
Less than high school	56.6	58.0	61.5	61.8	56.9	61.3	59.0	64.0
High school diploma or equivalent	54.5	51.7	58.9	56.1	56.9	56.0	57.4	56.1
Some college, including vocational/technical	53.8	49.1	55.3	54.4	56.6	53.9	56.0	54.5
Bachelor's degree	59.8	52.8	60.9	57.9	62.7	56.6	62.5	59.5
Graduate/professional degree	60.1	58.7	59.1	58.7	63.2	61.1	63.2	63.7
Family structure								
Two biological/adoptive parents	57.1	55.3	58.5	58.6	59.2	58.2	59.4	60.5
One biological/adoptive parent	51.8	50.2	56.7	54.7	55.9	55.6	55.6	56.4
One biological/adoptive and one stepparent	*51.0	51.4	*66.5	55.8	*40.3	54.4	*47.2	55.5
Other relatives/step- or foster parents	*63.0	46.7	*65.2	53.5	*62.3	54.8	*63.6	55.7
Urbanicity								
Live inside urban area	55.4	54.4	57.9	57.9	58.7	58.5	59.1	61.3
Live outside urban area	56.4	52.8	59.9	55.6	57.9	55.5	55.7	54.1
Rural	56.8	49.2	58.3	54.9	58.0	53.4	59.0	52.8

* Interpret with caution; standard errors are large due to small sample size.

NOTE: Included in the total but not shown separately are children from other types of family structures. Data have been revised from previously published figures. See *Supplemental Note 3* for information on the National Household Education Surveys Program (NHES). See *Supplemental Note 1* for information on the racial/ethnic and urbanicity categories.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1993 (School Safety and Discipline Survey) and 1999 (Parent Interview Survey).

Public Elementary and Secondary Expenditures

Table 56-1 Current expenditures per student (in constant 1996–97 dollars) in fall enrollment in public school districts, by metropolitan status and poverty level: 1991–92 to 1996–97

	Current expenditures per student[1]						
	Not geographic CEI adjusted						Geographic CEI adjusted[2]
District characteristic	1991–92	1992–93	1993–94	1994–95	1995–96	1996–97	1996–97
Total	**$5,588**	**$5,674**	**$5,723**	**$5,722**	**$5,755**	**$5,789**	**$5,734**
Metropolitan status							
Primarily serves a central city	5,906	5,969	5,966	5,977	5,988	5,951	5,727
Serves a metropolitan area but not a central city	5,756	5,813	5,893	5,831	5,833	5,888	5,621
Does not serve a metropolitan area	4,900	5,038	5,100	5,196	5,256	5,349	5,995
Children in district below the poverty level							
Less than 5.0 percent	6,595	6,710	6,791	6,615	6,618	6,622	6,144
5.0–14.9 percent	5,559	5,634	5,694	5,670	5,685	5,728	5,667
15.0–24.9 percent	5,036	5,085	5,175	5,223	5,249	5,311	5,576
25.0–34.9 percent	5,698	5,895	5,919	5,920	5,889	5,870	5,816
More than 35.0 percent	6,089	6,136	6,089	6,074	6,114	6,111	5,934

[1]Current expenditures per student are in constant 1996–97 dollars using the Consumer Price Index (CPI) to deflate them to that year. See *Supplemental Note 1* for more information on the CPI.

[2]Geographical CEIs adjust for differences in educational costs across geographical regions of the United States.

NOTE: Poverty is defined by a set of money-income thresholds determined by the Bureau of the Census for the 1996–97 school year that vary by family size and composition. If a family's total income is less than that family's threshold, then that family, and every individual in it, is considered poor. While the universe of school districts was surveyed for each state in 1991–92 and 1994–95 through 1996–97, a sample of school districts was collected for some states, and a universe was collected for others in 1992–93 and 1993–94.

SOURCE: U.S. Department of Education, NCES. Common Core of Data, "Public School District Universe Survey," 1991–92 to 1996–97, "Public School District Financial Survey," 1991–92 to 1996–97, and CEIs available from the Education Finance Statistics Center (http://nces.ed.gov/edfin/).

International Comparisons of Expenditures for Education

Table 57-1 Expenditures per student (in equivalent U.S. dollars converted using PPPs) in public and private institutions as a percentage of GDP per capita, by level of education and country (based on full-time equivalents): 1997

	Expenditures per student[1] (in equivalent U.S. dollars converted using PPPs[2]) on public and private institutions[3]			Expenditures per student[1] (in equivalent U.S. dollars converted using PPPs[2]) on public and private institutions[3] as a percent of GDP per capita			GDP per capita (in equivalent U.S. dollars converted using PPPs[2])
	Primary education	Secondary education	Higher education	Primary education	Secondary education	Higher education	
Country mean	**$3,851**	**$5,273**	**$8,612**	**19.4**	**26.6**	**43.4**	**$19,844**
Australia	3,633	5,570	11,240	16.1	24.7	49.8	22,582
Austria	6,258	8,213	9,993	27.1	35.6	43.3	23,054
Belgium	3,813	6,938	7,834	16.4	29.9	33.7	23,242
Canada	—	—	14,809	—	—	62.3	23,761
Czech Republic	1,954	3,641	5,351	14.9	27.8	40.9	13,087
Denmark	6,596	7,198	7,294	25.9	28.2	28.6	25,514
Finland	4,639	5,065	7,145	22.3	24.3	34.3	20,843
France	3,621	6,564	7,177	17.0	30.8	33.7	21,293
Germany	3,490	6,149	9,466	15.8	27.9	42.9	22,049
Greece	2,351	2,581	3,990	16.9	18.6	28.7	13,912
Hungary	2,035	2,093	5,430	20.6	21.2	55.0	9,875
Iceland	—	—	—	—	—	—	25,111
Ireland	2,574	3,864	7,998	12.3	18.4	38.1	21,009
Italy	5,073	6,284	5,972	23.9	29.6	28.1	21,265
Japan	5,202	5,917	10,157	21.1	24.0	41.3	24,616
Korea	3,308	3,518	6,844	22.9	24.3	47.3	14,477
Luxembourg	—	—	—	—	—	—	34,484
Mexico	935	1,726	4,519	12.1	22.4	58.7	7,697
Netherlands	3,335	4,992	9,989	15.1	22.5	45.1	22,142
New Zealand	—	—	—	—	—	—	17,846
Norway	6,315	6,973	10,108	23.5	25.9	37.6	26,876
Poland	1,435	—	4,395	19.2	—	58.7	7,487
Portugal	3,248	4,264	—	22.3	29.3	—	14,562
Spain	3,180	4,274	5,166	19.9	26.7	32.3	15,990
Sweden	5,491	5,437	12,981	26.9	26.6	63.5	20,439
Switzerland	6,237	9,045	16,376	24.1	34.9	63.2	25,902
Turkey	—	—	2,397	—	—	37.1	6,463
United Kingdom	3,206	4,609	8,169	15.7	22.5	39.9	20,483
United States	5,718	7,230	17,466	19.4	24.6	59.4	29,401

— Not available.

[1] Per student expenditures are calculated based on public and private full-time-equivalent (FTE) enrollment figures and expenditures from both public and private sources where data are available.

[2] Purchasing Power Parity (PPP) indices are used to convert other currencies to U.S. dollars. Within-country consumer price indices are used to adjust the PPP indices to account for inflation because the fiscal year has a different starting date in different countries.

[3] Includes all institutions, public and private, with the exception of Austria, Hungary, Iceland, Italy, Norway, Portugal, Switzerland, and Turkey, which include only public institutions, and Belgium, Greece, and the United Kingdom, which include public and government-dependent private institutions.

SOURCE: Organisation for Economic Co-operation and Development, Centre for Educational Research and Innovation. *Education at a Glance: OECD Indicators, 2000*, 2000.

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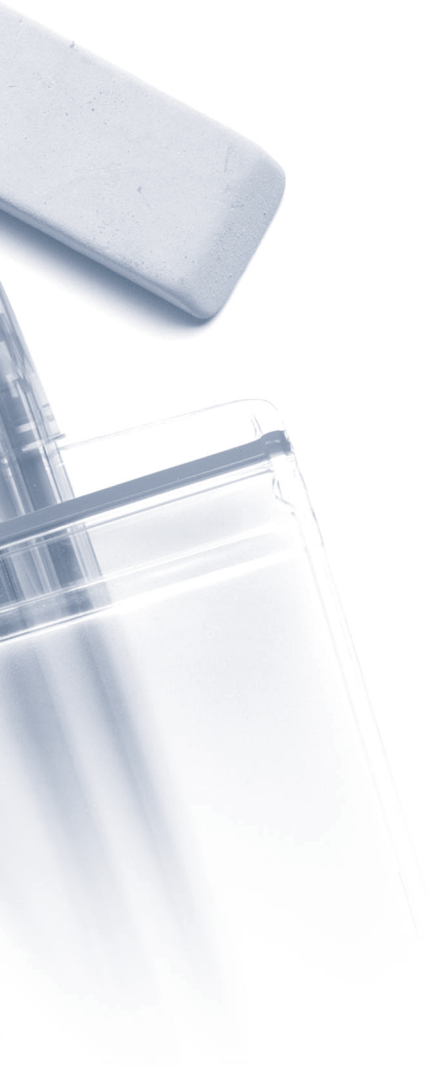
Appendix 2
Supplemental Notes



Contents

Note 1: Commonly Used Variables

Certain common variables, such as educational attainment, race/ethnicity, urbanicity, and geographic region are used by different surveys cited in *The Condition of Education 2001*. The definitions for these variables can vary from survey to survey and sometimes vary between different time periods for a single survey. This supplemental note describes how several common variables, used in some indicators in this volume, are defined in each of the surveys that collected that information. In addition, this note describes in further detail certain terms used in some indicators and how monetary figures were adjusted using the Consumer Price Index (CPI) to reflect comparable information from different years.

Educational Attainment

For surveys that NCES sponsors, the categories of educational attainment are as follows:

- *National Household Education Surveys Program:* Less than high school diploma; High school diploma or GED; Some college/vocational/technical; Bachelor's degree/college graduate; and Graduate or professional degree.
- *Early Childhood Longitudinal Study:* Less than high school; High school diploma or equivalent; Some college, including vocational/technical; and Bachelor's degree or higher.
- *National Education Longitudinal Study of 1988 Eighth Graders:* Less than high school; High school diploma; GED; Some postsecondary education; and Bachelor's degree or higher.
- *High School and Beyond Longitudinal Study of 1980 Sophomores:* Less than high school graduate; High school; Certificate; Associate's; Bachelor's; Master's; Professional; and Doctorate.
- *Beginning Postsecondary Students Longitudinal Study:* Did not complete high school; Completed high school or equivalent; Less than 1 year of occupational/trade/technical or business school; One, but less than 2 years of occupational/trade/technical or business school; Two years or more of occupational/trade/technical or business school; Less than 2 years of college; Two or more years of college, including 2-year degree; Bachelor's degree—4- or 5-year degree; Master's degree or equivalent; MD/DDS/LLB/other advanced professional degree; and Doctoral degree—Ph.D, Ed.D, DBA.

For data from other agencies and organizations, the categories of educational attainment are as follows:

- *Current Population Survey:* Less than 1st grade; 1st, 2nd, 3rd, or 4th grade; 5th or 6th grade; 7th or 8th grade; 9th grade; 10th grade; 11th grade; 12th grade, no diploma; High school graduate, diploma or equivalent (e.g., GED); Some college, no degree; Associate degree, occupational/vocational; Associate degree, academic program; Bachelor's degree; Master's degree; Professional school degree; and Doctorate degree.
- *National Health Interview Survey:* Never attended/kindergarten only; Grades 1–11; 12th grade, no diploma; High school graduate; GED or equivalent; Some college, no degree; Associate degree: occupational, technical, or vocational program; Associate degree: academic program; Bachelor's degree; Master's degree; Professional school degree; and Doctoral degree.
- *Organisation for Economic Co-operation and Development (OECD):* Early childhood education; Primary education; Lower secondary education; Upper secondary education; Nonuniversity higher educa-

Note 1: Commonly Used Variables

Continued

tion; University higher education; Graduate and professional higher education; and Undistributed. (See *Supplemental Note 9* for further information on these levels.)

Within individual indicators, these categories may be collapsed to facilitate analysis. In *The Condition of Education 2001,* the previous definitions apply to *Indicators 1, 4, 7, 8, 9, 15, 16, 17, 24, 25, 28, 29, 32, 41, 52, 53, 54,* and *55.*

Race/Ethnicity

Classifications indicating racial/ethnic background are generally based on self-identification, as in data collected by the Bureau of the Census. These categories are in accordance with the Office of Management and Budget's standard classification scheme and are as follows:

- *American Indian/Alaskan Native*: A person having origins in any of the original peoples of North America and maintaining cultural identification through tribal affiliation or community recognition.
- *Asian/Pacific Islander:* A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippines, and Samoa. Please note that indicators based on the Early Childhood Longitudinal Study include Asian children, but not those classified as Pacific Islanders (i.e., Polynesian, Hawaiian, Samoan, Tongan, other Polynesian, Micronesian, Guamanian, other Micronesian and Pacific Islander, not specified).
- *Black*: A person having origins in any of the black racial groups in Africa. In *The Condition of Education*, this category excludes persons of Hispanic origin except as specifically noted.
- *Hispanic*: A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- *White*: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East. In *The Condition of Education,* this category excludes persons of Hispanic origin except as specifically noted.
- *Other*: Any person that is not included in the above categories (White, Black, Hispanic, Asian/Pacific Islander, and American Indian/Alaskan Native).

Not all categories are shown in all indicators because of insufficient data in some of the smaller categories.

Indicator 44 uses the categories for race/ethnicity used in the 1999 Youth Risk Behavior Survey (YRBS). The 1999 YRBS asked high school students to self-classify themselves into one or more of the following categories: American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, or White. Students who selected more than one response were categorized as "Hispanic or Latino, regardless of race" if they selected "Hispanic or Latino" as one of their choices; they were categorized as "More than one race, not Hispanic or Latino," if they did not select "Hispanic or Latino" as one of their choices.

Urbanicity

1. In the Census Bureau's Current Population Survey, metropolitan status is based on the concept of a metropolitan area (MA), a large population nucleus together with adjacent

Note 1: Commonly Used Variables

Continued

communities that have a high degree of economic and social integration with that nucleus.

MAs are designated and defined by the Office of Management and Budget, following standards established by the interagency Federal Executive Committee on Metropolitan Areas, with the aim of producing definitions that are as consistent as possible for all MAs nationwide.

Each MA must contain either a place with a minimum population of 50,000 or an urbanized area, as defined by the Bureau of the Census, and a total MA population of at least 100,000 (75,000 in New England). An MA is composed of one or more central counties, and an MA can also include one or more outlying counties that have close economic and social relationships with the central county. An outlying county must have a specified level of commuting to the central counties and also must meet certain standards regarding metropolitan character, such as population density, urban population, and population growth. In New England, MAs are composed of cities and towns rather than whole counties. The following terms characterize MAs:

- *Metropolitan*: the territory, population, and housing units in MAs.
- *Inside a central city*: a subdivision of a metropolitan area, which includes only the area inside of the central city.
- *Outside a central city*: a subdivision of a metropolitan area, which includes only the area outside of the central city.
- *Nonmetropolitan*: the territory, population, and housing units located outside MAs.

2. In the National Household Education Surveys Program, urbanicity is based on the Census classification for the highest percentage of households in the respondent's residential ZIP Code. Urbanicity is designated by the following terms:
   - *Urbanized area*: a place and the adjacent densely settled surrounding territory that combined have a minimum population of 50,000.
   - *Urban, outside of urbanized areas*: incorporated or unincorporated places outside of urbanized areas that have a minimum population of 25,000, with the exception of rural portions of extended cities.
   - *Rural*: all areas that are not classified as urban.
3. In the Fast Response Survey System, urbanicity is defined in accordance with Census standards:
   - *City:* a central city of a Metropolitan Statistical Area (MSA).
   - *Urban fringe:* a place within an MSA of a central city, but not primarily its central city.
   - *Town:* a place not within an MSA, but with a population greater than or equal to 2,500 and defined as urban by the Bureau of the Census.
   - *Rural*: a place with a population less than 2,500 and defined as rural by the Census.
4. In the Common Core of Data, urbanicity is based on Metropolitan Status Codes. This is the classification of an education agency's service area relative to an MSA.

Note 1: Commonly Used Variables

Continued

Every education agency is placed in one of the following categories:

- *Primarily serves a central city of an MSA*
- *Serves an MSA but not primarily its central city*
- *Does not serve an MSA*

5. In the Baccalaureate and Beyond Longitudinal Study, respondents who have taught are asked the locale of the school in which they held their last teaching job. Locale is categorized as follows:

   - *Large central city*
   - *Mid-size central city*
   - *Urban fringe of large city*
   - *Urban fringe of mid-size city*
   - *Large town*
   - *Small town*
   - *Rural*

6. The National Health Interview Survey defines urbanicity according to the following metropolitan statistical area categories:

   - *MSA of 2,500,000 and above*
   - *MSA of 1,000,000–2,499,999*
   - *MSA under 1,000,000*
   - *Non-MSA*

In *The Condition of Education 2001*, these definitions apply to *Indicators 15, 17, 42, 45, 55,* and *56.*

Geographic Region

Data from different surveys may use different regional classifications for states. The following regional classification system represents the four geographical regions determined by the Bureau of the Census. In *The Condition of Education 2001, Indicators 2, 3, 15, 17,* 23, and *45* use this system.

Regional Classification

Northeast	South
Connecticut	Alabama
Maine	Arkansas
Massachusetts	Delaware
New Hampshire	District of Columbia
New Jersey	Florida
New York	Georgia
Pennsylvania	Kentucky
Rhode Island	Louisiana
Vermont	Maryland
	Mississippi
	North Carolina
	Oklahoma
	South Carolina
	Tennessee
	Texas
	Virginia
	West Virginia
Midwest	**West**
Illinois	Alaska
Indiana	Arizona
Iowa	California
Kansas	Colorado
Michigan	Hawaii
Minnesota	Idaho
Missouri	Montana
Nebraska	Nevada
North Dakota	New Mexico
Ohio	Oregon
South Dakota	Utah
Wisconsin	Washington
	Wyoming

Community Service

For *Indicator 16*, the definition of community service encompassed any activity undertaken in the previous year for which the student was not paid. This included formal volunteering through a school or organization and also any

Note 1: Commonly Used Variables

Continued

informal volunteering, such as babysitting for a neighbor or visiting senior citizens. The activity could have been organized and/or required by a school or organization, or undertaken on the student's own prerogative. It included activities done on a regular or one-time basis.

Using the Consumer Price Index (CPI) to Adjust for Inflation

The Consumer Price Indexes (CPIs) represent changes in the prices of all goods and services purchased for consumption by urban households. Indexes vary for specific areas or regions, periods of time, major groups of consumer expenditures, and population groups. Finance indicators in *The Condition of Education* use the "U.S. All Items CPI for All Urban Consumers, CPI-U."

The CPI-U is the basis for both the calendar year CPI and the school year CPI. The calendar year CPI is the same as the annual CPI-U. The school year CPI is calculated by adding the monthly CPI-U figures, beginning with July of the first year and ending with June of the following year, and then dividing that figure by 12. The school year CPI is rounded to three decimal places. Data for the CPI-U are available on the Bureau of Labor Statistics Web site (given below). Also, figures for both the calendar year CPI and the school year CPI can be obtained from the *Digest of Education Statistics 2000* (NCES 2001–034), an NCES annual publication.

Although the CPI has many uses, its principal function in *The Condition of Education* is to convert monetary figures (salaries, expenditures, income, and so on) into inflation-free dollars to allow comparisons over time. For example, due to inflation, the buying power of a teacher's salary in 1995 is not comparable to that of a teacher in 2000. In order to make such a comparison, the 1995 salary must be converted into 2000 constant dollars using the following formula: the 1995 salary is multiplied by a ratio of the 2000 CPI over the 1995 CPI.

$$1995 \text{ salary} * \frac{(2000 \text{ CPI})}{(1995 \text{ CPI})} = 1995 \text{ salary in 2000 constant dollars}$$

For more detailed information on how the CPI is calculated or the other types of CPI indexes, go to the Bureau of Labor Statistics Web site (*http://www.bls.gov/cpihome.htm)*.

In *The Condition of Education 2001*, this description of the CPI applies to *Indicators 18* and *56*.

Note 2: The Current Population Survey (CPS)

The CPS, a monthly survey of approximately 50,000 households in the United States, has been conducted for more than 50 years. The Bureau of the Census conducts the survey for the Bureau of Labor Statistics. The CPS collects data on the social and economic characteristics of the civilian, noninstitutional population, including information on income, education, and participation in the labor force.

Each month a "basic" CPS questionnaire is used to collect data on the labor force participation of each member age 15 and above in every sample household. In March and October of each year, the CPS includes additional questions about education. The Annual Demographic Survey or March CPS supplement is the primary source of detailed information on income and work experience in the United States. The March CPS is used to generate the annual Population Profile of the United States, reports on geographical mobility and educational attainment, and detailed analysis of money income and poverty status. Each October, in addition to the basic questions about education, interviewers ask supplementary questions about school enrollment for all household members age 3 and above.

Interviewers initially used printed questionnaires. Since 1994, the Census Bureau has used Computer-Assisted Personal (and Telephone) Interviewing (CAPI and CATI) to collect data. CAPI allows interviewers to use a complex questionnaire and increases consistency by reducing interviewer error. Further information on the CPS can be found at the Census Bureau Web site (*http://www.bls.census.gov/cps)*.

Definition of Selected Variables

Family income

The October CPS collects data on family income, which is used in *Indicator 26* to measure a student's economic standing. Low income is the bottom 20 percent of all family incomes, high income is the top 20 percent of all family incomes, and middle income is the 60 percent in between. The table at the end of this note shows the real dollar amount (rounded to the nearest $100) of the breakpoints between low and middle income and between middle and high income. For example, low income in 1999 was defined as the range between $0 and $14,700, middle income was defined as the range between $14,701 and $68,000, and high income was defined as $68,001 or more. Therefore, the breakpoints between low and middle income and between middle and high income were $14,700 and $68,000, respectively.

Parental education

For *Indicators 4* and *26,* information on parents' education was obtained by merging data from parents' records with their children's. Estimates of a mother's and father's education were calculated only for children who lived with their parents at the time of the survey. For example, estimates of a mother's education are based on children who lived with "both parents" or with "mother only." For children who lived with "father only," the mother's education was unknown; therefore, the "unknown" group was excluded in the calculation of this variable.

Educational attainment

Data from CPS questions on educational attainment are used for *Indicators 4, 18, 23, 26,* and *31*.

From 1972 to 1991, two CPS questions provided data on the number of years of school completed: (1) "What is the highest grade . . . ever attended?" and (2) "Did . . . complete it?" An individual's educational attainment was considered to be his or her last fully completed year of school. Individuals who com-

Note 2: The Current Population Survey (CPS)

Continued

pleted 12 years were deemed to be high school graduates, as were those who began but did not complete the first year of college. Respondents who completed 16 or more years were counted as college graduates.

Beginning in 1992, the CPS combined the two questions into the following question: "What is the highest level of school . . . completed or the highest degree . . . received?" In the revised response categories, several of the lower levels are combined in a single summary category such as "1st, 2nd, 3rd, or 4th grades." Several new categories are used, including "12th grade, no diploma"; "High school graduate, high school diploma, or the equivalent"; and "Some college but no degree." College degrees are now listed by type, allowing for a more accurate description of educational attainment. The new question emphasizes credentials received rather than the last grade level attended or completed if attendance did not lead to a credential. The new categories include the following:

- High school graduate, high school diploma, or the equivalent (e.g., GED)
- Some college but no degree
- Associate's degree in college, occupational/vocational program
- Associate's degree in college, academic program
- Bachelor's degree (e.g., B.A., A.B., B.S.)
- Master's degree (e.g., M.A., M.S., M.Eng., M.Ed., M.S.W., M.B.A.)
- Professional school degree (e.g., M.D., D.D.S., D.V.M., LL.B., J.D.)
- Doctoral degree (e.g., Ph.D., Ed.D.)

The change in questions in 1992 affects comparisons of educational attainment over time.

High school completion

The pre-1992 questions about educational attainment did not consider high school equivalency certificates (GEDs). Consequently, an individual who attended 10th grade, dropped out without completing that grade, and who subsequently received a high school equivalency credential would not have been counted as completing high school. The new question counts these individuals as if they are high school graduates. Since 1988, an additional question has been included in which respondents are asked if they have a high school degree or the equivalent, such as a GED. People who respond "yes" are classified as high school graduates. Before 1988, the majority of high school graduates did not fall into this category, and the overall increase in the total number of people counted as high school graduates is small.

Before 1992, the CPS considered individuals who completed 12th grade to be high school graduates. The revised question added a response category: "12th grade, no diploma." Individuals who select this response are not counted as graduates. The number of individuals in this category in this publication is small.

Despite these changes in the procedures for assessing the completion of a high school degree or its equivalent, the overall impact is also likely to be small and, perhaps, insignificant.

College completion

Some students require more than 4 years to earn an undergraduate degree, so some researchers are concerned that the completion rate, based on the pre-1992 category "4th year or higher of college completed," overstated the number of respondents with a bachelor's degree (or higher). In fact, however, the completion rates among those ages 25–29 in 1992 and 1993 were similar to the completion rates among those in 1990 and 1991, before the

Note 2: The Current Population Survey (CPS)

Continued

change in the question's wording. In sum, there is little reason to believe that the change has affected the completion rates reported in this publication.

Some college

Based on the question used in 1992 and in subsequent surveys, an individual who attended college for less than a full academic year would respond "some college but no degree." Before 1992, the appropriate response would have been "attended first year of college and did not complete it"; the calculation of the percentage of the population with 1–3 years of college excluded these individuals. With the new question, such respondents are placed in the "some college but no degree" category. Thus, the percentage of individuals with some college might be larger than the percentage with 1–3 years of college because "some college" includes those who have not completed an entire year of college, whereas "1–3 years of college" does not include these people. Therefore, it is not appropriate to make comparisons between the percentage of those with "some college but no degree" using the post-1991 question and the percentage of those who completed "1–3 years of college" using the two pre-1992 questions.

Effects of Changes in Educational Attainment Questions on Earnings Data

Indicator 18 presents estimates of annual median earnings for wage and salary workers with different levels of education. The discussion above suggests that the number of people with a high school diploma or its equivalent (but no further education), based on the post-1991 question, is larger than before because it includes all those with an equivalency certificate. In fact, however, the number of people in this category is smaller because it excludes those who completed 12th grade but did not receive a diploma and those who completed less than a full academic year of college. The latter group is now included in the pre-1992 category, "1–3 years of college."

The employment and earnings of respondents who were added and dropped from each category are similar; therefore, the net effect of the reclassification on employment rates and average annual earnings is likely to be minor. Thus, it is still useful to compare the employment rates and median annual earnings of recent cohorts with some college or an associate's degree with older cohorts who completed 1–3 years of college.

For further information on this issue, see Kominski and Siegel (1993).

Note 2: The Current Population Survey (CPS)

Continued

Dollar value (in current dollars) at the breakpoint between low- and middle- and between middle- and high-income categories of family income: October 1970–99

	Breakpoints between:	
October	Low- and middle-income	Middle- and high-income
1970	$3,300	$11,900
1971	—	—
1972	3,500	13,600
1973	3,900	14,800
1974	—	—
1975	4,300	17,000
1976	4,600	18,300
1977	4,900	20,000
1978	5,300	21,600
1979	5,800	23,700
1980	6,000	25,300
1981	6,500	27,100
1982	7,100	31,300
1983	7,300	32,400
1984	7,400	34,200
1985	7,800	36,400
1986	8,400	38,200
1987	8,800	39,700
1988	9,300	42,100
1989	9,500	44,000
1990	9,600	46,300
1991	10,500	48,400
1992	10,700	49,700
1993	10,800	50,700
1994	11,800	55,500
1995	11,700	56,200
1996	12,300	58,200
1997	12,800	60,800
1998	13,900	65,000
1999	14,700	68,000

— Not available.

NOTE: Amounts are rounded to the nearest $100.

Note 3: The National Household Education Surveys Program (NHES)

The National Household Education Surveys Program (NHES), conducted in 1991, 1993, 1995, 1996, and 1999, collects data on education issues that cannot be addressed by collecting data on a school level. Each survey collects data from households on at least two topics, such as adult education, civic involvement, parental involvement in education, and early childhood education. The NHES will be conducted again in 2001 and will collect information in three topical areas: adult education and lifelong learning; participation in early childhood programs; and before- and after-school programs and activities for children in grades K–8. Additional information on the NHES can be obtained at the NCES Web site *(http://nces.ed.gov/nhes/)*.

Interviewing Procedures

The NHES surveys the civilian, noninstitutionalized U.S. population in the 50 states and the District of Columbia. Interviews are conducted using computer-assisted telephone interviewing.

NHES collects data from adults as well as children. Data on young children are collected primarily by interviewing parents or guardians of children, and only infrequently by interviewing the children themselves. When such children are sampled to participate in NHES, the parent or guardian most knowledgeable about the child's care and education is interviewed. In 1996 and 1999, NHES also interviewed children in grades 6 through 12 with respect to their involvement in various civic and community activities.

Although NHES is conducted primarily in English, provisions are made to interview persons who speak only Spanish. Questionnaires are translated into Spanish, and bilingual interviewers, who are trained to complete the interview in either English or Spanish, are employed.

Age of the Child

Indicator 52 presents information on preprimary education for 3-, 4-, and 5-year-olds by the child's age. NHES reports the "age of the child" for 1991 data as the age that child was on December 31, 1990; December 31, 1992 for 1993 data; December 31, 1994 for 1995 data; December 31, 1995 for 1996 data; and December 31, 1998 for 1999 data.

Parents' Education

Parents' education is defined as the highest level of education of the child's parents or nonparent guardians who reside in the household. The variable is based on the higher of the educational levels of the mother or female guardian or the father or male guardian. If only one parent resided in the household, that parent's education is used. *Indicators 1, 16,* and *25* present data by parents' education.

Preprimary Enrollment Rates

Preprimary enrollment rates are calculated for *Indicator 1* by dividing the number of 3-, 4-, and 5-year-olds who (according to NHES data) were enrolled in center-based programs *or* kindergarten (as of December 31 of the year preceding the survey) by the total number of children ages 3, 4, and 5 in the United States as of the same date, according to the Bureau of the Census. Children who were enrolled in 1st grade or higher or who were in the "ungraded" category were excluded from the calculation of enrollment rates.

In 1999, NHES allowed respondents to indicate whether a child was enrolled only in a center-based program, only in kindergarten, or dually enrolled in both a center-based program *and* kindergarten. Respondents were allowed to indicate that a child was dually enrolled only if the respondent first indicated that the child was enrolled in kindergarten in

Note 3: The National Household Education Surveys Program (NHES)

Continued

a series of enrollment questions. If a respondent first stated that a child was enrolled in a center-based program, the respondent was not allowed to indicate that the child was also enrolled in kindergarten. Due to this limitation in response options, dual enrollment may be underestimated. In supplemental table 1-1, the estimates of enrollment in center-based programs or kindergarten are not affected by this consideration.

Indicator 1 presents data on preprimary enrollment rates including dual enrollment for 1999. The indicator does not present data on dual enrollment for the earlier years.

Adult Education

The adult education and lifelong learning survey excluded those who are on active military duty, who are institutionalized, and who are enrolled full time in a high school program. Adults were only asked about their literacy activities for literature written in English. Some adults, whose primary language is not English, may engage in literacy activities with materials written in their primary language. The NHES questions did not assess these activities.

Poverty

NHES data on household income and the number of people living in the household, combined with information from the Bureau of the Census on income and household size, are used to classify children as "poor" or "nonpoor." Children in families whose incomes are at or below the poverty threshold are classified as "poor"; children in families with incomes above the poverty threshold are classified as "nonpoor." The thresholds used to determine whether a child is "poor" or "nonpoor" differ for each survey year. The weighted average poverty thresholds for various household sizes for 1991, 1993, 1995, 1996, and 1999 are shown in the table on the following page.

It is not possible to determine whether respondents' families are above or below the poverty threshold for 1991 or 1993 with the same accuracy as for 1995, 1996, and 1999. In the earlier years, respondents were asked to indicate where their incomes fell within broad categories. In later years, respondents were asked to provide more precise estimates of household income. *Indicator 1* presents data by children's poverty status.

Note 3: The National Household Education Surveys Program (NHES)

Continued

Weighted average poverty thresholds, by household size: 1991, 1993, 1995, 1996, and 1999

Household size	Poverty threshold
NHES:1991	
2	$8,865
3	10,860
4	13,924
5	16,456
6	18,587
7	21,058
8	23,582
9 or more	27,942
NHES:1993	
2	9,414
3	11,522
4	14,763
5	17,449
6	19,718
7	22,383
8	24,838
9 or more	29,529
NHES:1995	
2	9,933
3	12,158
4	15,569
5	18,408
6	20,804
7	23,552
8	26,267
9 or more	31,280
NHES:1996	
2	10,233
3	12,516
4	16,036
5	18,952
6	21,389
7	24,268
8	27,091
9 or more	31,971
NHES:1999	
2	10,636
3	13,001
4	16,655
5	19,682
6	22,227
7	25,188
8	28,023
9 or more	33,073

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1991, 1993, 1995, 1996, and 1999.

Note 4: The National Assessment of Educational Progress (NAEP)

The National Assessment of Educational Progress (NAEP), administered regularly in a number of subjects since 1969, has two major goals: (1) to assess student performance reflecting current educational and assessment practices; and (2) to measure change in student performance reliably over time. To address these goals, the NAEP includes a main assessment and a long-term trend assessment. The assessments are administered to separate samples of students at separate times, use separate instrumentation, and measure different educational content. Consequently, results from the assessments should not be compared. Data presented in *The Condition of Education 2001* are from the long-term trend assessment.

Long-Term Trend NAEP

Indicators 10, 11, 12, 13, and *22* are based on the long-term trend NAEP. The long-term trend NAEP measures student performance in science, reading, writing, and mathematics. The long-term assessments have used the same instruments since their first administrations in the late 1960s and early 1970s for science, reading, and mathematics and in the early 1980s for writing. Accordingly, the long-term trend NAEP does not reflect current teaching standards or curricula. Nonetheless, the long-term trend NAEP facilitates comparisons of student performance over time.

Results from the long-term trend NAEP are presented as mean scale scores. Unlike the main NAEP, the long-term trend NAEP does not define achievement levels. Another important difference between the two assessments is that they collect data from different groups. In the main NAEP, results are reported for grades 4, 8, and 12. In most long-term trend assessments, average scores are reported by age. For science, reading, and mathematics, students at ages 9, 13, and 17 are assessed.

The meaning of scale scores at different levels of the assessment scale is shown in supplemental table 10-5 for reading, supplemental table 12-5 for mathematics, and supplemental table 13-5 for science.

Main NAEP

The main NAEP periodically assesses students' performance in several subjects, following the curriculum frameworks developed by the National Assessment Governing Board (NAGB) and using the latest advances in assessment methodology. NAGB develops the frameworks using curriculum standards developed within the field, such as the mathematics standards developed by the National Council of Teachers of Mathematics.

The content and nature of the main NAEP evolves to match instructional practices, so the ability to measure change reliably over time is limited. As standards for instruction and curriculum change, so does the main NAEP. As a result, data from different assessments are not always comparable. Recent NAEP main assessment instruments have typically been kept stable for short periods of time, allowing trend results to be reported for, at most, three time points. For some subjects that are not assessed frequently, such as civics and art, no trend data are available.

NAEP results are reported in terms of predetermined achievement levels because each assessment reflects current standards of performance in each subject. The achievement levels define what students who are performing at Basic, Proficient, and Advanced levels of achievement should know and be able to do. NAGB establishes achievement levels whenever a new main NAEP framework is adopted.

Note 5: International Assessments, TIMSS, and TIMSS-R

Under the auspices of the International Association for the Evaluation of Educational Achievement (1997a, 1997b, 1997c, 1997d, 1998), the Third International Mathematics and Science Study (TIMSS) assessed and collected data for more than half a million students at five grade levels (the 3rd, 4th, 7th, and 8th grades plus the final year of secondary school), providing information on student achievement, student background characteristics, and school resources in 45 countries in 1995. In 1999, the TIMSS study was repeated at the 8th-grade level for both mathematics and science, resulting in the Third International Mathematics and Science Study – Repeat (TIMSS-R). Data presented in *The Condition of Education 2001* are taken from both the 1995 and 1999 assessment components (*Indicators 14* and *43*), as well as the Video Classroom Study (*Indicator 36*). This note provides descriptions for each of these components.

TIMSS Assessment Components

The assessment components of TIMSS tested students in three populations:

- *Population 1*: Students enrolled in the two adjacent grades that contained the largest proportion of 9-year-old students at the time of the assessment—3rd- and 4th-grade students in most countries.
- *Population 2*: Students enrolled in the two adjacent grades that contained the largest proportion of 13-year-old students at the time of the assessment—7th- and 8th-grade students in most countries.
- *Population 3*: Students enrolled in their final year of secondary education, which ranged from 9th to 14th grade. In many countries, students in more than one grade participated in the study because the length of secondary education varied by type of program (e.g., academic, technical, vocational). No indicators in *The Condition of Education 2001* used data from this population.

Although internationally defined target populations were established, the results should be interpreted carefully because countries differed for various reasons in how they actually defined their populations and in their compliance with the TIMSS sampling guidelines. Consequently, reasons for differences in performance are not clear, and assumptions cannot easily be made about the relationship between performance and the differences among countries' samples.

All countries that participated in the study were required to administer assessments to the students in the two grades at *Population 2* but could choose whether to participate in the assessments of other populations. Forty-six countries participated in the survey of *Population 2*.

For all *Populations*, participating countries were required to meet sampling and other guidelines. In some situations, where it was not possible to implement testing for the entire International Desired Population (*Population 1*, *2*, or *3*), countries defined a National Desired Population, which excluded some portion of the International Desired Population. Countries were also permitted within their desired population to define a population that excluded a small percentage (less than 10 percent) of schools or students that would be difficult to test (e.g., small schools or schools located in a remote area). Only England exceeded the 10 percent level for *Populations 1* and *2*, excluding 12.1 and 11.3 percent of schools, respectively.

TIMSS used a two-stage sample design. For *Populations 1* and *2*, the first stage involved selecting, at a minimum, 150 public and private schools within each country. Nations were allowed to over sample to allow for analyses of particular national interest, and all collected data were appropriately weighted to account

Note 5: International Assessments, TIMSS, and TIMSS-R

Continued

for the final sample. Random sampling methods were then used to select from each school one mathematics class for each grade level within a population (generally 3rd and 4th for *Population 1* and 7th and 8th for *Population 2*). All of the students in these mathematics classes then participated in the TIMSS testing in mathematics and science.

The required participation rates from the samples for all *Populations* were at least 85 percent of both schools and students or a combined rate of 75 percent for schools and students. Countries that did not reach a 50 percent participation rate without the inclusion of replacement schools, or failed to reach the required rate even with the inclusion of replacement schools, failed to meet the sampling standards for participation.

TIMSS-R Assessment Components

The TIMSS study was repeated at the 8th-grade level for both mathematics and science in 1999, resulting in TIMSS-R. All countries that participated in TIMSS in 1995 were invited to participate in TIMSS-R, as were countries that did not participate in 1995. In total, 38 countries collected data for TIMSS-R, including 26 that had participated in TIMSS and 12 that participated for the first time.

TIMSS-R used the same international sampling guidelines as TIMSS to ensure that the data are comparable between the two studies. In order for a country to be included in TIMSS-R, it had to meet several international guidelines. The sample was to be representative of at least 90 percent of students in the total population eligible for the study; therefore, exclusion rates had to be less than 10 percent. The required participation rates from the samples were to be at least 85 percent of both schools and students or a combined rate of 75 percent for schools and students. Countries that did not reach a participation rate of 50 percent without replacement schools, or that failed to reach the required rate even with the inclusion of replacement schools, failed to meet the sampling standards for participation. The table below details the countries that did not meet the complete sampling guidelines and the reason.

For TIMSS-R, the international desired population consisted of all students in the country who were enrolled in the upper of the two adjacent grades that contained the greatest proportion of 13-year-olds at the time of testing. In the United States and most countries, this corresponded to grade 8. If the national desired population of a nation fell below 65 percent, the country's name is annotated to reflect

Countries covering less than 100 percent of the international desired population: 1999

Country	International desired population coverage	National desired population overall exclusion	Note on coverage
Israel	100	16.1	Exclusion rate more than 10 percent
Latvia	61	4	Exclusion of 39 percent of student population (non-Latvian-speaking students)
Lithuania	87	4.5	Exclusion of 13 percent of student population (non-Lithuanian-speaking students

Note 5: International Assessments, TIMSS, and TIMSS-R

Continued

this fact. This differed slightly from the sampling method used in TIMSS in 1995. The TIMSS population consisted of students enrolled in the two adjacent grades that contained the largest proportion of 9-year-old or 13-year-old students at the time of assessment—3rd- and 4th-grade students in most countries for 9-year-olds and 7th- and 8th-grade students in most countries for 13-year-olds.

TIMSS-R used the same assessment framework designed for TIMSS. Approximately one-third of the original 1995 TIMSS assessment items were kept secure so that they could be included in the 1999 TIMSS-R assessment. For the two-thirds that were released to the public, a panel of international assessment and content experts and the national research coordinators of each participating country developed and reviewed replacement items that closely matched the content of the original items to provide trend data. The assessment and questionnaire items were developed and field-tested for similarity and to allow reliable comparisons between TIMSS and TIMSS-R.

Videotape Classroom Study

TIMSS included a Videotape Classroom Study that examined (1) teachers' beliefs about reform and how these beliefs related to instructional practices; (2) the organization and process of mathematics instruction; and (3) the mathematical content of lessons in 231 8th-grade classrooms in Germany, Japan, and the United States.

The Videotape Classroom Study selected this set of 8th-grade classrooms to be representative of the classrooms in the main study (NCES 1999–074). The final sample of schools in the study included 100 German classrooms, 81 U.S. classrooms, and 50 Japanese classrooms from 231 schools that were randomly selected from the original TIMSS sample. In the United States, one 8th-grade classroom per school was randomly selected from the 8th-grade classrooms that participated in the TIMSS assessment. As an incentive to participate, videotaped U.S. teachers received a $300 grant to be used for a purpose decided jointly by the teacher and principal. In Germany, 100 schools with a single 8th-grade classroom that participated in the TIMSS assessment were randomly selected for the study. Participating German teachers received a modest stipend for their participation. In Japan, only schools—not 8th-grade classrooms—were randomly selected. One-third of Japanese schools with 8th-grade classrooms that participated in the TIMSS assessment were asked to participate in the study, but in schools with more than one 8th-grade classroom, school principals selected the 8th-grade classroom for videotaping from among those in their school that had not participated in the TIMSS assessment. Participating Japanese teachers received a small token of appreciation and a videotape of their teaching. In all three countries, if a teacher in the original sample of schools refused to be videotaped, then the school was dropped from the study and an equivalent school was randomly selected.

Videotaping of U.S. and German classrooms took place between October 1994 and May 1995. In Japan, the academic year begins in April, so all videotaping was conducted between November 1994 and March 1995. Because the national curriculum in Japan devotes the first half of the academic year to algebra and the second half of the year to geometry, geometry lessons were over-represented in the sample of lessons from Japanese classrooms. To compensate for this, five additional Japanese classrooms were sampled in the following school year to increase the number of Japanese algebra lessons.

After their classroom was videotaped, teachers were asked to complete a 28-item ques-

Note 5: International Assessments, TIMSS, and TIMSS-R

Continued

tionnaire. English, German, and Japanese versions of the questionnaire were created and judged to be equivalent by a group of researchers, each of whom was fluent in at least two of the languages. Over 90 percent of teachers in each country who were videotaped returned the questionnaire—91 percent in Germany, 94 percent in Japan, and 98 percent in the United States. Teachers were asked to describe the videotaped lesson, how typical that lesson was for their class, and their understanding of current reform efforts and to what extent these reforms were evident in the videotaped lesson.

Each of the videotaped lessons was examined to assess various elements of the lesson: the lesson's coherence, the type of reasoning required of students, the level of complexity of the lesson's content, the connections between parts of the lesson, and the kinds of tasks students were asked to engage in as part of the lesson. Examples of the type of comparisons made possible from these analyses are presented in supplemental tables 36-1, 36-2, and 36-3 as well as in chapters 3 and 4 of NCES 1999–074. (These chapters also explain in detail the elements and terms used in this indicator, most of which have technical definitions.)

A subset of lessons—15 in algebra and 15 in geometry—were also selected from each country for in-depth content analysis. (The subset for Japan included the five additional sampled Japanese algebra lessons.) For this in-depth analysis, elements of the lessons (e.g., organization, content, interaction, and activities) were recorded graphically, so they could be rated by a panel without any references or clues (e.g., monetary units) to the national origin of the lesson. An independent panel of four experts in mathematics and mathematical teaching received these graphic representations or "Lesson Tables" and rated these lessons as containing overall low-, medium-, or high-quality mathematical content, among other analyses. It is important to stress that this panel did not watch the videotaped lessons directly and thus did not rate the quality of the teaching in the classroom. They rated only the quality of mathematical content and did so only on the basis of the Lesson Tables, which masked the lesson's national origin in order to reduce the possibility of rating bias. Their global ratings of quality were based on an overall understanding of the detailed analyses of the lesson's elements as well as an understanding of the quality of the mathematics contained in each lesson. Each panel member rated each lesson. Initial agreement among the panel members on the global ratings of the quality of the mathematical content was high. When there was disagreement on the rating, consensus was reached through discussion. Thus, while the ratings of the quality of the mathematical content are subjective, they are based on a series of expert analyses.

Note 6: NAEP, NELS, and HS&B Transcript Studies

Indicators 24, 33, 34, and *35* of this volume and *Indicator 40, The Condition of Education 2000* summarize course-taking data from transcripts of graduates of public high schools collected as part of the U.S. Department of Education's National Assessment of Educational Progress (NAEP), National Education Longitudinal Study of 1988 Eighth Graders (NELS), and the High School and Beyond study (HS&B). *Indicator 28* uses a variable called "academic rigor" that is based on these data and information about students' participation in Advanced Placement (AP) courses and tests. *Indicator 24* uses two variables, "high school mathematics curriculum" and "8th-grade mathematics proficiency levels," that are based on NELS data. *Indicator 29* uses data from the U.S. Department of Education's High School and Beyond Postsecondary Transcript File (described at the end of this note).

NAEP, NELS, AND HS&B

For the purpose of comparing the academic challenge or difficulty of high school graduates' completed courses, the data from the NAEP, NELS, and HS&B transcript studies have been classified according to their course title into various levels of academic "pipelines." Created by researchers at the University of Michigan (Burkam, Lee, and Smerdon 1997), academic pipelines organize courses in mathematics, science, English, and foreign language into levels based on the normal progression and difficulty of courses within these subject areas. Each level has been constructed to include courses of similar academic challenge and difficulty or at the same stage in the progression of learning in that subject area. In the mathematics pipeline, for example, algebra I is placed at a level lower in the pipeline hierarchy than is algebra II because algebra I is less difficult than (and is traditionally taken before) algebra II.

Classifying transcript data into these levels allows one to conclude that high school graduates who have completed courses at the higher levels of a pipeline have completed more advanced coursework than graduates whose courses fall at the lower level of the pipeline. Tallying the percentage of graduates who completed courses at each level permits comparisons of the degree of academic challenge and difficulty of completed coursework among graduates of a given year, as well as among different graduating classes. This system of classification does not, however, allow one to make statements about the rigor of the coursework completed by students because courses with the same name in different districts and states can have different content and different expectations for performance.

Likewise, this system of classification does not provide information on the highest level of coursework graduates *attempted* in a subject area. The pipeline is used only to classify *completed* courses in a subject area. The pipeline also does not provide information on how many courses graduates completed in a particular subject area. Graduates are placed at a particular level in the pipeline based on the level of their highest completed course, regardless of whether they completed courses that would fall lower in the pipeline. Thus graduates who completed year 3 of (or 11th-grade) French did not necessarily complete the first 2 years.

For an analysis of the comparability of transcript studies from 1982 through 1994, see NCES 98–532.

Mathematics pipeline

Originally developed by Burkam, Lee, and Smerdon (1997), the mathematics pipeline progresses from no mathematics courses or nonacademic courses to low, middle, and advanced academic coursework. Each level in the pipeline represents the highest level of mathematics

Note 6: NAEP, NELS, and HS&B Transcript Studies

Continued

coursework that a graduate completed in high school. Thus, a graduate whose highest course is at the low academic level progressed no further in the mathematics pipeline and did not complete a traditional algebra I course, a prerequisite for higher level mathematics in high school.

The mathematics pipeline has eight levels: no mathematics; nonacademic; low academic; middle academic I; middle academic II; advanced I; advanced II; and advanced III. Middle levels I and II and advanced levels I, II, and III can be combined to create one middle level and one advanced level, respectively, thus creating a five-level pipeline (no mathematics; nonacademic; low academic; middle academic; and advanced).

Indicator 24 uses a modified version of this pipeline. This modified version

- merges the three lowest levels into the category "no mathematics/nonacademic";
- retains the middle academic levels I and II as distinct categories; and
- uses the combined advanced academic level to create a four-level pipeline.

Indicator 40, The Condition of Education 2000 uses the entire pipeline.

Indicator 35 uses only the highest level of the five-level pipeline—advanced academic mathematics.

No mathematics

No coursework completed in mathematics by graduate, or only basic or remedial-level mathematics completed. It is thus possible for a graduate to have taken one or more courses in mathematics, but to be placed in the no mathematics level.

Nonacademic level

Highest completed courses are in general mathematics or basic skills mathematics, such as general mathematics I or II; basic mathematics I, II, or III; consumer mathematics; technical or vocational mathematics; and mathematics review.

Low academic level

Highest completed courses are preliminary courses (e.g., prealgebra) or mathematics courses of reduced rigor or pace (e.g., algebra I taught over the course of 2 academic years). Considered to be more academically challenging than nonacademic courses, courses at this level include prealgebra; algebra I, part I; algebra I, part II; and geometry (informal).

Middle academic level

The middle academic level is divided into two sublevels, each of which is considered to be more academically challenging than the nonacademic and low academic levels, though level I is not considered as challenging as level II.

- Middle academic level I

  Highest completed courses include algebra I, plane geometry, plane and solid geometry, unified mathematics I and II, and pure mathematics.

- Middle academic level II

  Highest completed course is algebra II or unified mathematics III.

Advanced academic level

The advanced academic level is divided into three sublevels, each of which is considered more academically challenging than the nonacademic, low academic, and middle academic levels, though level I is not considered as challenging as level II, nor level II as challenging as level III.

Note 6: NAEP, NELS, and HS&B Transcript Studies

Continued

- Advanced academic level I

  Highest completed course is algebra III, algebra/trigonometry, algebra/analytical geometry, trigonometry, trigonometry/solid geometry, analytical geometry, linear algebra, probability, probability/statistics, statistics, statistics (other), or an independent study.

- Advanced academic level II

  Highest completed course is precalculus or an introduction to analysis.

- Advanced academic level III

  Highest completed course is Advanced Placement (AP) calculus, calculus, or calculus/analytical geometry.

Science pipeline

Unlike mathematics and other subjects, such as foreign languages, coursework in science does not follow a common or easily defined sequence. Depending on a school's curriculum, students can choose from several courses with minimal sequencing requirements. Consequently, the method used to construct the science pipeline differs from that used to construct the mathematics pipeline. First, all science courses were placed in one of four groups based on subject matter: (1) life science (biology); (2) chemistry; (3) physics; and (4) all other physical sciences (e.g., geology, earth science, physical science). Second, a pipeline was constructed for each of these four groups. Third, the pipelines for chemistry, physics, and all other physical sciences were combined into a single pipeline (a physical science pipeline). Finally, the physical science and life science pipelines were combined to create a single science pipeline. The final pipeline has seven levels: no science; primary physical science; secondary physical science; biology; chemistry I or physics I; chemistry I and physics I; and chemistry II or physics II.

Indicator 40, The Condition of Education 2000 uses the entire pipeline.

Indicator 35 combines the three highest levels into the category "advanced science."

No science

Includes graduates who did not complete any courses in science or who completed only basic or remedial-level science. It is possible for a graduate to have taken one or more courses in science but to be placed in the no science level.

Primary physical science

Highest completed course is in basic physical sciences: applied physical science, earth science, college preparatory earth science, and unified science.

Secondary physical science

Highest completed course is astronomy, geology, environmental science, oceanography, general physics, basic biology I, or consumer or introductory chemistry.

Biology

Highest completed course is general biology I; secondary life sciences (including ecology, zoology, marine biology, and human physiology); or general or honors biology II, and advanced biology. Advanced biology includes International Baccalaureate (IB) biology 2, IB biology 3, AP biology, field biology, genetics, biopsychology, biology seminar, biochemistry and biophysics, biochemistry, botany, cell and molecular biology, cell biology, microbiology, anatomy, and miscellaneous specialized areas of life sciences.

Chemistry I or Physics I

Highest completed course is introductory chemistry, chemistry I, organic chemistry, physical chemistry, consumer chemistry, general physics, or physics I.

Note 6: NAEP, NELS, and HS&B Transcript Studies

Continued

Chemistry I and Physics I

Highest completed courses include one level I chemistry course (see above) and one level I physics course (see above).

Chemistry II or Physics II

Highest completed course is chemistry 2, IB chemistry 2, IB chemistry 3, AP chemistry, physics 2, IB physics, AP physics B, AP physics C: mechanics, AP physics C: electricity/magnetism, or physics 2 without calculus.

English pipeline

Unlike mathematics or science, English language and literature courses do not fit neatly into an ordered hierarchical framework. Instead of building on previously studied content, the English curriculum is stratified by the level of academic challenge and intensity of work required within a specific content area rather than among different courses. For example, within the general English curriculum, most schools have three tracks that vary by level of academic challenge: below-grade level or low academic level courses, at-grade or regular courses, and above-grade or honors courses. Thus, unlike the mathematics and science pipelines that are based on progress within content continuum (e.g., algebra I, geometry, algebra II, trigonometry, and calculus), the English pipeline is constructed to reflect the proportion of coursework completed by graduates in each track. It reflects the quality of a graduate's English coursetaking rather than the progression from low-level to more challenging coursework (Burkam 2001).

The English pipeline has eight categories: no English coursework; 75 percent or more low academic level courses; 50 percent or more, but less than 75 percent low academic level courses; some, but less than 50 percent low academic level courses; regular, no low academic level or honors courses; some, but less than 50 percent honors courses; 50 percent or more, but less than 75 percent honors courses; and 75 percent or more honors courses.

Indicator 35 combines the three highest levels into the category "advanced English."

Indicators 33 and *34* use a modified version of this pipeline. This modified version merges the two lowest categories of the low academic level into the category "50 percent or more low academic level courses."

No English

No courses classified as English ever completed by graduate. It is possible for a graduate to have taken one or more unclassified English courses and to be placed in the "no English" level. For the most part, these graduates completed only coursework in English as a Second Language.

Low academic level

The low academic level is divided into three sublevels.

- 75 percent or more low academic level English courses

  The number of completed courses classified as low academic level, when divided by the total number of completed low academic-, regular-, and honors-level courses, yields a percentage between 75 and 100.

- 50 percent or more, but less than 75 percent low academic level courses

  The number of completed courses classified as low academic level, when divided by the total number of completed low academic-, regular-, and honors-level courses, yields a percentage of 50 or greater and less than 75.

Note 6: NAEP, NELS, and HS&B Transcript Studies

Continued

- Some, but less than 50 percent low academic level courses

  The number of completed courses classified as low academic level, when divided by the total number of completed low academic-, regular-, and honors-level courses, yields a percentage less than 50.

Regular

All completed English courses classified at grade level; no low academic level or honors courses.

Advanced academic level

The advanced academic level is divided into three sublevels.

- Some, but less than 50 percent honors courses

  The number of completed courses classified as honors level, when divided by the total number of completed low academic-, regular-, and honors-level courses, yields a percentage less than 50.

- 50 percent or more, but less than 75 percent honors courses

  The number of completed courses classified as honors level, when divided by the total number of completed low academic-, regular-, and honors-level courses, yields a percentage 50 or greater and less than 75.

- 75 percent or more honors courses

  The number of completed courses classified as honors level, when divided by the total number of completed low academic-, regular-, and honors-level courses, yields a percentage between 75 and 100.

Foreign language pipeline

As in mathematics, coursework in a foreign language follows an ordered, sequential path. Most high school students who study a foreign language progress along such a path, which is typically a sequence of four year-long courses in the language. Not all students do this, however. Some students begin their studies in the middle of a sequence because they have prior knowledge of the language. Some repeat the same year of study. And a few (about 7 percent of 1988 graduates) study more than one language (NCES 2001–325). The highest level of completed coursework in the foreign language pipeline thus may not indicate the total number of years a graduate has studied a foreign language or languages.

The foreign language pipeline also does not classify all foreign language study: only courses in French, German, Latin, and Spanish are counted because these are the most commonly offered foreign languages. The next four most commonly offered foreign languages (Italian, Japanese, Hebrew, and Russian) each accounted for less than 1 percent of 1988 graduates who studied foreign languages in the unweighted NELS:88 sample that was used to create the pipeline (NCES 2001–325). Adding these four languages to the four most common languages made less than 0.1 percent difference in the percentage of graduates who studied a single language, though it made more difference (yet less than 1 percent) in the percentage of graduates who never studied a language and who studied more than one language. In 1998, the total percentage of students who studied one of these next four most commonly offered languages was 4.5 percent.

The foreign language pipeline usually has seven categories: never took a foreign language; completed less than 1 year of 9th-grade instruction; year 1 (1 year of 9th-grade instruction); year 2

Note 6: NAEP, NELS, and HS&B Transcript Studies

Continued

(1 year of 10th-grade instruction); year 3 (1 year of 11th-grade instruction); year 4 (1 year of 12th-grade instruction); and AP instruction.

Indicators 33 and *34* use a modified version of this pipeline. This modified version

- merges the two categories "completed less than 1 year of 9th-grade instruction" and "year 1" into the category "year 1 or less";
- adds the category "low academic level," which totals the percentage of graduates who completed year 1 or less and those who completed year 2; and
- adds the category "advanced academic level," which totals the percentage of graduates who completed year 3 and higher.

Never took foreign language

No courses classified as foreign language study ever completed by graduate. Only courses in the four most common languages (French, German, Latin, and Spanish) are counted as foreign language study, so it is possible for a graduate to have taken one or more courses of some other foreign language and to be placed in this category.

Completed less than 1 year of 9th-grade instruction

Graduate completed less than a full Carnegie unit (1 academic year of coursework) of foreign language instruction.

Year 1 (1 year of 9th-grade instruction)

Graduate completed either a full Carnegie unit (1 academic year of coursework) of 9th-grade (year 1) foreign language instruction, or completed half a Carnegie unit of 10th-grade (year 2) foreign language instruction.

Year 2 (1 year of 10th-grade instruction)

Graduate completed either a full Carnegie unit (1 academic year of coursework) of 10th-grade (year 2) foreign language instruction, or completed half a Carnegie unit of 11th-grade (year 3) foreign language instruction.

Year 3 (1 year of 11th-grade instruction)

Graduate completed either a full Carnegie unit (1 academic year of coursework) of 11th-grade (year 3) foreign language instruction, or completed half a Carnegie unit of 12th-grade (year 4) foreign language instruction.

Year 4 (1 year of 12th-grade instruction)

Graduate completed either a full Carnegie unit (1 academic year of coursework) of 12th-grade (year 1) foreign language instruction or completed half a Carnegie unit of 13th-grade (year 5) foreign language instruction.

AP instruction

Graduate completed an AP foreign language course.

Academic Rigor of High School Coursework

The overall difficulty of students' coursework in high school is an indicator of their academic preparation for postsecondary education. Using previous research as a guide (Adelman 1999; Burkam, Lee, and Smerdon 1997), the variable "academic rigor" was created for *Indicator 28* to reflect the following:

- the number of courses students had completed in the academic subjects of mathematics, science, English, social studies, and foreign language;
- the level or intensity of courses that students had taken in mathematics and science; and

Note 6: NAEP, NELS, and HS&B Transcript Studies

Continued

- whether students had taken any honors or AP courses.

When information on honors/AP coursetaking was missing, *Indicator 28* used AP test-taking as supplementary data. It was assumed that, if AP records indicated that students had taken an AP test, students had taken a honors/AP course.

For *Indicator 28*, the two middle categories were combined:

- *Core New Basics or below:* Student completed no more than 4 years of English and 3 years each of mathematics, science, and social studies.
- *Beyond Core New Basics I:* Student completed at least 4 years of English and 3 years each of mathematics (including algebra 1 and geometry), science (including 2 years of biology, chemistry, or physics), and social studies.
- *Beyond Core New Basics II:* Student completed at least 4 years of English and 3 years each of mathematics (including algebra 2), science (including biology, chemistry, and physics), and social studies.
- *Rigorous:* Student completed at least 4 years each of English and mathematics (including precalculus), 3 years each of science (including biology, chemistry, and physics) and social studies, 3 years of foreign language, and 1 honors/AP course or AP test score.

High School Mathematics Curriculum

The high school mathematics curriculum variable used in *Indicator 24* is based on the number and level of mathematics courses reported on the high school transcripts of the participants in the 1988 National Education Longitudinal Study (NELS). The grouping of curriculum levels as reported in this indicator was taken from NCES 2000–153. This report defines four levels of mathematics courses completed by 1992 high school graduates as follows:

- *No mathematics/nonacademic:* student did not take any mathematics courses; took nonacademic or low academic courses, including those classified as "general mathematics" or "basic skills mathematics"; low academic courses that comprise preliminary (e.g., prealgebra) or reduced rigor/pace mathematics courses (e.g., algebra I that is spread over 2 academic years and "informal geometry").
- *Algebra I/geometry:* student completed 2 years of mathematics, including algebra I and geometry, or 2 years of unified mathematics.
- *Algebra II:* student completed an additional year of mathematics, including algebra II, or a 3rd year of a unified mathematics program.
- *Advanced (beyond algebra II):* student took at least one of any courses labeled as "advanced," including courses in trigonometry, probability, statistics, introductory analysis or precalculus, algebra III, or calculus.

Eighth-Grade Mathematics Proficiency Levels

The 8th-grade mathematics proficiency variable used in *Indicator 24* is based on mathematics tests taken by the NELS participants in 1988 (the base year of the survey) when they were in the 8th grade. The tests were designed in such a way that results could be reported as simple numbers and as performance levels. The 8th-grade proficiency levels reported in this indicator are limited to 1992 high school graduates.

Note 6: NAEP, NELS, and HS&B Transcript Studies

Continued

- *Below Level 1:* student cannot perform simple arithmetical operations on whole numbers.
- *At Level 1, but below Levels 2 and 3:* student can perform at level 1, but below level 2.
- *At Level 1 and 2, but below Level 3:* student can perform simple operations with decimals, fractions, and roots, but cannot perform at level 3.
- *Proficient at all 3 levels:* student can perform at lower levels and can do simple problem solving, requiring conceptual understanding or the development of a solution strategy.

College Remediation and Degree Completion

In *Indicator 29*, which compares the postsecondary achievement of students who had taken varying patterns of remedial courses in college, transcript data from the U.S. Department of Education's High School and Beyond Postsecondary Transcript File were organized according to the number and type of remedial courses completed. Five mutually exclusive categories of remedial coursework were created. Students were placed in these categories as follows. Students with (1) any remedial courses were first identified; then (2) students with two or fewer remedial mathematics courses only; then (3) students with two or more courses in English, mathematics, or other courses other than reading (but not solely two courses in mathematics); then (4) students with only one remedial course other than reading or mathematics; and (5) students with no remedial courses.

Courses defined as remedial include precollege mathematics; arithmetic-based business mathematics; remedial writing; remedial speech; basic reading (but not speed reading); business English: punctuation and grammar; English-as-a-second language; and basic academic skills. For a description of how courses were coded from the High School and Beyond Postsecondary Transcript File, see Adelman (1999).

Note 7: The Baccalaureate and Beyond Longitudinal Study

The Baccalaureate and Beyond (B&B) Longitudinal Studies track the experiences of a cohort of college graduates who received baccalaureate degrees in a given year. B&B data presented in *The Condition of Education 2001* were collected from the first B&B cohort: students, identified in the National Postsecondary Student Aid Study (NPSAS:1993), who completed a bachelor's degree in 1992–93.

The B&B data used for *Indicators 42* and *59* are from the initial and follow-up surveys of the 1992–93 cohort. As part of the initial survey, these students were asked about their future employment and education expectations as well as about their undergraduate education. The B&B:1993 First Follow-up in 1994 (B&B:1993/1994) collected information about their job search activities after graduation as well as information concerning their education and employment experiences after graduation. Individuals who had shown an interest in becoming teachers were asked additional questions about their pursuit of this career, and if teaching, about their current teaching position. In addition, the First Follow-up collected undergraduate transcripts whenever possible. The Second Follow-up in 1997 (B&B:1993/1997) collected information on education, employment, and other experiences since the previous interview.

Teacher Pipeline

The "teacher pipeline" is an analytical framework that organizes graduates by the number of steps they have taken toward becoming teachers. All bachelor's degree recipients are considered eligible to enter the teacher pipeline except those who had taught or been certified to teach before getting their bachelor's degree. (Excluded graduates in the analysis of *Indicator 42* constituted 3 percent of all 1992–93 graduates.)

For the purposes of analysis in *Indicator 42*, graduates were classified as "in the teacher pipeline" if they reported that they (1) taught in an elementary or secondary school, (2) became certified to teach, (3) applied for a teaching position, (4) completed a student-teaching assignment as an undergraduate, or (5) were considering teaching at the time of either the 1994 or the 1997 follow-up interview. In 1994, 1 year after completing the 1992–93 degree, one-quarter of 1992–93 bachelor's degree recipients had entered the teacher pipeline (though only 8 percent actually taught). By 1997, 4 years after completing the degree, more than one-third (36 percent) had entered the teacher pipeline and 13 percent had actually taught.

Graduates in the teaching pipeline were further subdivided according to whether they prepared to teach and whether they actually taught. For the purposes of analysis, graduates were defined as "prepared to teach" if their undergraduate transcripts indicated that they had completed a student-teaching assignment or if they reported having earned a teaching certificate at the probationary level or higher. (This label does not indicate that the graduate necessarily majored in education or the subject in which they taught.)

These definitions and classifications for organizing B&B data into the teacher pipeline are the same as those used in NCES 2000–152.

College Entrance Examination Scores

For *Indicator 42*, college entrance examination scores were used as a proxy measure for academic caliber. Scholastic Assessment Test (SAT) scores were used primarily, but when unavailable, ACT scores were used if they were available. When possible, scores were collected from the Educational Testing Service or the degree-granting institution. However, some self-reported

Note 7: The Baccalaureate and Beyond Longitudinal Study

Continued

scores were also used. For respondents with SAT scores available, a quartile ranking was calculated based upon the distribution of ETS-supplied SAT scores of graduates in the B&B sample who had scores. If no SAT score was available, the quartile ranking of the respondent's ACT composite score was used. These ACT quartiles were determined by converting the SAT quartile scores to equivalent ACT scores using a concordance table (Marco, Abdel-Fattah, and Baron 1992).

General Study Design

The Baccalaureate and Beyond (B&B) Longitudinal Study is based on the National Postsecondary Student Aid Study (NPSAS)—a large, nationally representative sample of institutions, students, and parents. For each NPSAS that serves as the base year for a B&B cohort, the sample is structured to provide an optimum sample of graduating seniors in all majors. This allows the accurate identification of baccalaureate degree completers and provides additional information concerning both past education experiences and future education and employment expectations. Data from all components of NPSAS (the Student Record Abstract, the Student Interview, and the Parent Survey) are available as base-year data for the B&B sample.

B&B:1993 is designed to follow those baccalaureate degree completers identified in NPSAS for about 10 years. About 11,000 students who completed their degree in the 1992–93 academic year were included in the first B&B (B&B:1993/1994). In addition to the student interview data, B&B:1993/1994 collected postsecondary transcripts covering the undergraduate period. These transcripts provide information on progress and persistence at the undergraduate level. The Second B&B Follow-up, which collected data 4 years after the students received their bachelor's degree, took place between April and December 1997 (B&B:1993/1997).

Components

Base Year (1993) — NPSAS:1993

Student Record Abstract (from institutional records)

Year in school; major field of study; type and control of institution; attendance status; tuition and fees; admission test scores; financial aid awards; cost of attendance; student budget information and expected family contribution for aided students; grade-point average; age; date first enrolled.

Student Interview

Level; major field of study; financial aid at other schools attended during year; other sources of financial support; monthly expenses; reasons for selecting the school they attended; current marital status; age; race/ethnicity; sex; highest degree expected; employment and income; community service, expectations for employment after graduation, expectations for graduate school, plans to enter the teaching profession.

Parent Interview

Parents' marital status; age; highest level of education achieved; income; amount of financial support provided to children; types of financing used to pay child's educational expenses; current employment (including occupation and industry).

First Follow-up (1994) — B&B:1993/1994

Student Interview

Employment after degree completion; job search activities; expectations for and entry into teaching; teacher certification status; job training and responsibilities; expectations/entry into graduate school; enrollment after degree; financial aid; loan repayment/status; income, family formation and responsibilities; community service.

Note 7: The Baccalaureate and Beyond Longitudinal Study

Continued

Undergraduate Transcripts

Undergraduate coursework; institutions attended; grades; credits attempted and earned; academic honors earned. (All information as reported by the institution and converted to semester credits and 4.0 grade scale for comparability between institutions.)

Second Follow-up (1997)—B&B:1993/1997

Student Interview

Employment history; enrollment history; job search strategies at degree completion (each new degree completed); career progress; current status in graduate school; non-Federal aid received; additional job training; entry into/persistence in/resignation from teaching career; teacher certification status; teacher career paths; income; family formation and responsibilities; community service.

Department Aid Application/Loan Records

Types and amounts of federal financial aid received; total federal debt accrued; loan repayment status.

Note 8: Other Surveys

The National Study of Postsecondary Faculty

Indicators 46, 47, 48, 49, 50, and *51* use data collected for the National Study of Postsecondary Faculty (NSOPF), which the National Center for Education Statistics sponsors. With support from the National Endowment for the Humanities (NEH), NSOPF:1988 was conducted in 1987–88 with a sample of 480 institutions (including 2-year, 4-year, doctorate-granting, and other colleges and universities); over 3,000 department chairpersons; and over 11,000 faculty. NSOPF:1993, which received support from the NEH and the National Science Foundation, was limited to surveys of institutions and faculty in 1992–93. NSOPF:1993 included a sample of 974 public and private, not-for-profit degree-granting postsecondary institutions and 31,354 faculty and instructional staff. NSOPF:1999 was designed to provide a national profile of faculty, including data on their professional backgrounds, responsibilities, workloads, salaries, benefits, and attitudes. NSOPF:1999, which collected data in 1998–99, included 960 degree-granting postsecondary institutions and an initial sample of 28,704 faculty and instructional staff from these institutions. Additional information on NSOPF:1988 and NSOPF:1993 is available at the NCES Web site *(http://nces.ed.gov/surveys/nsopf/)*.

Early Childhood Longitudinal Study

Indicators 8 and *9* are based on the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K). ECLS-K is an ongoing effort by the U.S. Department of Education, National Center for Education Statistics. Launched in fall 1998, the study follows a nationally representative sample of approximately 22,000 children from kindergarten through 5th grade. The purpose of the ECLS-K is twofold: to be both descriptive and analytic. First, the ECLS-K provides descriptive data on a national basis of (1) children's status at entry into school; (2) children's transition into school; and (3) their progression through 5th grade. Second, the ECLS-K provides a rich data set that enables researchers to study how a wide range of family, school, community, and individual variables affect early success in school.

The approximately 22,000 children selected for participation in the study were enrolled in about 1,000 kindergarten programs during the 1998–99 school year. These children were selected from both public and private kindergartens, offering full- and part-day programs. The sample consists of children from different racial/ethnic and socioeconomic backgrounds and includes an oversample of Asian/Pacific Islander children, private kindergartens, and private school kindergartners. All kindergarten children within the sampled schools were eligible for the sampling process, including language minority and special education students. The sample design for the ECLS-K is a dual-frame, multistage sample. First, 100 Primary Sampling Units (PSUs), which are counties or groups of counties, were selected. Schools within the PSUs were then selected; public schools from a public school frame and private schools from a private school frame. In fall 1998, approximately 23 kindergartners were selected within each of the sampled schools.

Data on the kindergarten cohort were collected in the fall and spring of the kindergarten year from the children, their parents, and their teachers. In addition, information was collected from their schools and school districts in the spring of the kindergarten year. During the 1999–2000 school year, when most of the cohort moved to the 1st grade, data were again collected from a 30 percent subsample of the cohort in the fall and from the full sample in the spring.

Trained evaluators assessed children in their schools and collected information from parents over the telephone. Teachers and school

Note 8: Other Surveys

Continued

administrators were contacted in their school and asked to complete questionnaires. The children, their families, their teachers, and their schools provided information on children's cognitive, social, emotional, and physical development. Information was also collected on the children's home environment, home educational practices, school and classroom environments, curricula, and teacher qualifications. Additional surveys of the sampled children are planned for spring 2002 (3rd grade) and spring 2004 (5th grade).

Indicator 8 uses standard deviation to discuss the relative importance of the gain in reading and mathematics average scale scores across grades. A standard deviation shows the dispersion of scores from the mean. In a normal distribution, approximately 68 percent of the scores are within plus or minus one standard deviation from the mean. Ninety-five percent of the scores are within plus or minus two standard deviations from the mean. In simpler terms, a standard deviation alerts the reader that there is an appreciable difference between the two numbers, rather than simply a statistically significant difference. The ECLS-K scale scores ranged from 0–64 for mathematics and from 0–72 for reading; the use of standard deviations provides the reader with more information about the relative size of the change.

For additional information on the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99, visit the ECLS-K Web site *(http://nces.ed.gov/ecls/kindergarten/studybrief.htm)*.

Monitoring the Future

Indicators 19, 20, and *21* are based on the Monitoring the Future (MTF) Survey. With support from the National Institute on Drug Abuse, the University of Michigan's Institute for Social Research has administered the MTF Survey annually since 1975 to measure trends among U.S. youth on a range of topics. In addition to education-related questions, the survey includes items on demographic characteristics; job experience and other employment topics; drug, alcohol, and tobacco use, and other health topics; values and attitudes about social issues, family, religion, and politics; and personality variables. A nationally representative sample of high school seniors has been surveyed since 1975, and 8th-graders and 10th-graders were added in 1991. Some follow-up subsamples include college students and other young adults. Data analyzed in this volume are from the 12th-grade survey only. Seniors in public and private schools in the 48 contiguous states are included in the samples.

The MTF Survey has remained generally consistent over time in purpose and scope, sample design and methods, and content. Nonetheless, the addition of 8th- and 10th-grade samples noted above marked a significant change, and a small number of questions are added or dropped from time to time. In the sampling process, geographic areas are selected first, then high schools in each selected area are chosen, and finally students are sampled within selected schools. Surveys are administered in regular class periods to the students present, and students are encouraged to participate and finish the entire set of questions. The main group of sampled students who do not participate are those absent from class when the survey is given; field representatives estimate that only about 1 percent of students who are in class fail to complete and submit their questionnaires.

The NCES guideline for response rates provides that if the total response rate (school participation rate times survey rate times item rate) falls below 70 percent, estimates for any such items (variables) will not be published without nonresponse bias analysis. Although total response rates for the MTF Survey are generally above 70 percent, for some items this rate

Note 8: Other Surveys

Continued

is below 70 percent. The participation rate of schools in the original sample ranges from 66 percent to 80 percent from year to year, although schools that refuse are generally replaced by other schools matched on basic characteristics. The overall student response rates for data sets used in this volume varied from 82 percent (for 1998) to 86 percent (for 1990). The response rates for survey items used in this volume ranged from about 83 to 96 percent.

For *Indicator 19,* some small differences appear between the 1990 MTF estimates published in *The Condition of Education 2000* and those in this volume. In last year's *Condition*, the estimates (of 1980 and 1990 data) were calculated by MTF staff using the full version of the student weight variable, while this year's MTF estimates were all calculated from the distributed data set that includes only a bracketed version of the weight variable (provided to protect confidentiality). The slight differences in weights account for the different estimates.

There are several ways to obtain further information about the MTF Surveys:

E-mail: *MTFinfo@isr.umich.edu*
Go to MTF's Web site (and linked pages): *http://monitoringthefuture.org/*
Call ISR staff: (734) 764-8354
Write to:
Institute for Social Research
University of Michigan
426 Thompson St.
Ann Arbor, MI 48104-2321

Other Surveys

Information on other surveys referenced in this volume may be found at the Web sites listed below:

For *Indicators 2* and *56,* see the Common Core of Data (CCD) *(http://nces.ed.gov/ccd/)*. This site also contains information regarding CCD component surveys such as the Public Elementary/ Secondary School Universe Survey, Local Education Agency (School District) Universe Survey, and National Public Education Financial Survey.

For *Indicator 6,* see the National Postsecondary Student Aid Study (NPSAS:1996) *(http://nces.ed.gov/npsas/)*.

For *Indicator 17,* see the National Health Interview Survey, 1997 *(http://www.cdc.gov/nchs/nhis.htm)*.

For *Indicator 24,* see the National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994) *(http://nces.ed.gov/surveys/nels88/)*.

For *Indicators 27* and *28,* see the Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998) *(http://nces.ed.gov/surveys/bps/)*.

For *Indicator 30,* see the Higher Education General Information Survey (HEGIS), 1970–71, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), 1997–98, "Completions" survey *(http://nces.ed.gov/Ipeds/c9697/)*.

For *Indicators 39* and *45,* see the Fast Response Survey System (FRSS) *(http://nces.ed.gov/surveys/frss/)*.

For *Indicator 44,* see the National Health Interview Survey—Youth Risk Behavior Survey, 1993, 1995, 1997, and 1999 *(http://www.cdc.gov/nccdphp/dash/yrbs/)*.

Note 9: International Standard Classification of Education

Indicators 32 and *57* use the International Standard Classification of Education (ISCED), which is designed to facilitate comparisons among educational systems in different countries. Many countries report education statistics to UNESCO and the Organisation for Economic Co-operation and Development (OECD) using the ISCED. In this classification system, education is divided into levels.

Education preceding the first level (early childhood education) where it is provided usually begins at age 3, 4, or 5 (sometimes earlier) and lasts from 1 to 3 years. In the United States, this level includes nursery school and kindergarten.

Education at the first level (primary education) usually begins at age 5, 6, or 7 and continues for about 5 or 6 years. For the United States, the first level starts with 1st grade and ends with 6th grade.

Education at the secondary level (lower secondary education) begins at about age 11 or 12 and continues for about 3 years. For the United States, the second level starts with 7th grade and typically ends with 9th grade.

Education at the lower secondary level continues the basic programs of the first level, although teaching is typically more subject focused, often employing more specialized teachers who conduct classes in their field of specialization. The main criteria for distinguishing lower secondary education from primary education depend on whether programs begin to be organized in a more subject-oriented pattern, using more specialized teachers conducting classes in their field of specialization. If there is no clear breakpoint for this organizational change, the lower secondary education begins at the end of 6 years of primary education. In countries with no clear division between lower secondary and upper secondary education, and where lower secondary education lasts for more than 3 years, only the first 3 years following primary education are counted as lower secondary education.

Education at the third level (upper secondary education) begins at about age 14 or 15 and lasts for approximately 3 years. For the United States, the third level starts with 10th grade and ends with 12th grade. Upper secondary education is the final stage of secondary education in most OECD countries. Instruction is often organized along subject-matter lines, in contrast to the lower secondary level, and teachers typically must have a higher level, or more subject-specific, qualification. There are substantial differences in the typical duration of programs both across and between countries, ranging from 2 to 5 years of schooling. The main criteria for classifications are (1) national boundaries between lower and upper secondary education; and (2) admission into educational programs, which usually requires the completion of lower secondary education or a combination of basic education and life experience that demonstrates the ability to handle the subject matter in upper secondary schools. In *Indicator 32*, a person who completed secondary education refers to a person who successfully completed an education program at this level.

Education at the fifth level (nonuniversity higher education) is provided at community colleges, vocational/technical colleges, and other degree-granting institutions in which programs typically take 2 years or more, but less than 4 years, to complete.

Education at the sixth level (university higher education) is provided in undergraduate programs at 4-year colleges and universities in the United States and, generally, at universities in other countries. Education at this level is largely theoretical and is intended to provide sufficient qualifications for gaining entry

Note 9: International Standard Classification of Education

Continued

into advanced research programs and professions with high-skill requirements. Entry into sixth-level programs normally requires the successful completion of an upper secondary education; admission is competitive in most cases. The minimum cumulative theoretical duration at this level is 3 years of full-time enrollment. Completion of research projects or theses may be involved. The faculty must have advanced research credentials.

Education at the seventh level (graduate and professional higher education) is provided in graduate and professional schools that generally require a university degree or diploma as a minimum condition for admission. Programs at the seventh level lead to the award of an advanced research qualification, such as a Ph.D. The theoretical duration of these programs is 3 years of full-time enrollment in most countries (for a cumulative total of at least 7 years at levels six and seven), although the length of actual enrollment is often longer. The programs at the seventh level are devoted to advanced study and original research. In *Indicator 32*, a person who completed higher education refers to a person who completed undergraduate or advanced research programs.

Education at the ninth level (undistributed) is a classification reserved for enrollments, expenditures, or programs that cannot be unambiguously assigned to one of the aforementioned levels. Some countries, for example, assign nongraded special education or recreational nondegree adult education programs to this level. Other countries assign nothing to this level, preferring instead to allocate enrollments, expenditures, and programs to levels as best they can.

For *Indicator 32*, students in France who successfully completed secondary education and those who have a level of qualification corresponding to a short program that focuses on vocational training at the upper secondary level are included in the percentage of the population who completed secondary education. For the United Kingdom, data on attainment at the upper secondary level include a sizable proportion of persons (about 7 percent of the population) whose highest level of attainment was achieved at age 16. Although the programs that they have completed do not formally satisfy the duration criterion for completion of the upper secondary level, this group is included in the percentage of the population who completed secondary education for reasons of consistency with the national qualification criteria.

SOURCE: Organisation for Economic Co-operation and Development. *Education at a Glance: OECD Indicators 2000*, 2000.

Note 10: Classification of Postsecondary Education Institutions

The U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS) uses various categories to group postsecon-dary institutions. This note outlines the different categorizations used in *Indicators 5, 47, 48, 50,* and *51.*

Basic IPEDS Classifications

The term "postsecondary institutions" is the category used to refer to institutions with formal instructional programs and a curriculum designed primarily for students who have completed the requirements for a high school diploma or its equivalent. For many analyses, however, comparing all institutions across this broad universe of postsecondary institutions would not be appropriate. Thus postsecondary institutions are broadly classified into one of three levels, based on the highest award offered at the institution:

- *Four-year-and-above institutions*: Institutions or branches that award at least a 4-year degree or higher award in one or more programs, or a post-baccalaureate, post-master's, or post-first-professional certificate.
- *Two-year but less-than-4-year institutions*: Institutions or branches that confer at least a 2-year formal award (certificate, diploma, or associate's degree), or that have a 2-year program creditable toward a baccalaureate degree.
- *Less-than-2-year institutions*: Institutions or branches that only have programs lasting less than 2 years that result in a terminal occupational award or are creditable toward a degree at the 2-year level or higher.

Postsecondary institutions are further divided across these categories according to three criteria: (1) degree-granting versus nondegree-granting; (2) type of financial control; and (3) Title IV-participating versus not Title IV-participating.

Degree-granting institutions offer associate's, bachelor's, master's, doctor's, and/or first-professional degrees that are recognized or authorized by a state agency. *Nondegree-granting* institutions offer other kinds of credentials and exist at all three levels. The number of 4-year nondegree-granting institutions is small compared with the number at both the 2-year but less-than-4-year and less-than-2-year levels.

IPEDS classifies institutions at each of the three levels of institutions by type of financial control: *public; private, not-for-profit;* or *private, for-profit* (e.g., proprietary schools). Thus IPEDS divides the universe of postsecondary institutions into nine different "sectors." In some sectors (for example, 4-year private, for-profit institutions), the number of institutions is small relative to that in other sectors. Institutions in any of these sectors can be degree- or nondegree-granting.

Institutions in any of these sectors can also be Title IV participating or not. For an institution to participate in federal Title IV Part C financial aid programs, it must (1) offer a program of study at least 300-clock hours in length; (2) have accreditation recognized by the U.S. Department of Education; (3) have been in business for at least 2 years; and (4) have a Title IV participation agreement with the Department of Education.

Indicator 47 includes only 4-year degree-granting institutions in its analysis.

Indicators 5, 48, 50, and *51* include the categories of 4-year and 2-year degree-granting institutions in their analyses.

Note 10: Classification of Postsecondary Education Institutions

Continued

Carnegie Classification

Another system of grouping 2- and 4-year institutions is the Carnegie Classification system. The Carnegie Classification groups American colleges and universities by their purpose and size. First developed in 1970 by the Carnegie Commission on Higher Education, the classification system does not establish a hierarchy among 2- and 4-year institutions; instead it groups colleges and universities with similar programs and purposes to facilitate meaningful comparisons and analysis. The Carnegie Classification system has been revised four times—in 1976, 1987, 1994, and 2000—since it was created. The 1994 classification, which is used for indicators in this volume, divides institutions of higher education into 10 categories, with the 10th category—Professional Schools and Specialized Institutions—subdivided into 10 subcategories (see table of definitions on the next page).

The information used to classify institutions into the Carnegie categories comes from survey data. The 1994 version of Carnegie Classifications relied on data from IPEDS, the National Science Foundation, The College Board, and the 1994 Higher Education Directory published by Higher Education Publications, Inc.

For the purposes of analysis, *Indicators 47, 48, 50,* and *51* use the Carnegie Classifications (reprinted on the following page) to subdivide the IPEDS groupings. The following key provides a guide to each indicator's category labels and what Carnegie Classification categories they include the following:

Indicator 47

- *4-year doctoral institutions* include Research Universities I and II and Doctoral Universities I and II.
- *4-year nondoctoral institutions* include Master's (Comprehensive) Universities and Colleges I and II, Baccalaureate Colleges I and II, and Professional Schools and Specialized Institutions that offer 4-year degrees.
- *All 4-year institutions* include all the institutions in the two categories above.

Indicator 48

- *4-year doctoral institutions* include Research Universities I and II and Doctoral Universities I and II.
- *4-year nondoctoral institutions* include Master's (Comprehensive) Universities and Colleges I and II, Baccalaureate Colleges I and II, and Professional Schools and Specialized Institutions that offer 4-year degrees.
- *2-year institutions* include 2-year or Associate of Arts Colleges.

Indicator 50

- *Research institutions* include Research Universities I and II.
- *Doctoral institutions* include Doctoral Universities I and II.
- *Comprehensive institutions* include Master's (Comprehensive) Universities and Colleges I and II.
- *Private liberal arts colleges* include only Baccalaureate Colleges I and II that are coded as private institutions.
- *Public 2-year colleges* include only 2-year or Associate of Arts Colleges that are coded as public institutions.
- *Other institutions* include Baccalaureate Colleges I and II that are coded as public institutions, 2-year or Associate of Arts Colleges that are coded as private institutions,

Note 10: Classification of Postsecondary Education Institutions

Continued

and Professional Schools and Specialized Institutions.

Indicator 51

- *Research institutions* include Research Universities I and II.
- *Doctoral institutions* include Doctoral Universities I and II.
- *Comprehensive institutions* include Master's (Comprehensive) Universities and Colleges I and II.
- *Private liberal arts colleges* include only Baccalaureate Colleges I and II that are coded as private institutions.
- *Public 2-year colleges* include only 2-year or Associate of Arts Colleges.

Carnegie Classification Categories (1994 Definitions[1])

Research Universities I
"These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees[2] each year. In addition, they receive annually $40 million or more in federal support."[3]
Research Universities II
"These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees[2] each year. In addition, they receive annually between $15.5 million and $40 million in federal support."[3]
Doctoral Universities I
"In addition to offering a full range of baccalaureate programs, the mission of these institutions includes a commitment to graduate education through the doctorate. They award at least 40 doctoral degrees annually in five or more disciplines."[4]
Doctoral Universities II
"In addition to offering a full range of baccalaureate programs, the mission of these institutions includes a commitment to graduate education through the doctorate. They award annually at least 10 doctoral degrees—in three or more disciplines—or 20 or more doctoral degrees in one or more disciplines."[4]
Master's (Comprehensive) Universities and Colleges I
"These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 40 or more master's degrees annually in three or more disciplines."
Master's (Comprehensive) Universities and Colleges II
"These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 20 or more master's degrees annually in one or more disciplines."
Baccalaureate Colleges I
"These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award 40 percent or more of their baccalaureate degrees in liberal arts fields and are restrictive in admissions."
Baccalaureate Colleges II
"These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award less than 40 percent of their baccalaureate degrees in liberal arts fields or are less restrictive in admissions."

Note 10: Classification of Postsecondary Education Institutions

Continued

Carnegie Classification Categories (1994 Definitions[1])—Continued

Two-Year or Associate of Arts Colleges
"These institutions offer associate of arts certificate or degree programs and, with few exceptions, offer no baccalaureate degrees."
Professional Schools and Specialized Institutions
"These institutions offer degrees ranging from the bachelor's to the doctorate. At least 50 percent of the degrees awarded by these institutions are in a single discipline." They are divided into the following subcategories: • Theological seminaries, bible colleges, and other institutions offering degrees in religion; • Medical schools and medical centers; • Other separate health professional schools; • Schools of engineering and technology; • Schools of business and management; • Teachers' colleges; • Other specialized institutions; and • Tribal colleges.

[1]*Carnegie Foundation for the Advancement of Teaching* (1994). In December 2000, the Carnegie Foundation released an updated version of its classification system of institutions of higher education. The new scheme is available at the Carnegie foundation Web site *(http://www.carnegiefoundation.org/Classification/index.htm)*.

[2]Doctoral degrees include Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and the Ph.D. in any field.

[3]Total federal obligation figures are available from the National Science Foundation's annual report, *Federal Support to Universities, Colleges, and Nonprofit Institutions*. The years used in averaging total federal obligations are 1989, 1990, and 1991.

[4]The academic year for determining the number of degrees awarded by institutions was 1983–84.

Note 11: Fields of Study

Definitions of Fields of Study

Following the procedure used in the *Digest of Education Statistics*, the list of fields making up each category are based on the 1990 Classification of Instructional Program (CIP) codes in order to provide consistent data for 1970–71 and 1997–98. These fields are referred to in *Indicator 30*.

Agriculture and natural resources: agricultural business and production; agricultural sciences; and conservation and renewable natural resources.

Biological/life sciences: biology; biochemistry and biophysics; botany; cell and molecular biology; microbiology/bacteriology; zoology; and other biological sciences.

Business management and administrative services: business management/administrative services; marketing operations/marketing and distribution; and consumer and personal services.

Communications: communications, general; advertising; journalism; broadcast journalism; public relations and organizational communications; radio and television broadcasting; other communications; and communications technologies.

Computer and information sciences: computer and information sciences, general; computer programming; data processing technology/technician; information science and systems; computer systems analysis; and other computer and information sciences.

Education: education.

Engineering: engineering; engineering-related technologies; construction trades; and mechanics and repairers from 1969–70 through 1997–98.

English language and literature/letters: English language and literature, general; comparative literature; English composition; English creative writing; American literature; English literature; speech and rhetorical studies; English technical and business writing; and English language and literature/letters, other.

Health professions and related sciences: chiropractic; communication disorders sciences; community health liaison; dentistry; dental services; health services administration; health and medical assistants; health and medical diagnostic and treatment services; medical laboratory technologies; predentistry; premedicine; prepharmacy; preveterinary; medical basic sciences; mental health services; nursing; optometry; pharmacy; epidemiology; rehabilitation and therapeutic services; veterinary medicine; and other health professions.

Mathematics: mathematics; statistics.

Physical sciences: physical sciences, general; astronomy; astrophysics; atmospheric science and meteorology; chemistry; geology; miscellaneous physical sciences; physics; science technologies; and other physical sciences.

Psychology: psychology.

Social sciences and history: social sciences, general; anthropology; archeology; criminology; demography and population studies; economics; geography; history; international relations and affairs; political science and government; sociology; urban affairs/studies; and social sciences and history; other.

Visual and performing arts: visual and performing arts, general; crafts, folk art, and artisanry; dance; design and applied art; theatre arts and stagecraft; film/video and photographic arts; fine arts and art studies; music; and visual and performing arts; other.

Note 12: Students With Disabilities

The U.S. Department of Education's Office of Special Education and Rehabilitative Services (OSERS) collects information on students with disabilities as part of the implementation of the Individuals with Disabilities Education Act (IDEA). OSERS classifies students with disabilities according to 12 categories of disabilities and 4 categories of educational environments. *Indicator 40* uses all these categories, which are defined by OSERS as follows.

Disability Types

Autism

A developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age 3, that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences.

Deaf-blindness

Concomitant hearing and visual impairments, the combination of which causes such severe communication and other developmental and educational problems that the student cannot be accommodated in special education programs solely for children with deafness or for children with blindness.

Emotional disturbance

A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:

(1) an inability to learn that cannot be explained by intellectual, sensory, or health factors;

(2) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers;

(3) inappropriate types of behavior or feelings under normal circumstances;

(4) a general pervasive mood of unhappiness or depression; and

(5) a tendency to develop physical symptoms or fears associated with personal or school problems.

The term includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance.

Hearing impairments

An impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance, in the most severe case because the child is impaired in processing linguistic information through hearing.

Mental retardation

Significantly subaverage general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance.

Multiple disabilities

Concomitant impairments (such as mental retardation-blindness, mental retardation-orthopedic impairment, etc.), the combination of which causes such severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments. The term does not include deaf-blindness.

Orthopedic impairments

A severe orthopedic impairment that adversely affects a child's educational performance. The

Note 12: Students With Disabilities

Continued

term includes impairments caused by congenital anomaly (e.g., clubfoot, absence of some member, etc.); impairments caused by disease (e.g., poliomyelitis, bone tuberculosis, etc.); and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns that cause contractures).

Other health impairments

Having limited strength, vitality or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that

(1) is due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, and sickle cell anemia; and

(2) adversely affects a child's educational performance.

Specific learning disabilities

A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include learning problems that are primarily the result of visual, hearing, or motor disabilities; of mental retardation; of emotional disturbance; or of environmental, cultural, or economic disadvantage.

Speech or language impairments

A communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, that adversely affects a child's educational performance.

Traumatic brain injury

An acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance. The term applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, and motor abilities; psychosocial behavior; physical functions; information processing; and speech. The term does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma.

Visual impairments

An impairment in vision that, even with correction, adversely affects a child's educational performance. The term includes both partial sight and blindness.

Educational Environments for Students with Disabilities

Regular classroom: includes children who receive special education services in programs designed primarily for nondisabled children.

Separate facility (public and private): includes children who receive special education services in a separate program from their nondisabled peers.

Residential facility (public and private): includes children who are served in publicly or privately operated programs in which children receive care 24 hours a day.

Homebound/hospital: includes children who are served in either a home or hospital setting, including those receiving special education and related services in the home and provided by a professional or paraprofessional who visits the home on a regular schedule.

Note 13: Allocation of Faculty Time

The National Study of Postsecondary Faculty (NSOPF:1993), conducted in 1992–93, included anyone who was designated as faculty, whether or not their responsibilities included instruction, and other personnel with instructional responsibilities. The analysis for *Indicator 51* includes only those respondents with faculty status and some instructional responsibilities. Instructional responsibilities include teaching one or more classes for credit or advising or supervising students' academic activities.

Time Allocation

Survey respondents were asked to estimate the percentage of total working hours they spent on each of the following activities:

Teaching: Includes teaching; grading papers; preparing courses; developing new curricula; advising or supervising students; or working with student organizations or intramural sports.

Research/scholarship: Includes research; reviewing or preparing articles or books; attending or preparing for professional meetings or conferences; reviewing proposals; seeking outside funding; giving performances or exhibitions in the fine or applied arts; or giving speeches.

Administration: Performing managerial or other organizationally supportive activities.

Professional growth: Includes taking courses or pursuing an advanced degree or other professional development activities to remain current in their field of practice.

Outside consulting or freelance work: Conducting outside consulting or other employment.

Service/other: Includes providing legal or medical service or psychological counseling to clients or patients; providing paid or unpaid community or public service, or service to professional societies/associations; or participating in other activities or work not listed above.

The last three activities on this list were combined into an "other" category for the indicator.

Note 14: Price of College Attendance

Indicators 25 and *58* focus on the real and perceived price of attending college.

Indicator 25 is based on a national sample of 6th-through 12th-grade students and their parents who participated in the Youth and Parent Surveys, respectively, of the National Household Education Surveys Program (see *Supplemental Note 3*) in 1999. The indicator examines the perceptions of those students and their parents who thought the student would attend postsecondary education (i.e., 92 percent of the respondents in the Youth Survey). Excluded from the analysis are students who, or whose parents, did not think the student would continue his or her education after high school, and a few students whose grade level could not be determined. The sample is representative of 6th- through 12th-grade students but *not* of parents.

Students' and Parents' Estimates of Tuition and Fees

The Youth and Parent Surveys asked students and parents who thought the student would attend school after high school at what level (4-year, 2-year or less), in what sector (public or private), and whether the student was likely to attend in or out of the state of residence. Respondents were then asked if they had obtained information about tuition and mandatory fees at a specific institution. If they had not received such information, they were asked if they could provide a "fairly accurately estimate" of "1 year's tuition and mandatory fees" at the type of institution the student might attend. Those who had obtained information about tuition and fees at a specific institution or who had indicated they could provide a fairly accurate estimate were then asked to indicate that amount. Students and parents who were undecided about the institution the student might attend were asked if they could provide a "fairly accurate estimate" of the average amount of 1 year's tuition and mandatory fees at a public 4-year institution in their state. All respondents were subsequently asked if their estimates included other fees, such as room and board.

Chart data: National averages

Students' and parents' estimates of tuition and fees included in the chart for *Indicator 25* are based on respondents who provided estimates for public 4-year institutions in their state of residence and whose estimates *did not* include room and board. The actual averages are based on the average in-state tuition charged undergraduates in 1998–99 as reported by the College Board.

Supplemental table data: Accuracy of estimates

In contrast to the data in the chart for *Indicator 25*, which includes information on estimated tuition and fees for in-state, public 4-year institutions, data in supplemental table 25-1 and those discussed in the indicator's last paragraph reflect perceptions about average tuition and fees at whatever institution, either public or private, in-state or out-of-state, at all levels, a student might attend. Tuition and fees at public institutions vary from state to state, so students' and parents' estimates of tuition and fees were compared with the average tuition and fees for the type of institution the student planned to attend *within* the state of residence. Actual state-level average tuition and fees were obtained from the Department of Education's Integrated Postsecondary Education Data System (IPEDS) for 1997–98 (adjusted for inflation to 1998–99 levels). If respondents indicated that out-of-state attendance was likely at a public 4-year institution, their estimates of tuition and fees were compared with double the average in-state tuition and fees for public 4-year institutions in their state of residence (there were no average out-of-state tuition and fees available in IPEDS). If respondents' estimates included fees for room and board, the average room and board fees for the type of in-

Note 14: Price of College Attendance

Continued

stitution they planned to attend were subtracted from their initial estimates. Fees for room and board were also obtained from IPEDS. "Accurate estimates" were those that fell within 25 percent of the actual average. Estimates greater than 25 percent were identified as overestimates, and those less than 25 percent were identified as underestimates.

Net Price

The sample used for *Indicator 58* consists of dependent full-time, full-year students who attended one postsecondary institution during the 1995–96 academic year. During that year, approximately 20 percent of all undergraduates were dependent and full time, full year (defined as 8 or more months of attendance). The specific terms used in the indicator are as follows:

Family income: The four income categories, "low income," "lower middle," "upper middle," and "high income," are calculated on the basis of family income for dependent students and correspond to the four quartiles of the distribution of parental family income. The quartile cutpoints for dependent student income are $25,000, $47,000, and $71,000.

Dependency status: Students were considered dependent for purposes of federal financial aid programs unless institutional records indicated they were

(1) age 24 or older as of December 31, 1995 (born before January 1, 1972);

(2) a veteran of the U.S. Armed Forces;

(3) enrolled in a graduate or professional program (beyond a bachelor's degree) in 1995–96;

(4) married;

(5) an orphan or ward of the court; or

(6) had legal dependents, other than spouse.

If any of these conditions were met, the student was classified as independent for purposes of financial aid.

Tuition and fees: Indicates tuition the student was charged for the academic year, as reported by the institution in the National Postsecondary Student Aid Study (NPSAS). If tuition was not reported, it was estimated based on the average per credit or per term charges for other students at the institution according to their class level, degree program, and attendance status.

Total price refers to the attendance-adjusted student budget at the sampled NPSAS institution for students who attended only one institution during 1995–96. The student budget is the sum of tuition and fees and the sum of nontuition items, including room and board, transportation, books and supplies, and other expenses. For students attending at least half time but less than full time, nontuition items are reduced to 75 percent of the allowance for full-time, full-year students, to 50 percent for students with unknown attendance status, and to 25 percent for students attending less than half time. The actual tuition is added to the estimated nontuition items. Students who attended more than one institution are excluded from the tables.

Grants: Total amount of all grants and scholarships, federal, state, institutional, and other, received during 1995–96, including employer tuition reimbursements.

Net price: Total price for the student, which includes tuition and fees and nontuition items minus total grants. Net price does not include loans that must be repaid or the future price of interest payments on such loans. This definition of net price differs from an earlier version that appeared in *The Condition of Education 1998*. The 1998 definition was total price minus total aid, which includes loans that students or their families must repay. The present definition more accurately reflects the price that students and their families pay.

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Appendix 3
Standard Error Tables

This appendix includes tables of standard errors for indicator tables and figures that present data collected through sample surveys. There are no standard error tables for indicator tables and figures that present data from universe surveys (such as all school districts), compilations of administrative records, or statistical projections.

Standard errors for supplemental tables are not included here but can be found at http://nces@ed.gov

Standard Errors

The information presented in this report was obtained from many sources, including federal and state agencies, private research organizations, and professional associations. The data were collected using many research methods, including surveys of a universe (such as all school districts) or of a sample, compilations of administrative records, and statistical projections. Users of *The Condition of Education* should take particular care when comparing data from different sources. Differences in procedures, timing, phrasing of questions, interviewer training, and so forth mean that the results are not strictly comparable. Following the general discussion of data accuracy below, descriptions of the information sources and data collection methods are presented, grouped by sponsoring organization. More extensive documentation of procedures used in one survey as compared with another does not imply more problems with the data, only that more information is available.

Statistical Significance

Unless otherwise noted, all statements cited in the text were tested for statistical significance and are statistically significant at the 0.05 level. Several test procedures were used. The procedure used depended upon the type of data interpreted and the nature of the statement tested. The most commonly used test procedures were (1) *t*-tests, (2) multiple *t*-tests with a Bonferroni adjustment to the significance level, and (3) linear trend tests. When a simple comparison between two sample estimates was made, for example, between males and females, a *t*-test was used. When multiple comparisons between more than two groups were made, and even if only one comparison is cited in the text, a Bonferroni adjustment to the significance level was made to ensure that the significance level for the tests as a group was at the 0.05 level. The Bonferroni adjustment is commonly used when making comparisons between racial/ethnic groups and between the United States and other countries. A linear trend test was used when a statement describing a trend, such as the growth of enrollment rates over time, was made or when a statement describing a relationship, such as the relationship between a parent's educational attainment and a student's reading proficiency, was made.

The accuracy of any statistic is determined by the joint effects of "sampling" and "nonsampling" errors. Estimates based on a sample will differ somewhat from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. In addition to such sampling errors, all surveys, both universe and sample, are subject to design, reporting, and processing errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures; however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

The estimated standard error of a statistic is a measure of the variation due to sampling and can be used to examine the precision obtained in a particular sample. The sample estimate and an estimate of its standard error permit the construction of interval estimates with prescribed confidence that the interval includes the average result of all possible samples. If all possible samples were selected, and each was surveyed under the same conditions, and an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the actual value; 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate would include the actual value; and 99 percent of all intervals from 2.5 standard errors below the estimate to 2.5 standard errors above the estimate would include the actual value. These intervals are called 90 percent, 95 percent, and 99 percent confidence intervals, respectively.

Standard Errors

Continued

To illustrate this further, consider the figure for *Indicator 1* and the standard error table S1 for estimates from the National Household Education Surveys Program (NHES). For the 1999 estimate of the percentage of children ages 3–5 who were enrolled in preprimary education programs (59.7 percent), table S1 shows a standard error of 0.6. Therefore, we can construct a 95 percent confidence interval from 58.5 to 60.9 (59.7 ± 2 x 0.6). If this procedure was followed for every possible sample, about 95 percent of the intervals would include the actual percentage of children ages 3–5 enrolled in preprimary education programs.

The estimated standard errors for two sample statistics can be used to estimate the precision of the difference between the two statistics and to avoid concluding that there is an actual difference when the difference in sample estimates may only be due to sampling error. The need to be aware of the precision of differences arises, for example, when comparing mean proficiency scores between groups or years in the National Assessment of Educational Progress (NAEP) or when comparing percentages between groups or years in the Current Population Survey (CPS). The standard error (se) of the difference between sample estimate A and sample estimate B (when A and B do not overlap) is

$$se_{A-B} = \sqrt{se_A^2 + se_B^2}$$

When a ratio (called a *t*-statistic) of the difference between the two sample statistics and the standard error of the difference as calculated above is less than 2, one cannot be sure that the difference is not due only to sampling error, and caution should be taken in drawing any conclusions about the difference. In this report, for example, using the rationale above, we would not conclude that there is a difference between the two sample statistics. Some analysts, however, use the less restrictive criterion of a *t*-statistic value of 1.64, which corresponds to a 10 percent significance level.

To illustrate this further, consider the data on white and black children ages 3–5 who were enrolled in preprimary education programs in *Indicator 1* and the associated standard error table S1. In 1999, the estimated enrollment rates were 60.0 percent for white children and 73.2 percent for black children. Is there enough evidence to conclude that the difference between these two samples represents an actual difference between white and black children in 1999? The standard errors of these estimates are 0.8 and 2.4, respectively. Using the above formula, the standard error of the difference is calculated as 2.5. The ratio of the estimated difference of 13.2 percentage points to the standard error of the difference (2.5) is 5.2. Using the table below, we see there is less than a 5 percent chance that the 13.2 percentage point difference is due only to sampling error, and one may conclude that there is a difference between enrollment rates in preprimary education programs for white and black children ages 3–5 in 1999.

Percent chance that a difference is due only to sampling error:

t-statistic	1.00	1.64	1.96
Percent chance	32	10	5

It should be noted that most of the standard errors presented in this report and in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and that could be prepared at a moderate cost, a number of approximations were required. As a result, most of the standard errors presented provide a general order of magnitude rather than the exact standard error for any specific item.

Standard Error Tables on the Web

The following pages in this section contain standard error tables for all of the graphics

Standard Errors

Continued

or tables found on the indicator pages in sections 1 through 6. Standard error tables for all of the supplemental tables are located on the NCES Web site. Go to *nces.ed.gov* and select *The Condition of Education* volume appearing on the home page. The supplemental and standard error tables for any indicator (and all other supporting information) can be found in that volume.

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Enrollment in Preprimary Education

Table S1 **Standard errors for the percentage of children ages 3–5 who were enrolled in center-based early childhood care and education programs, by race/ethnicity: Selected years 1991–99**

Race/ethnicity	1991	1993	1995	1996	1999
Total	**0.9**	**0.8**	**1.0**	**0.7**	**0.6**
White	1.0	1.0	1.4	1.2	0.8
Black	2.5	2.1	3.3	2.7	2.4
Hispanic	2.2	2.1	2.2	2.6	2.2

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), and Federal Interagency Forum on Child and Family Statistics, *America's Children: Key National Indicators of Well-Being,* 2000.

Racial/Ethnic Distribution of Public School Students

Table S3 **Standard errors for the percentage of public school students enrolled in grades K–12 who were minorities, by region: October 1972–99**

October	Minority enrollment			Minority enrollment		
	Black	Hispanic	Other	Black	Hispanic	Other
	Northeast			Midwest		
1972	0.5	0.4	0.1	0.5	0.2	0.1
1973	0.5	0.4	0.1	0.5	0.2	0.1
1974	0.5	0.4	0.1	0.5	0.2	0.1
1975	0.5	0.4	0.1	0.5	0.2	0.1
1976	0.5	0.5	0.2	0.5	0.2	0.1
1977	0.5	0.4	0.2	0.5	0.2	0.1
1978	0.6	0.4	0.1	0.5	0.2	0.2
1979	1.0	0.8	0.2	0.8	0.4	0.3
1980	0.7	0.6	0.3	0.7	0.3	0.3
1981	0.6	0.5	0.2	0.5	0.3	0.2
1982	0.6	0.6	0.3	0.6	0.3	0.2
1983	0.6	0.6	0.3	0.6	0.3	0.2
1984	0.6	0.6	0.3	0.6	0.3	0.2
1985	0.6	0.7	0.3	0.6	0.4	0.3
1986	0.6	0.8	0.3	0.6	0.4	0.2
1987	0.6	0.7	0.3	0.6	0.4	0.3
1988	0.7	0.8	0.3	0.7	0.5	0.3
1989	0.7	0.9	0.4	0.7	0.5	0.3
1990	0.7	0.8	0.4	0.6	0.4	0.3
1991	0.7	0.8	0.3	0.6	0.4	0.3
1992	0.7	0.7	0.4	0.6	0.4	0.3
1993	0.7	0.7	0.4	0.6	0.4	0.3
1994	0.6	0.5	0.3	0.6	0.4	0.2
1995	0.6	0.6	0.3	0.5	0.3	0.2
1996	0.6	0.6	0.3	0.5	0.4	0.3
1997	0.6	0.6	0.3	0.5	0.4	0.3
1998	0.6	0.6	0.3	0.5	0.4	0.3
1999	0.6	0.6	0.3	0.6	0.4	0.3

Racial/Ethnic Distribution of Public School Students

Table S3 **Standard errors for the percentage of public school students enrolled in grades K–12 who were minorities, by region: October 1972–99 —Continued**

October	Minority enrollment			Minority enrollment		
	Black	Hispanic	Other	Black	Hispanic	Other
	South			West		
1972	0.6	0.4	0.1	0.5	0.8	0.4
1973	0.6	0.4	0.1	0.5	0.8	0.4
1974	0.6	0.4	0.1	0.5	0.8	0.4
1975	0.6	0.4	0.1	0.5	0.8	0.5
1976	0.6	0.4	0.1	0.5	0.8	0.4
1977	0.6	0.4	0.1	0.5	0.8	0.5
1978	0.6	0.4	0.2	0.5	0.9	0.5
1979	1.1	0.7	0.2	0.9	1.5	0.8
1980	0.8	0.6	0.2	0.6	1.2	0.6
1981	0.6	0.5	0.2	0.5	0.9	0.5
1982	0.7	0.5	0.2	0.5	1.0	0.6
1983	0.7	0.5	0.2	0.5	1.0	0.6
1984	0.7	0.5	0.2	0.5	1.0	0.6
1985	0.7	0.6	0.2	0.5	1.1	0.6
1986	0.7	0.6	0.2	0.5	1.1	0.6
1987	0.7	0.6	0.2	0.5	1.1	0.6
1988	0.7	0.7	0.2	0.5	1.3	0.7
1989	0.7	0.7	0.3	0.5	1.3	0.6
1990	0.7	0.6	0.2	0.5	1.1	0.6
1991	0.7	0.6	0.2	0.5	1.1	0.6
1992	0.7	0.6	0.3	0.5	1.1	0.6
1993	0.7	0.6	0.3	0.5	1.1	0.6
1994	0.6	0.4	0.2	0.4	0.8	0.5
1995	0.6	0.4	0.2	0.4	0.8	0.4
1996	0.6	0.5	0.2	0.4	0.8	0.5
1997	0.6	0.5	0.2	0.4	0.8	0.5
1998	0.6	0.5	0.2	0.4	0.8	0.5
1999	0.6	0.5	0.2	0.4	0.8	0.5

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, 1972–99.

Parental Education, by Race/Ethnicity

Table S4 **Standard errors for the percentage of 6- to 18-year-olds with mothers who completed at least high school or a bachelor's degree or more: 1974–99**

Parents' highest education level and child's race/ethnicity	1974	1979	1984	1989	1994	1999
			White			
High school education or higher	0.4	0.4	0.4	0.4	0.4	0.3
Bachelor's degree or higher	0.3	0.3	0.4	0.5	0.5	0.6
			Black			
High school education or higher	1.5	1.5	1.6	1.5	1.5	1.3
Bachelor's degree or higher	0.6	0.7	0.8	1.0	1.1	1.1
			Hispanic			
High school education or higher	1.8	1.9	1.9	2.2	2.5	1.7
Bachelor's degree or higher	0.7	0.8	0.7	1.0	1.2	0.9

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

Graduate/Professional Enrollment and Employment

Table S6 **Standard errors for the percentage distribution of graduate and first-professional students according to selected enrollment and employment characteristics: Academic year 1995–96**

Enrollment and employment characteristics	M.B.A.	M.A.T, M.Ed., M.A./M.S. in education	M.A./M.S. (except education)	Ph.D.	Ed.D.	M.D.	Law (LL.B. or J.D.)
Total	—	—	—	—	—	—	—
Attendance pattern							
Full-time, full-year	2.5	1.6	2.0	4.5	5.3	2.2	2.2
Part-time, full-year	3.0	2.3	2.0	4.0	6.9	0.7	2.1
Other	2.2	2.2	2.4	1.8	7.6	2.0	1.2
Employment status							
Worked at all	3.1	2.5	2.7	4.4	2.6	4.3	3.5
Worked full time if worked	4.0	2.9	2.4	5.0	6.9	3.9	2.5
Primary role if working							
Student meeting expenses	3.3	3.2	4.0	4.7	7.1	9.7	3.1
Employee enrolled in school	3.3	3.2	4.0	4.7	7.1	9.7	3.1

— Not applicable.

SOURCE: U.S. Department of Education, NCES. National Postsecondary Student Aid Study (NPSAS:1996), Graduate Data Analysis System.

Participation in Adult Learning

Table S7 **Standard errors for the percentage of adults ages 18–44 who participated in credential or other types of learning programs in the past 12 months: 1999**

Age	Credential program	All other activities
18–20	3.5	4.0
21–22	4.4	3.3
23–24	3.7	4.7
25–26	3.1	4.2
27–28	2.7	3.9
29–30	2.4	3.9
31–32	2.7	4.2
33–34	2.0	4.1
35–36	2.1	3.8
37–38	1.5	3.8
39–40	1.4	3.8
41–42	1.9	4.0
43–44	1.7	3.6

NOTE: Data have been revised from previously published figures.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Adult Education Survey).

Students' Overall Reading and Mathematics Performance Through 1st Grade

Table S8 **Standard errors for the children's overall reading and mathematics performance from kindergarten through 1st grade, by mother's education: 1998–2000**

	Kindergarten		1st grade	
Mother's education	Fall	Spring	Fall	Spring
		Reading		
Less than high school	0.2	0.3	0.5	0.5
High school diploma or equivalent	0.2	0.2	0.4	0.3
Some college, including vocational/technical	0.2	0.2	0.5	0.3
Bachelor's degree or higher	0.2	0.3	0.7	0.3
		Mathematics		
Less than high school	0.2	0.3	0.6	0.4
High school diploma or equivalent	0.2	0.2	0.4	0.2
Some college, including vocational/technical	0.1	0.2	0.4	0.2
Bachelor's degree or higher	0.2	0.2	0.4	0.2

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.

Children's Skills and Proficiency in Reading and Mathematics Through 1st Grade

Table S9 Standard errors for the percentage of children with specific reading skills and proficiency from kindergarten through 1st grade: 1998–2000

	Kindergarten		1st grade	
Reading skill	Fall	Spring	Fall	Spring
Letter recognition	0.7	0.3	0.2	0.1
Beginning sounds	0.8	0.8	0.8	0.1
Ending sounds	0.5	0.9	1.2	0.3
Sight words	0.1	0.5	1.3	0.6
Words in context	0.1	0.2	0.7	0.8

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.

Trends in the Reading Performance of 9-, 13-, and 17-Year-Olds

Table S10 Standard errors for the average reading performance, by age: 1971–99

Year	Age 9	Age 13	Age 17
1971	1.0	0.9	1.2
1975	0.7	0.8	0.8
1980	1.0	0.9	1.2
1984	0.7	0.5	0.6
1988	1.1	1.0	1.0
1990	1.2	0.8	1.1
1992	0.9	1.2	1.1
1994	1.2	0.9	1.3
1996	1.0	1.0	1.1
1999	1.3	1.0	1.3

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Achievement Gap in Reading Between White and Black Students

Table S11a Standard errors for the difference in average reading scale scores of 9-, 13-, and 17-year-old white and black students: 1971–99

Age	1971	1975	1980	1984	1988	1990	1992	1994	1996	1999
9	1.9	1.4	1.9	1.3	2.8	3.2	2.4	2.6	2.8	2.8
13	1.4	1.4	1.6	1.1	2.6	2.4	2.7	2.7	2.8	2.7
17	2.0	2.1	2.0	1.2	2.7	2.6	2.5	4.2	3.0	2.3

SOURCE: U.S. Department of Education, NCES. National Assessment of Educational Progress (NAEP), 1999 Long-Term Trend Assessment, and *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Table S11b Standard errors for the change in average reading scale scores for 17-year-olds, by score quartile and race/ethnicity: 1971–88 and 1988–99

Score quartile and race/ethnicity	Difference from 1971–88	Difference from 1988–99
	Black	
Lower quartile	1.3	3.8
Middle two quartiles	0.8	2.2
Upper quartile	1.5	3.8
	White	
Lower quartile	0.8	1.3
Middle two quartiles	0.6	1.0
Upper quartile	0.7	1.4

SOURCE: U.S. Department of Education, NCES. National Assessment of Educational Progress (NAEP), 1999 Long-Term Trend Assessment, and *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Mathematics Performance of 9-, 13-, and 17-Year-Olds

Table S12 Standard errors for the average mathematics performance, by age: 1973–99

Year	Age 9	Age 13	Age 17
1973	0.8	1.1	1.1
1978	0.8	1.1	1.0
1982	1.1	1.1	0.9
1986	1.0	1.2	0.9
1990	0.8	0.9	0.9
1992	0.8	0.9	0.9
1994	0.8	1.0	1.0
1996	0.8	0.8	1.2
1999	0.8	0.8	1.0

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Trends in the Science Performance of 9-, 13-, and 17-Year-Olds

Table S13 Standard errors for the average science performance, by age: 1970–99

Year	Age 9	Age 13	Age 17
1970	1.2	1.1	1.0
1973	1.2	1.1	1.0
1977	1.2	1.1	1.0
1982	1.8	1.3	1.2
1986	1.2	1.4	1.4
1990	0.8	0.9	1.1
1992	1.0	0.8	1.3
1994	1.2	1.0	1.6
1996	1.2	1.0	1.2
1999	0.9	0.7	1.3

SOURCE: U.S. Department of Education, NCES. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469), 2000.

Adult Literacy Habits and Media Use

Table S15 Standard errors for the percentage of adults age 25 and above who reported having read regularly, by selected characteristics: 1999

Characteristic	Read regularly
Sex	
Male	1.2
Female	1.0
Race/ethnicity	
White	1.1
Black	2.5
Hispanic	2.3
Education	
Less than high school	1.8
High school diploma or equivalent	1.1
Some college, including vocational/technical	3.2
Bachelor's degree or higher	1.4

SOURCE: U.S. Department of Education, NCES. *National Household Education Surveys Program (NHES) 1999 Data Files: Adult Education and Life-Long Learning Survey* (NCES 2000–079), 2000.

Community Service Participation in Grades 6–12

Table S16 Standard errors for the percentage of students in grades 6–12 who participated in community service, by sex and race/ethnicity: 1996 and 1999

Characteristic	1996	1999
Sex		
Male	0.9	0.9
Female	1.1	1.0
Race/ethnicity		
White	0.9	0.8
Black	1.9	1.8
Hispanic	1.8	1.4

SOURCE: U.S. Department of Education, NCES. *Youth Service-Learning and Community Service Among 6th- Through 12th-Grade Students in the United States: 1996 and 1999* (NCES 2000–028), 2000.

Education and Health

Table S17 Standard errors for the percentage of the population age 25 and above who reported being in excellent or very good health, by educational attainment and family income: 1997

Family income	Less than high school	High school diploma or equivalent	Some college, including vocational/ technical	Bachelor's degree or higher
Less than $20,000	1.2	0.3	0.4	1.4
$20,000–34,999	0.6	0.3	0.5	0.3
$35,000–54,999	0.8	0.4	0.4	0.6
$55,000–74,999	1.7	0.7	0.9	0.5
$75,000 or more	3.2	0.9	0.3	0.5

SOURCE: U.S. Department of Health and Human Services, Centers for Disease Control, National Center for Health Statistics. National Health Interview Survey, 1997.

Annual Earnings of Young Adults

Table S18 **Standard errors for the ratio of median annual earnings of all wage and salary workers ages 25–34 whose highest level of education was grades 9–11, some college, or a bachelor's degree or higher, compared with those with a high school diploma or equivalent, by sex: March 1970–99**

	Grades 9–11		Some college, including vocational/technical		Bachelor's degree or higher	
Year	Male	Female	Male	Female	Male	Female
1970	0.02	0.04	0.02	0.09	0.02	0.09
1971	0.02	0.05	0.02	0.08	0.02	0.08
1972	0.02	0.05	0.02	0.07	0.02	0.07
1973	0.02	0.05	0.02	0.06	0.02	0.06
1974	0.02	0.05	0.02	0.05	0.02	0.06
1975	0.03	0.03	0.02	0.05	0.02	0.06
1976	0.02	0.04	0.02	0.05	0.02	0.05
1977	0.03	0.05	0.02	0.04	0.02	0.05
1978	0.03	0.02	0.03	0.04	0.03	0.05
1979	0.02	0.04	0.02	0.04	0.02	0.04
1980	0.02	0.04	0.02	0.04	0.02	0.04
1981	0.02	0.03	0.02	0.03	0.02	0.04
1982	0.02	0.04	0.02	0.03	0.02	0.05
1983	0.02	0.04	0.02	0.04	0.02	0.04
1984	0.03	0.04	0.04	0.03	0.05	0.04
1985	0.02	0.04	0.02	0.03	0.02	0.04
1986	0.02	0.04	0.02	0.04	0.03	0.04
1987	0.03	0.04	0.02	0.03	0.03	0.04
1988	0.03	0.03	0.02	0.04	0.04	0.03
1989	0.03	0.05	0.02	0.03	0.03	0.04
1990	0.03	0.04	0.03	0.03	0.03	0.04
1991	0.03	0.05	0.03	0.03	0.02	0.04
1992	0.03	0.04	0.03	0.04	0.03	0.05
1993	0.03	0.03	0.02	0.04	0.03	0.06
1994	0.03	0.04	0.03	0.03	0.03	0.05
1995	0.02	0.03	0.03	0.04	0.05	0.06
1996	0.02	0.04	0.02	0.04	0.03	0.05
1997	0.02	0.05	0.02	0.04	0.03	0.05
1998	0.02	0.04	0.03	0.04	0.04	0.05
1999	0.03	0.03	0.02	0.03	0.02	0.03

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

Educational Plans

Table S19 Standard errors for the percentage of high school seniors who reported definite plans for postsecondary education: 1983, 1990, and 1998

Postsecondary plans	1983	1990	1998
Attend a technical/vocational school	0.4	0.4	0.5
Graduate from a 2-year college program	0.6	0.6	0.5
Graduate from a 4-year college program	0.8	0.8	0.7
Attend graduate or professional school	0.6	0.6	0.5

SOURCE: University of Michigan, Institute for Social Research. Monitoring the Future Survey: 1983, 1990, and 1998.

Peer Culture of High School Seniors

Table S20 Standard errors for the percentages of 12th-graders who thought that various student characteristics were greatly important for having high status in their school, by sex: 1998

Student characteristics	Male	Female
Being a good athlete	1.9	1.8
Planning to attend college	1.9	1.8
Getting good grades	1.9	1.8
Leading student activities	1.9	1.8
Coming from the right family	1.8	1.7
Having a nice car	1.8	1.6
Knowing a lot about intellectual matters	1.7	1.6

SOURCE: University of Michigan, Institute for Social Research. Monitoring the Future Survey: 1998.

Time Spent on Homework and on the Job

Table S21 Standard errors for the percentage of high school seniors who reported spending any time on homework per week, and percentage distribution of high school seniors according to homework hours, by work status: 1998

Hours at a job	Total	Any homework	Hours spent doing homework per week		
			0–4	5–9	10 or more
Total	—	**1.3**	**1.3**	**1.1**	**1.1**
Any (more than 0)	1.3	1.0	1.5	1.2	1.2
Hours per week at a job					
0–5	2.0	2.2	2.1	1.7	1.9
6–20	1.9	2.1	2.0	1.7	1.6
More than 20	2.0	2.1	2.0	1.6	1.5

—Not applicable.

SOURCE: University of Michigan, Institute for Social Research. Monitoring the Future Survey: 1998.

Students' Use of Time

Table S22 Standard errors for the percentage of 9-, 13-, and 17-year-olds who were watching 3 or more hours of television, assigned homework, and reading for fun daily: 1984 and 1999

	Watched television 3 or more hours daily	Time on homework					Read daily for fun
		Any homework assigned	Assigned, not done	Less than 1 hour	1 to 2 hours	More than 2 hours	
Age 9							
1984	0.7	1.3	0.3	1.0	0.5	0.2	1.0
1999	1.1	1.6	0.3	1.4	0.7	0.5	1.6
Age 13							
1984	0.9	0.8	0.2	0.7	0.5	0.3	1.0
1999	1.2	1.2	0.4	1.4	1.0	0.8	1.7
Age 17							
1984	0.8	0.9	0.3	0.4	0.5	0.6	0.8
1999	1.2	1.0	0.7	1.0	0.8	0.9	1.7

SOURCE: U.S. Department of Education, NCES. National Assessment of Educational Progress (NAEP), 1984 and 1999 Long-Term Assessment.

Status Dropout Rates, by Race/Ethnicity

Table S23 Standard errors for the dropout rates of 16- to 24-year olds, by race/ethnicity: October 1972–99

	Race/ethnicity (percent)			
Year	Total	White	Black	Hispanic
1972	0.3	0.3	1.1	2.2
1973	0.3	0.3	1.1	2.2
1974	0.3	0.3	1.1	2.1
1975	0.3	0.3	1.1	2.0
1976	0.3	0.3	1.0	2.0
1977	0.3	0.3	1.0	2.0
1978	0.3	0.3	1.0	2.0
1979	0.3	0.3	1.0	2.0
1980	0.3	0.3	1.0	1.9
1981	0.3	0.3	0.9	1.8
1982	0.3	0.3	1.0	1.9
1983	0.3	0.3	1.0	1.9
1984	0.3	0.3	0.9	1.9
1985	0.3	0.3	0.9	1.9
1986	0.3	0.3	0.9	1.9
1987	0.3	0.3	0.9	1.8
1988	0.3	0.3	1.0	2.3
1989	0.3	0.3	1.0	2.2
1990	0.3	0.3	0.9	1.9
1991	0.3	0.3	1.0	1.9
1992	0.3	0.3	1.0	1.9
1993	0.3	0.3	0.9	1.8
1994	0.3	0.3	0.8	1.2
1995	0.3	0.3	0.7	1.2
1996	0.3	0.3	0.8	1.1
1997	0.3	0.3	0.8	1.1
1998	0.3	0.3	0.8	1.1
1999	0.3	0.3	0.8	1.1

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, various years.

Mathematics Curriculum and College Enrollment

Table S24 Standard errors for the percentage of 1992 high school graduates who had enrolled in a 4-year institution as of 1994, by highest level of mathematics completed in high school and parents' education

High school mathematics level	Parents with no college (first-generation)	Parents with some college	Parents with bachelor's degree or higher
No mathematics/nonacademic	0.8	1.4	5.0
Algebra I and geometry	1.7	1.5	3.3
Algebra II	2.4	2.1	2.4
Advanced (beyond algebra II)	2.8	1.7	1.4

SOURCE: U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994), Data Analysis System.

Perceptions of College Costs

Table S25 Standard errors for the percentage distribution of tuition and fees charged at public 4-year institutions and estimates reported by 6th- to 12th-graders and their parents: 1999

Tuition and fees	6th- to 12th-graders' estimates	6th- to 12th-graders' parents' estimates
$8,000 or more	3.1	2.1
$5,000–7,999	3.3	2.1
$4,000–4,999	1.8	1.4
$3,000–3,999	2.6	1.5
$2,000–2,999	2.1	2.0
Less than $2,000	2.0	1.1
Average tuition and fees	$430	$228

NOTE: The actual tuition and fees are taken from a universe survey of institutions so there are no sampling standard errors associated with them, and thus they do not appear in this table.
SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent and Youth Interview Surveys).

Immediate Transition to College

Table S26 **Standard errors for the percentage of high school completers who were enrolled in college the October after completing high school, by sex and race/ethnicity: October 1972–99**

October	Male	Female	White	Black	Hispanic
1972	1.9	1.8	1.4	4.6	9.7
1973	1.9	1.8	1.4	4.3	9.0
1974	1.8	1.8	1.4	4.6	8.9
1975	1.8	1.7	1.4	4.7	8.4
1976	1.9	1.8	1.4	4.8	8.0
1977	1.9	1.8	1.4	4.7	8.0
1978	1.9	1.8	1.4	4.5	8.4
1979	1.9	1.8	1.4	4.7	7.9
1980	1.9	1.8	1.4	4.4	8.7
1981	1.9	1.8	1.4	4.4	8.2
1982	2.0	1.9	1.5	4.3	8.0
1983	2.0	1.9	1.6	4.3	9.0
1984	2.0	1.9	1.5	4.1	7.7
1985	2.1	2.0	1.6	4.8	9.8
1986	2.1	2.0	1.6	4.4	8.9
1987	2.1	2.0	1.7	4.8	8.3
1988	2.2	2.2	1.8	4.9	10.1
1989	2.4	2.3	1.9	5.3	10.5
1990	2.3	2.2	1.8	5.1	10.8
1991	2.3	2.2	1.8	5.2	9.6
1992	2.2	2.2	1.8	4.9	8.5
1993	2.3	2.2	1.9	5.3	8.2
1994	2.0	2.0	1.6	4.4	6.3
1995	2.0	1.9	1.6	4.2	4.9
1996	2.1	1.9	1.7	4.0	5.8
1997	2.0	1.9	1.6	4.1	4.5
1998	2.0	1.9	1.6	4.0	4.9
1999	2.0	2.0	1.6	3.9	4.8

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys, various years.

Persistence of Beginning Postsecondary Students

Table S27 **Standard errors for the percentage distribution of 1995–96 beginning postsecondary students according to attainment by 1998, by initial goal and type of first institution**

Initial goal and type of first institution	Highest degree attained by 1998			No degree		
				Still enrolled		
	Certificate	Associate's	Bachelor's	Less-than 4-year	4-year	Not enrolled
Total	**0.7**	**0.5**	**0.1**	**0.9**	**0.9**	**1.1**
Certificate	3.0	0.7	(*)	1.9	0.3	3.0
Public 2-year	6.7	1.8	(*)	4.6	0.2	6.8
Private, for-profit	2.6	0.1	(*)	1.3	0.3	2.4
Associate's degree	0.9	1.6	0.1	2.2	1.0	2.5
Public 2-year	1.1	1.7	(*)	2.6	1.2	2.9
Bachelor's degree or transfer	0.3	0.4	0.2	1.0	1.1	1.0
Public 2-year	1.0	1.5	(*)	3.7	3.0	3.8
Public 4-year	0.2	0.3	0.3	0.5	1.0	0.8
Private, not-for-profit 4-year	0.4	0.4	0.3	0.5	1.2	0.9

* Value less than 0.05.

SOURCE: U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998).

High School Academic Preparation and Postsecondary Progress

Table S28 **Standard errors for the percentage of 1995–96 beginning postsecondary students who persisted toward a bachelor's degree, by the academic rigor of their secondary school curriculum and first-generation status: June 1998**

Curriculum	First-generation	At least one parent has bachelor's degree
Total	**1.7**	**1.2**
Core New Basics or below	3.3	2.6
Beyond Core New Basics I and II	2.9	2.2
Rigorous	4.1	2.0

SOURCE: U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998).

Remediation and Degree Completion

Table S29 Standard errors for the percentage of postsecondary education students with varying patterns of remedial courses who completed 2- or 4-year degrees: 1980–93

	Type and amount of remedial coursework				
Highest degree	Any reading	Two or fewer courses: mathematics only	Two or more courses but no reading courses	Only one course, not mathematics or reading	No courses
2- or 4-year	2.0	2.1	1.8	2.4	1.3

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Postsecondary Education Transcript Study" (HS&B:So PETS).

Educational Attainment

Table S31 Standard errors for the percentage of 25- to 29-year-olds who attained selected levels of education, by race/ethnicity: March 1971 and 2000

	1971			2000		
Level of education	White	Black	Hispanic	White	Black	Hispanic
High school completers	0.5	2.2	2.9	0.3	1.1	1.2
High school completers with some college	0.7	2.6	3.8	0.7	1.8	1.6
High school completers with a bachelor's degree or higher	0.6	1.8	2.5	0.7	1.4	1.2

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, various years.

Trends in English and Foreign Language Coursetaking

Table S33 Standard errors for the percentage distribution of high school graduates according to level of courses completed: Selected years 1982–98

Level of courses	1982	1987	1990	1992	1994	1998
English						
75–100 percent honors courses	0.4	0.8	0.8	0.7	0.9	1.0
50–74 percent honors courses	0.4	0.4	0.3	0.4	0.4	0.7
Less than 50 percent honors courses	0.5	0.6	0.7	0.5	0.6	0.7
All regular courses (no low or honors)	1.0	1.5	1.6	1.1	1.5	1.7
Foreign language						
AP	0.2	0.4	0.5	0.3	0.4	0.5
Year 4	0.3	0.4	0.4	0.7	0.8	0.6
Year 3	0.5	0.9	0.7	0.8	0.8	1.1
Year 2 or lower	0.8	1.1	1.0	1.1	1.0	1.2

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Second Follow-up" (HS&B:1980/1984); National Education Longitudinal Study of 1988 Eighth Graders, "High School Transcript Study" (NELS:1992); and 1987, 1990, 1992, 1994, and 1998 National Assessment of Educational Progress (NAEP) High School Transcript Studies.

Coursetaking in English and Foreign Languages

Table S34a Standard errors for the percentage of 1998 high school graduates who had taken advanced academic English courses and a foreign language, by selected characteristics: 1998

Characteristic	Completed some honors English courses	Completed Year 3 or higher of a foreign language
Male	1.4	1.4
Female	1.3	1.7
Public	1.4	1.4
Private	2.7	5.6
White	1.6	1.8
Black	2.2	2.2
Hispanic	1.7	2.3
Asian/Pacific Islander	4.3	2.7
American Indian/Alaskan Native	3.0	3.3

SOURCE: U.S. Department of Education, NCES. 1998 National Assessment of Educational Progress (NAEP) High School Transcript Study.

Table S34b Standard errors for the percentage distribution of high school graduates according to the type of English courses taken, by student and school characteristics: 1998

		Low academic level			Regular English	Advanced academic level			
Characteristic	No English	50% or more of courses	Less than 50% of courses	Total	(no low or honors) courses	Less than 50% honors	50–74% honors	75–100% honors	Total
Total	0.1	0.6	1.0	1.5	1.7	0.7	0.7	1.0	1.3
Sex									
Male	0.2	0.7	1.2	1.8	1.9	0.7	0.6	1.0	1.4
Female	0.1	0.5	1.0	1.3	1.6	0.8	0.8	1.1	1.3
Race/ethnicity									
White	0.1	0.6	1.2	1.6	1.8	0.9	0.8	1.3	1.6
Black	0.3	1.2	1.3	2.0	2.8	0.8	1.0	1.2	2.2
Hispanic	0.4	1.6	1.8	3.2	3.2	0.9	0.7	1.0	1.7
Asian/Pacific Islander	0.2	1.1	1.8	2.5	6.4	1.3	1.9	2.8	4.3
American Indian/ Alaskan Native	0.3	2.1	2.7	3.6	4.9	2.3	1.9	1.9	3.0
Met Core New Basics?									
Yes	0.1	0.2	0.8	0.9	2.1	1.0	1.1	1.4	1.9
No	0.2	1.0	1.5	2.1	2.3	0.6	0.6	0.9	1.4
Control of school									
Public	0.1	0.6	1.1	1.5	1.8	0.6	0.7	1.0	1.4
Private	—	—	1.7	1.7	3.1	3.3	3.1	4.1	2.7

— Not available.

SOURCE: U.S. Department of Education, NCES. 1998 National Assessment of Educational Progress (NAEP) High School Transcript Study.

Coursetaking in English and Foreign Languages

Table S34c **Standard errors for the percentage distribution of high school graduates according to the highest level of foreign language completed, by student and school characteristics: 1998**

	Highest level of primary foreign language completed							
		Low academic level			Advanced academic level			
Characteristic	None	Year 1 or less	Year 2	Total	Year 3	Year 4	AP	Total
Total	**0.9**	**1.0**	**1.3**	**1.2**	**1.0**	**0.6**	**0.5**	**1.4**
Sex								
Male	1.2	0.9	1.3	1.2	1.3	0.6	0.4	1.4
Female	0.8	1.2	1.4	1.5	1.2	0.7	0.7	1.7
Race/ethnicity								
White	0.9	1.1	1.4	1.4	1.2	0.8	0.6	1.8
Black	1.9	1.7	2.1	2.2	1.7	0.8	0.5	2.2
Hispanic	2.5	2.9	2.5	1.9	2.0	0.7	1.0	2.3
Asian/Pacific Islander	5.8	1.8	2.8	3.8	1.7	1.0	1.4	2.7
American Indian/ Alaskan Native	5.1	3.2	3.3	4.6	2.9	2.0	0.1	3.3
Met Core New Basics?								
Yes	1.0	0.9	1.8	1.8	1.5	1.0	0.7	2.0
No	1.5	1.5	1.5	1.2	0.9	0.9	0.5	1.7
Control of school								
Public	0.9	1.0	1.3	1.2	1.0	0.6	0.5	1.4
Private	2.2	2.8	4.3	4.9	4.4	2.9	3.0	5.6

SOURCE: U.S. Department of Education, NCES. 1998 National Assessment of Educational Progress (NAEP) High School Transcript Study.

Trends in High School Occupational Coursetaking

Table S35 Standard errors for the average credits earned in vocational education by public high school graduates, by vocational curriculum: 1982–98

Vocational curriculum	1982	1990	1992	1994	1998
			Average credits earned		
Total	**0.06**	**0.08**	**0.06**	**0.07**	**0.10**
Occupational education	0.05	0.07	0.05	0.06	0.07
General labor market preparation	0.02	0.02	0.02	0.02	0.03
Family and consumer sciences education	0.02	0.03	0.02	0.03	0.03

SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "First Follow-Up" (HS&B:1980/1982) and High School Transcript Study; National Education Longitudinal Study of 1988 Eighth Graders, "Second Follow-Up" (NELS:1988/1992) and High School Transcript Study; and 1990, 1994, and 1998 National Assessment of Educational Progress (NAEP) High School Transcript Studies.

International Comparisons of Quality in 8th-Grade Mathematics Lessons

Table S36 Standard errors for the percentage distribution of 8th-grade lessons rated as having low-, medium-, and high-quality mathematical content, by country: 1994–95

Quality of mathematical content	United States	Germany	Japan
Low	5.6	8.3	7.5
Medium	5.6	7.6	11.0
High	—	7.7	8.5

—Not applicable.

SOURCE: U.S. Department of Education, NCES. *The TIMSS Videotape Classroom Study: Methods and Findings From an Exploratory Research Project on Eighth-Grade Mathematics Instruction in Germany, Japan, and the United States* (NCES 1999–074), 1999.

Class Size of Kindergartens

Table S37 Standard errors for the percentage distribution of kindergarten classrooms according to control of school and class size: Fall 1998

Control of school	15 or fewer students	More than 15 students
Public	1.9	1.9
Private	3.8	3.8

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, "Kindergarten Class of 1998–99," Fall 1998.

Teachers' Readiness to Use Computers and the Internet

Table S39 Standard errors for the percentage distribution of public school teachers according to how well prepared they felt to use computers and the Internet for classroom instruction, by number of years of teaching experience: 1999

Years of teaching experience	Not at all prepared	Somewhat prepared	Well prepared	Very well prepared
3 or fewer	2.5	3.6	3.0	2.5
4–9	2.0	2.8	2.4	1.9
10–19	1.6	2.7	2.6	1.5
20 or more	1.2	2.0	1.6	1.1

SOURCE: U.S. Department of Education, NCES. Fast Response Survey System, "Public School Teachers' Use of Computers and the Internet," FRSS 70, 1999.

School Choice and Parental Satisfaction

Table S41 Standard errors for the percentage of students in grades 3–12 whose parents reported being very satisfied with aspects of their child's school, by type of choice: 1999

School choice	Child's school	Child's teachers	School's academic standards	School's order and discipline
Public-assigned	0.7	0.6	0.8	0.8
Public-chosen	1.0	1.0	1.3	1.3
Private	1.4	1.5	1.4	1.4

NOTE: Data have been revised from previously published figures.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent Interview Survey).

Qualifications of College Graduates Who Enter Teaching

Table S42 Standard errors for the percentage of 1992–93 college graduates in the top and bottom quartile of SAT or ACT scores, by selected characteristics: 1997

Characteristics of graduates	Of graduates with scores available	
	Bottom quartile	Top quartile
Total	**0.8**	**0.9**
Teaching status in 1997		
No longer teaching	3.1	4.2
Still teaching	2.0	1.7
Level at which taught		
Secondary	3.3	3.5
Elementary	3.0	2.1
School at which taught		
Private	5.0	5.9
Public	2.2	1.8
Teacher preparation		
Taught but did not prepare	3.1	2.7
Prepared and have taught	1.8	1.3
College major		
Mathematics/computer/natural sciences	1.1	1.7
Humanities	1.7	2.3
Social sciences	1.6	1.8
Business/management	1.8	1.4
Education	1.7	1.3

SOURCE: U.S. Department of Education, NCES. 1993 Baccalaureate and Beyond Longitudinal Study, "Second Follow-up" (B&B: 1993/1997), Data Analysis System.

Teacher Preparation in 8th-Grade Mathematics and Science

Table S43 Standard errors for the percentage of 8th-graders taught mathematics by teachers who reported various main areas of study for their bachelor's and master's degrees: 1999

Major/main area of study	United States	International average
Mathematics	3.4	0.6
Mathematics education	3.4	0.6
Science/science education	2.4	0.6
Education	3.4	0.6
Other	3.6	0.6

SOURCE: NCES 2001–028, based on data from Mullis et al. (2000). *TIMSS 1999 International Mathematics Report: Findings from IEA's Repeat of the Third International Mathematics and Science Study at the Eighth Grade*, Exhibit R3.1. Chestnut Hill, MA: Boston College.

School-Related Violence and Safety

Table S44 Standard errors for the percentage of high school students who reported being threatened or injured with a weapon, engaging in a physical fight, and carrying a weapon on school property: 1993, 1995, 1997, and 1999

Risk behaviors	1993	1995	1997	1999
Was threatened or injured with a weapon within the past 12 months	0.4	0.5	0.5	0.4
In a physical fight within the past 12 months	0.6	0.8	0.6	0.3
Carried a weapon within the past 30 days	0.7	0.5	0.6	0.6

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics. National Health Interview Survey—Youth Risk Behavior Survey, 1993, 1995, 1997, and 1999.

Overcrowding in Schools

Table S45 Standard errors for the percentage distribution of public schools reporting that they are underenrolled, at capacity, or overcrowded, by school enrollment size and region: 1999

	Underenrolled			Overcrowded	
Characteristic	More than 25 percent under capacity	6–25 percent under capacity	Within 5 percent of capacity	6–25 percent over capacity	More than 25 percent over capacity
Total	**1.5**	**1.7**	**1.5**	**1.2**	**0.9**
Enrollment					
600 or more	1.4	3.4	2.0	1.6	1.8
300–599	2.5	2.8	2.6	2.5	1.2
Less than 300	5.0	4.2	3.4	2.9	1.6
Region					
Northeast	3.3	4.2	4.3	3.9	1.6
South	3.0	2.7	2.9	2.1	1.6
Midwest	3.0	3.5	2.8	2.1	1.5
West	3.2	3.3	3.1	3.2	2.7

SOURCE: U.S. Department of Education, NCES. Fast Response Survey System (FRSS), *Condition of America's Public School Facilities: 1999* (NCES 2000–032), 2000, and unpublished data.

Instructional Methods of Postsecondary Faculty

Table S46 **Standard errors for the percentage of postsecondary instructional faculty and staff who used specific instructional and grading methods in some or all of their classes, by teaching discipline: Fall 1998**

	Primary instructional method					Grading methods	
Teaching discipline	Lecture	Seminar	Lab/ clinic	Field-work	Other	Curve	Competency-based
Total	**0.5**	**0.5**	**0.5**	**0.3**	**0.3**	**0.6**	**0.6**
Agriculture/home economics	2.9	2.2	4.4	3.0	1.3	3.7	3.5
Business	1.4	1.3	1.5	0.6	1.1	2.0	2.1
Education	2.0	1.8	1.4	1.5	1.1	1.9	2.1
Engineering	2.4	1.9	2.4	0.7	1.4	2.6	3.1
Fine arts	2.0	1.5	2.1	1.1	1.6	1.6	2.0
Health sciences	1.5	1.1	1.7	1.1	0.8	1.7	1.9
Humanities	1.1	1.0	1.0	0.6	0.7	1.2	1.4
Natural sciences	1.1	0.8	1.2	0.3	0.7	1.3	1.4
Social sciences	1.2	2.0	1.1	0.7	0.8	2.2	2.0

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

Instructional Faculty and Staff Who Teach Undergraduates

Table S47 **Standard errors for the percentage of full-time instructional faculty and staff in 4-year institutions who taught at least one undergraduate class for credit or who taught only undergraduate classes for credit, by academic rank: Fall 1998**

	Taught at least one undergraduate class for credit			Taught only undergraduate classes for credit		
Academic rank	All	Doctoral	Nondoctoral	All	Doctoral	Nondoctoral
Total	**1.0**	**1.4**	**1.3**	**1.2**	**1.3**	**1.7**
Professor	1.4	2.0	1.7	1.7	1.9	2.6
Associate professor	1.6	2.3	1.7	1.7	2.2	2.3
Assistant professor	1.5	2.0	2.0	1.8	2.4	2.3
Instructor	1.8	3.4	1.9	2.3	4.2	2.6
Lecturer	3.0	4.7	1.8	4.0	5.1	6.2

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

Technology in Postsecondary Teaching

Table S48 Standard errors for the percentage of full-time postsecondary instructional faculty and staff who had access to and used telecommunications technology, by type of institution: Fall 1998

Type of institution	Access to Internet	Used e-mail to communicate with students	Used course-specific Web site
Total	**0.2**	**0.8**	**0.8**
4-year doctoral	0.3	1.1	1.4
4-year nondoctoral	0.4	1.4	1.3
2-year	0.7	1.6	1.5

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

Distance Education by Postsecondary Faculty

Table S49 Standard errors for the percentage distribution of instructional faculty and staff and average workload and compensation, by participation in distance education and full- or part-time employment: Fall 1998

		Workload		Compensation	
Participation and employment status	Percent	Number of classes/ sections	Number of course preparations	Salary	Other income
Total	**—**	**0.03**	**0.02**	**660.2**	**74.2**
Taught in distance education program			**Full time**		
Yes	0.32	0.18	0.09	2,893.4	372.7
No	0.32	0.04	0.03	635.7	106.1
Taught nonface-to-face class					
Yes	0.43	0.13	0.09	2,018.8	308.5
No	0.43	0.04	0.03	643.8	107.9
Taught in distance education program			**Part time**		
Yes	0.79	0.29	0.14	1,351.4	221.7
No	0.79	0.05	0.02	305.2	57.5
Taught nonface-to-face class					
Yes	0.73	0.22	0.09	1,155.5	228.0
No	0.73	0.05	0.02	309.7	55.7

— Not applicable.

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

Part-Time Instructional Faculty and Staff

Table S50 **Standard errors for the percentage of postsecondary instructional faculty and staff who were employed part time, by sex, academic rank, and type of institution: Fall 1998**

Sex and academic rank	Type of institution						
	Total	Research	Doctoral	Comprehensive	Private liberal arts	Public 2-year	Other
Total	**0.9**	**1.7**	**2.8**	**1.6**	**3.0**	**1.3**	**3.3**
Sex							
Male	1.0	1.8	3.3	1.9	3.5	1.6	4.1
Female	1.1	2.3	2.9	2.1	3.8	1.6	3.2
Academic rank							
Professor	1.4	2.1	2.5	2.4	2.6	4.9	6.1
Associate professor	1.2	2.0	3.0	2.3	2.9	3.3	6.1
Assistant professor	1.6	2.6	5.8	2.1	2.9	3.5	5.4
Instructor	1.1	4.2	4.2	2.2	3.8	1.5	2.8
Lecturer	2.3	4.4	7.3	2.9	3.1	2.1	19.5

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

Time Allocation of Full-Time Instructional Faculty

Table S51 **Standard errors for the average number of hours worked per week and percentage distribution of time spent on various work activities by full-time instructional faculty, by type of institution and academic rank: Fall 1998**

Type of institution and academic rank	Average hours worked per week	Percentage of time spent			
		Teaching	Research	Administration	Other
Total	**0.2**	**0.5**	**0.4**	**0.3**	**0.3**
Type of institution					
Research	0.4	0.9	0.6	0.3	0.6
Doctoral	0.5	1.3	0.8	0.7	1.0
Comprehensive	0.4	0.7	0.4	0.6	0.4
Private liberal arts	0.6	1.0	0.7	0.9	0.6
Public 2-year	0.5	0.6	0.2	0.4	0.4
Academic rank					
Professor	0.4	0.7	0.5	0.5	0.3
Associate professor	0.4	0.7	0.6	0.4	0.4
Assistant professor	0.4	0.9	0.6	0.3	0.7
Instructor	0.5	1.1	0.4	0.8	0.7
Lecturer	1.4	3.4	1.2	3.1	1.5

SOURCE: U.S. Department of Education, NCES. National Study of Postsecondary Faculty (NSOPF:1999), Data Analysis System.

Early Reading Activities

Table S52 Standard errors for the percentage of 3- to 5-year-old children not yet enrolled in kindergarten who participated in home literacy activities with a family member three or more times in the week before the survey, by number of risk factors: 1999

Number of risk factors	Read to	Told a story	Taught letters, words, or numbers	Taught songs or music	Did arts and crafts
None	0.7	1.4	1.2	1.4	1.4
One	1.7	2.0	2.2	2.2	2.2
Two or more	1.6	2.0	1.8	1.7	1.7

SOURCE: U.S. Department of Education, NCES. *Home Literacy Activities and Signs of Children's Emerging Literacy, 1993 and 1999* (NCES 2000–026), and National Household Education Surveys Program (NHES), 1993 and 1999.

Before and After School Care

Table S53 Standard errors for the percentage of children in grades K–8 who received various types of care before and after school: 1999

Type of care	Total	K–5	6–8
Received care from relative	0.5	0.6	0.7
Received care from nonrelative	0.3	0.4	0.4
Attended center-based program	0.4	0.5	0.6
Child cared for self	0.4	0.3	0.8
Parental care only	0.6	0.7	0.9

NOTE: Data have been revised from previously published figures.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent Interview Survey).

Parental Involvement in Schools

Table S54 Standard errors for the percentage of students in grades K–12 whose parents reported involvement in specific activities in their child's school: 1999

Parental involvement	K–12	K–5	6–8	9–12
Attended general meeting	0.5	0.5	0.9	0.9
Attended scheduled meeting with teacher	0.5	0.4	0.9	1.1
Attended school event	0.4	0.6	0.8	0.9
Acted as a volunteer or served on a committee	0.4	0.5	0.8	0.8
Indicated involvement in any of the four activities	0.3	0.2	0.5	0.7

NOTE: Data have been revised from previously published figures.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1999 (Parent Interview Survey).

Parents' Attitudes Toward Schools

Table S55 **Standard errors for the percentage of children in grades 3–12 whose parents were very satisfied with various aspects of their schools, by family income: 1993 and 1999**

	Child's school		Child's teachers		School's academic standards		School's order and discipline	
Household income	1993	1999	1993	1999	1993	1999	1993	1999
$10,000 or less	1.9	2.2	2.0	1.9	1.6	2.0	2.3	1.9
$10,001–20,000	1.4	1.8	1.4	1.6	1.6	1.9	2.1	1.6
$20,001–35,000	1.4	1.1	1.1	1.1	1.1	1.1	1.8	1.0
$35,001–50,000	1.4	1.4	1.4	1.2	1.1	1.5	1.1	1.2
More than $50,000	0.9	1.0	0.9	0.9	0.9	0.9	1.0	0.9

NOTE: Data have been revised from previously published figures.

SOURCE: U.S. Department of Education, NCES. National Household Education Surveys Program (NHES), 1993 (School Safety and Discipline Survey) and 1999 (Parent Interview Survey).

Net Price of College Attendance

Table S58 **Standard errors for the average price of college attendance and student financial aid for dependent full-time, full-year undergraduates, by type of institution and family income: Academic year 1995–96**

Type of institution and family income	Tuition/fees	Total price	Grants	Net price	Student loans	Student earnings
Total	**177.4**	**205.4**	**79.0**	**155.6**	**36.4**	**110.9**
Public 4-year	121.6	150.3	49.6	145.6	41.6	136.4
Low income	141.3	207.3	123.0	169.8	98.4	186.2
Lower middle	109.4	151.7	79.4	135.5	86.6	285.8
Upper middle	126.9	155.1	48.7	151.6	62.3	232.4
High income	181.2	181.7	53.0	189.0	56.3	226.7
Private, not-for-profit 4-year	334.3	408.8	177.2	319.5	70.3	113.5
Low income	571.8	749.6	339.0	607.4	155.7	170.6
Lower middle	368.6	425.5	325.2	276.1	108.0	150.3
Upper middle	342.3	402.4	220.4	341.7	103.4	213.9
High income	339.7	403.6	133.9	406.9	72.5	219.0
Public 2-year	56.8	169.6	77.9	206.7	38.2	398.4
Low income	91.9	261.2	140.4	332.8	67.2	956.0
Lower middle	83.0	267.6	87.9	298.6	74.9	400.6
Upper middle	107.9	216.2	41.4	222.4	82.4	722.7
High income	114.7	187.9	49.4	193.0	59.2	848.2

SOURCE: U.S. Department of Education, NCES. National Postsecondary Student Aid Study (NPSAS:1996), Undergraduate Data Analysis System.

Debt Burden 4 Years After College

Table S59 Standard errors for the percentage distribution of 1992–93 bachelor's degree recipients repaying their loans according to the size of their debt burden in 1997, by 1996 income and amount borrowed for undergraduate education

Amount borrowed for undergraduate education and 1996 personal income	Median debt burden (percent)	Debt burden in 1997			
		Less than 5 percent	5–9 percent	10–14 percent	15 percent or more
Total	**0.5**	**1.8**	**1.7**	**1.0**	**0.8**
Total amount borrowed					
Less than $5,000	0.4	3.3	2.9	1.8	0.8
$5,000–9,999	0.3	3.1	2.7	1.6	1.1
$10,000–14,999	0.9	3.0	3.1	1.5	1.4
$15,000 or more	1.0	2.9	3.5	2.3	2.3
Total 1996 personal income					
Less than $20,000	1.7	3.3	3.6	3.5	3.6
$20,000–24,999	1.2	5.0	4.5	2.7	1.9
$25,000–34,999	1.2	2.9	3.1	1.9	0.8
$35,000–49,999	1.1	3.7	3.6	1.2	1.4
$50,000 or more	0.5	3.8	3.8	0.1	0.4

SOURCE: U.S. Department of Education, NCES. Baccalaureate and Beyond Longitudinal Study, "Second Follow-up" (B&B:1993/1997), Data Analysis System.

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A

ACT assessment: An examination administered by ACT, Inc. (formerly the American College Testing Program) and used to predict the facility with which an individual will progress in earning college-level subjects. The ACT differs from the SAT in that it assesses students' knowledge in the curricular areas of English, mathematics, reading, and science reasoning.

Adult education: College, vocational, or occupational programs, continuing education or noncredit courses, correspondence courses and tutoring, as well as courses and other educational activities provided by employers, community groups, and other providers.

Advanced degree: Any formal degree attained after the bachelor's degree. Advanced degrees include master's degrees, doctoral degrees, and first-professional degrees.

Alternative schools: Alternative schools serve students whose needs cannot be met in a regular, special education, or vocational school. They provide nontraditional education and may serve as an adjunct to a regular school. These schools fall outside the categories of regular, special education, and vocational education, although they may provide similar services or curriculum. Some examples of alternative schools are schools for potential dropouts, residential treatment centers for substance abuse (if they provide elementary or secondary education), schools for chronic truants, and schools for students with behavioral problems. Between 3 and 4 percent of schools in the Common Core of Data files are vocational schools.

Associate's degree: A degree granted for the successful completion of a subbaccalaureate program of studies, usually requiring at least 2 years (or the equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

B

Baccalaureate degree: (See Bachelor's degree.)

Bachelor's degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or the equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

C

Capital outlay: The expenditures for property and for buildings and alterations completed by school district staff or contractors.

Care from a center-based program: Includes care on a regular basis that occurs at Head Start, day care centers, nursery schools, or preschools.

Care from a nonrelative: Includes care on a regular basis by home child care providers, regular sitters, or neighbors. Excludes Head Start, day care centers, nursery schools, or preschools.

Care from a relative: Includes care on a regular basis from nonparental and nonguardian relatives (e.g., grandparents, siblings, aunts, uncles) that occurs in or outside the child's home.

Carnegie unit: A standard of measurement used for secondary education that represents the completion of a course that meets one period per day for 1 year.

Center-based programs: Includes Head Start, nursery schools, prekindergartens, day care centers, and preschools.

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Certificate: An award granted for the successful completion of a subbaccalaureate program of studies, which usually requires less than 2 years of full-time postsecondary study.

Child cares for self: Includes self-care only.

Cohort: A group of individuals who have a statistical factor in common, for example, year of birth.

College: A postsecondary school that offers a general or liberal arts education, usually leading to an associate's, bachelor's, master's, doctor's, or first-professional degree. Junior colleges and community colleges are included under this terminology.

Combined schools: A combined school has one or more of grades K–6 and one or more of grades 9–12. For example, schools with grades K–12, 6–9, or 1–12 are classified as combined schools. Schools in which all students are ungraded (i.e., not classified by standard grade levels) are also classified as combined.

Community service: Volunteer activities undertaken in the school or community. Such community service includes any one-time or ongoing activity such as tutoring students, visiting senior citizens, and so on, but it does not include work for pay. It might be something done through one's school, church or synagogue, or on one's own.

Comprehensive reform: Efforts to improve education for all students by establishing high content and performance standards and redesigning the various components of the educational system in a coordinated and coherent fashion to support students' learning to the standards.

Constant dollars: Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Consumer Price Index (CPI): This price index measures the average change in the cost of a fixed-market basket of goods and services purchased by consumers.

Control of institutions: A classification of institutions of elementary/secondary or postsecondary education by whether the institution is operated by publicly elected or appointed officials (public control) or by privately elected or appointed officials and derives its major source of funds from private sources (private control).

Core New Basics curriculum: The most commonly implemented form of the New Basics curriculum, which includes 4 years of English, 3 years of mathematics, 3 years of science, and 3 years of social studies, but not the one-half year of computer science included in the New Basics curriculum. (See also New Basics curriculum.)

Cost of college attendance: Cost of living for students attending postsecondary institutions, including tuition and fees, books, room and board, child care, transportation, and other miscellaneous expenses.

Current dollars: Dollar amounts that have not been adjusted to compensate for inflation.

Current expenditures per pupil in enrollment: Current expenditures for the regular school term divided by the total number of students registered in a given school unit at a given time, generally in the fall of a year.

Current expenditures (elementary/secondary): The expenditures for operating local public schools, excluding capital outlay and interest on school debt. These expenditures include such items as salaries for school per-

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sonnel, fixed charges, student transportation, school books and materials, and energy costs. Beginning in 1980–81, expenditures for state administration are excluded.

D

Dependent student: A student who, under federal criteria, is considered to be financially dependent on his or her parents or guardians. Most full-time students are considered dependent until they are 24 years old.

Distance education: Instructional programs or courses in which the instructor and students need not be in the same physical place, particularly those relying on computers, audio, or video technology as the medium for delivery and, sometimes, for two-way interaction.

Doctor's degree: An earned degree carrying the title of Doctor. The Doctor of Philosophy degree (Ph.D.) is the highest academic degree and requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctorates are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.), musical arts (D.M.A.), business administration (D.B.A.), and engineering (D.Eng. or D.E.S.). Many doctor's degrees in both academic and professional fields require an earned master's degree as a prerequisite. First-professional degrees, such as M.D. and D.D.S., are not included under this heading. (See First-professional degree.)

Dropout: The term is used to describe both the event of leaving school before graduating and the status of an individual who is not in school and who is not a graduate. Transferring from a public to a private school, for example, is not regarded as a dropout event. A person who drops out of school may later return and graduate but is called a "dropout" at the time he or she left school. At the time the person returns to school, he or she is called a "stopout." Measures to describe these often complicated behaviors include the event dropout rate (or the closely related school persistence rate), the status dropout rate, and the high school completion rate. (See Status dropout and Event dropout.)

E

Educational and general expenditures: The sum of current-fund expenditures for instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and awards from restricted and unrestricted funds. (See Expenditures.)

Educational attainment: The highest grade of regular school attended and completed.

Elementary: Grades K–8.

Elementary school: A school classified as elementary by state and local practice and composed of any span of grades not above grade 8. Preschool or kindergarten is included under this heading only if it is an integral part of an elementary school or a regularly established school system.

Elementary/secondary schools: As reported in this publication, includes only regular schools (i.e., schools that are part of state and local school systems, and also most private, not-for-profit elementary/secondary schools, both religiously affiliated and nonsectarian). Schools not reported include subcollegiate departments of institutions of higher education, residential schools for exceptional children, federal schools for American Indians, and federal schools on military posts and other federal installations.

English: A group of instructional programs that describes the English language arts, including composition, creative writing, and the study of literature.

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Enrollment: The total number of students registered in a given school unit at a given time, generally in the fall of a year.

Event dropout: Event rates calculated using the October 1999 CPS data measure the proportion of students who dropped out between October 1998 and October 1999. These dropouts are 15- through 24-year-olds who were enrolled in high school in October 1998 but had not completed high school and were not enrolled in grades 10–12 a year later. According to this definition, a young person could complete high school by either earning a high school diploma or receiving an alternative credential such as a GED. Specifically, the numerator of the event rate for 1999 is the number of persons ages 15–24 surveyed in 1999 who were enrolled in high school in October 1998, were not enrolled in October 1999, and also did not complete high school (i.e., had not received a high school diploma or an equivalency certificate) between October 1998 and October 1999. The denominator of the event rate is the sum of the dropouts (i.e., the numerator) and the number of all persons ages 15–24 who attended grades 10–12 in 1998 and were still enrolled in 1999 or had graduated or completed high school.

Expenditures: Charges incurred, whether paid or unpaid, which are presumed to benefit the current fiscal year. For elementary/secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For postsecondary education institutions, these include current outlays plus capital outlays. For government, these include charges net of recoveries and other correcting transactions other than for retirement of debt, investment in securities, extension of credit, or as agency transactions. Also, government expenditures include only external transactions, such as the provision of prerequisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions among the governments.

Expenditures per pupil: Charges incurred for a particular period of time divided by a student unit of measure, such as enrollment, average daily attendance, or average daily membership.

F

Family and consumer sciences education: Consists of courses intended to prepare students for roles outside the paid labor market, including home economics, child development, foods and nutrition, and clothing courses.

Family income: The combined income of all family members age 14 and above living in the household for the period of 1 year. Income includes money income from jobs; net income from business, farm, or rent; pensions; dividends; interest; social security payments; and any other money income.

Federal aid: Student financial aid provided through the federal government. This aid can either be provided by or administered by a federal agency. Federal agencies providing aid include the Department of Education, Department of Health and Human Services, Department of Defense, Veterans Administration, and the National Science Foundation. Federal aid can be in the form of grants, loans, and work-study aid.

Federal funds: Amounts collected and used by the federal government for the general purposes of the government. There are four types of federal fund accounts: the general fund, special funds, public enterprise funds, and intragovernmental funds. The major federal fund is the general fund, which is derived from general taxes and borrowing. Federal funds also include certain earmarked

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collections, such as those generated by and used to finance a continuing cycle of business-type operations.

First-professional degree: A degree that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. This degree is usually based on a program requiring at least 2 academic years of work before entrance and a total of at least 6 academic years of work to complete the degree program, including both prior-required college work and the professional program itself. By NCES definition, first-professional degrees are awarded in the fields of dentistry (D.D.S or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D.Phar.), podiatric medicine (D.P.M.), veterinary medicine (D.V.M.), chiropractic (D.C. or D.C.M.), law (J.D.), and theological professions (M.Div. or M.H.L.).

Fiscal year: The yearly accounting period for the federal government, which begins on October 1 and ends on the following September 30. The fiscal year is designated by the calendar year in which it ends; for example, fiscal year 1992 begins on October 1, 1991 and ends on September 30, 1992. (From fiscal year 1844 to fiscal year 1976, the fiscal year began on July 1 and ended on the following June 30.)

Foreign languages: A group of instructional programs that describes the structure and use of language that is common or indigenous to individuals of the same community or nation, the same geographical area, or the same cultural traditions. Programs cover such features as sound, literature, syntax, phonology, semantics, sentences, prose, and verse, as well as the development of skills and attitudes used in communicating and evaluating thoughts and feelings through oral and written language.

Free-lunch eligibles: The National School Lunch Program's assistance program for low-income children. Families with school-age children who fall below the poverty level and have no other significant assets are eligible to receive government assistance in the form of free or reduced-price school lunches.

Full-time enrollment: The number of students enrolled in higher education courses with a total credit load equal to at least 75 percent of the normal full-time course load.

Full-time instructional faculty: Those members of the instruction/research staff who are employed full time as defined by the institution, including faculty with release time for research and faculty on sabbatical leave. The full-time category excludes faculty who are employed to teach less than two semesters, three quarters, two trimesters, or two 4-month sessions; replacements for faculty on sabbatical leave or those on leave without pay; faculty for preclinical and clinical medicine; faculty who are donating their services; faculty who are members of military organizations and who are paid on a different pay scale from civilian employees; academic officers whose primary duties are administrative; and graduate students who assist in the instruction of courses.

Full-time worker: One who is employed for 35 or more hours per week, including paid leave for illness, vacation, and holidays. Hours may be reported either for a survey reference week, or for the previous calendar year, in which case they refer to the usual hours worked.

Full-time-equivalent (FTE) enrollment: For institutions of higher education, enrollment of full-time students, plus the full-time equivalent of part-time students as reported by institutions. In the absence of an equiva-

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lent reported by an institution, the FTE enrollment is estimated by adding one-third of part-time enrollment to full-time enrollment.

G

GED recipient: A person who has obtained certification of high school equivalency by meeting state requirements and passing an approved exam, which is intended to provide an appraisal of the person's achievement or performance in the broad subject matter areas usually required for high school graduation.

General labor market preparation: Consists of courses that teach general employment skills, including keyboarding, word processing, industrial arts and technology education, career exploration, and general work experience.

Graduate: An individual who has received formal recognition for the successful completion of a prescribed program of studies.

Grants: Also known as scholarships, these are funds for postsecondary education that do not have to be repaid.

Gross Domestic Product (GDP): Gross national product less net property income from abroad. Both gross national product and gross domestic product aggregate only the incomes of residents of a nation, corporate and individual, derived directly from the current production of goods and services. However, gross national product also includes net property from abroad. (See Gross National Product [GNP].)

Gross National Product (GNP): A measure of the money value of the goods and services available to the nation from economic activity. GNP can be viewed in terms of expenditure categories, which include purchases of goods and services by consumers and government, gross private domestic investment, and net exports of goods and services. The goods and services included are largely those bought for final use (excluding illegal transactions) in the market economy. A number of inclusions, however, represent imputed values, the most important of which is rental value of owner-occupied housing. GNP, in this broad context, measures the output attributable to the factors of production, labor, and property supplied by U.S. residents.

Group of Seven (G-7): This group is composed of seven industrialized nations with large economies: Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

H

Hearing impairment: An impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance, in the most severe case because the child is impaired in processing linguistic information through hearing.

High school: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11, 12 (in a 6-3-3 plan) or grades 9, 10, 11, and 12 (in a 6-2-4 plan).

HOPE Scholarship Tax Credit: This federal income tax credit is designed to help taxpayers pay the cost of the first 2 years of postsecondary education.

Humanities: Instructional programs in the following fields: area and ethnic studies, foreign languages, letters, liberal/general studies, multi/interdisciplinary studies, philosophy and religion, theology, and the visual and performing arts.

I

Instruction: This category includes expenditures of the colleges, schools, departments,

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and other instructional divisions of postsecondary education institutions and expenditures for departmental research and public service, which are not separately budgeted. Includes expenditures for both credit and noncredit activities. Excludes expenditures for academic administration where the primary function is administration (e.g., academic deans).

Instructional expenditures (elementary/secondary): Current expenditures for activities directly associated with the interaction between teachers and students. These include teacher salaries and benefits, supplies (such as textbooks), and purchased instructional services.

Instructional staff: Full-time-equivalent number of positions, not the number of different individuals occupying the positions during the school year. In local schools, includes all public elementary and secondary (junior and senior high) day-school positions that are in the nature of teaching or in the improvement of the teaching-learning situation. Includes consultants or supervisors of instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff. Excludes administrative staff, attendance personnel, clerical personnel, and junior college staff.

K

Kindergarten: Includes transitional kindergarten, kindergarten, and pre-first-grade students.

L

Labor force: Individuals employed as civilians, unemployed, or in the armed services during the survey week. The "civilian labor force" is composed of all civilians classified as employed or unemployed.

Life sciences: Life sciences are instructional programs that describe the systematic study of living organisms. Life sciences include biology, biochemistry, biophysics, and zoology.

Loan: Borrowed money that must be repaid.

Local Education Agency (LEA): (See School district.)

M

Master's degree: A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. One type of master's degree, including the Master of Arts degree, or M.A., and the Master of Science degree, or M.S., is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program, for example, an M.Ed. in education, an M.B.A. in business administration, an M.F.A. in fine arts, an M.M. in music, an M.S.W. in social work, and an M.P.A. in public administration. A third type of master's degree is awarded in professional fields for study beyond the first-professional degree, for example, the Master of Laws (LL.M.) and Master of Science in various medical specializations.

Metropolitan population: The population residing in metropolitan statistical areas (MSAs). (See Metropolitan Statistical Area [MSA].)

Metropolitan Statistical Area (MSA): A large population nucleus and the nearby communities that have a high degree of economic and social integration with that nucleus. Each MSA consists of one or more entire counties (or county equivalents) that meet specified standards pertaining to population, commuting ties, and metropolitan character. In New England, towns and cities, rather than coun-

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ties, are the basic units. MSAs are designated by the Office of Management and Budget. An MSA includes a city and, generally, its entire urban area and the remainder of the county or counties in which the urban area is located. An MSA also includes such additional outlying counties that meet specified criteria relating to the metropolitan character and level of commuting of workers into the central city or counties. Specified criteria governing the definition of MSAs recognized before 1980 are published in Standard Metropolitan Statistical Areas: 1975, issued by the Office of Management and Budget. New MSAs were designated when 1980 and 1990 counts showed that they met one or both of the following criteria:

(1) Included a city with a population of at least 50,000 within their corporate limits; or

(2) Included a Census Bureau-defined urbanized area (which must have a population of at least 50,000) and a total MSA population of at least 100,000 (or, in New England, 75,000).

Minority: Any racial/ethnic group that is nonwhite and not Hispanic is considered minority.

Modal grade: The modal grade is the year of school in which the largest proportion of students of a given age are enrolled. Enrolled persons are classified according to their relative progress in school; that is, whether the grade or year in which they were enrolled was below, at, or above the modal (or typical) grade for persons of their age at the time of the survey.

Multiple disabilities: Concomitant impairments (such as mental retardation-blindness, mental retardation-orthopedic impairment, etc.), the combination of which causes such severe educational problems that they cannot be accommodated in special education programs solely for one of the impairments. The term does not include deaf-blindness.

N

Natural sciences: A group of fields of study that includes the life sciences, physical sciences, and mathematics.

New Basics curriculum: A minimum curriculum recommended by the National Commission of Excellence in Education (NCEE) in 1983 to be completed by high school graduates that consists of 4 years of English; 3 years each of mathematics, science, and social studies; and one-half year of computer science. College-bound high school graduates are also advised to complete 2 years of foreign language. (See also Core New Basics curriculum.)

Nonmetropolitan residence group: The population residing outside metropolitan statistical areas. (See Metropolitan Statistical Area [MSA].)

Nonsectarian school: A private school whose curriculum and operation are independent of religious orientation and influence in all but incidental ways.

Nonsupervisory instructional staff: Persons such as curriculum specialists, counselors, librarians, remedial specialists, and others possessing education certification but not responsible for the day-to-day teaching of the same group of pupils.

Nontenure-track faculty: Faculty members who were either not on the tenure track or whose faculty status lacked a tenure system at the sampled institution.

Nursery school: (See Preprimary.)

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O

Obligations: Amounts of orders placed, contracts awarded, services received, or similar legally binding commitments made by federal agencies during a given period that will require outlays during the same or some future period.

Occupational concentrator: Public high school graduate who earns 3.0 or more credits in a single occupational program area.

Occupational education: Vocational education programs that prepare students for a specific occupation or cluster of occupations, including agriculture, business, marketing, health care, protective services, trade and industrial, technology, food service, child care, and personal and other services programs. Also called occupationally specific education or specific labor market preparation.

Occupational investor: Public high school graduate who earns 3.0 or more credits in occupational education.

Odds ratio: Odds is the ratio of success to failure in probability calculation. Odds ratio is the ratio of one odds to another.

Orthopedic impairments: A severe orthopedic impairment that adversely affects a child's educational performance. The term includes impairments caused by congenital anomaly (e.g., clubfoot, absence of some member, etc.); impairments caused by disease (e.g., poliomyelitis, bone tuberculosis, etc.); and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns that cause contractures).

Other expenditures: Other than support services and capital outlay, the sum of all other current fund expenditures for community services, nonpublic school programs, adult education, community colleges, interest on school debt, and other expenditures.

Other support services staff (elementary and secondary school): All staff not reported in other categories. This group includes media personnel, social workers, data processors, health maintenance workers, bus drivers, security, cafeteria workers, and other staff.

Outlays: The value of checks issued, interest accrued on the public debt, or other payments made, net of refunds and reimbursements.

P

Parent: In the Current Population Survey, a parent is defined as a biological, adoptive, step-, or foster parent, or a legal guardian. In other words, "parents" have some biological or legal association to the child. A parent is not necessarily the head of the household. A parent's highest education level was determined by merging information from the parent's record with information from his or her children's record. When no parent resided in the household, information from the legal guardian's record was merged with information from the children's record.

Parental care only: Includes care on a regular basis by parents only. Excludes children who receive care from relatives, nonrelatives, center-based programs, or self on a regular basis.

Part-time enrollment: The number of students enrolled in higher education courses with a total credit load less than 75 percent of the normal full-time credit load.

Percentile (score): A value on a scale of zero to 100 that indicates the percent of a distribution that is equal to or below it. For ex-

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ample, a score in the 95th percentile is a score equal to or better than 95 percent of all other scores.

Personal income: Current income received by persons from all sources minus their personal contributions for social insurance. Classified as "persons" are individuals (including owners of unincorporated firms), nonprofit institutions serving individuals, private trust funds, and private noninsured welfare funds. Personal income includes transfers (payments not resulting from current production) from government and business such as social security benefits and military pensions, but excludes transfers among persons.

Postsecondary education: The provision of formal instructional programs with a curriculum designed primarily for students who have completed the requirements for a high school diploma or equivalent. This includes programs of an academic, vocational, and continuing professional education purpose and excludes vocational and adult basic education programs. (See also *Supplemental Note 10.*)

Prekindergarten: (See Preprimary.)

Preprimary: Elementary education programs for children who are too young for first grade. Includes center-based programs and kindergarten.

Private school or institution: A school or institution that is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government, which is usually not supported primarily by public funds and is not operated by publicly elected or appointed officials.

Public service: Funds budgeted specifically for public service and expended for activities established primarily to provide noninstructional services beneficial to groups external to the institution. Examples are seminars and projects provided to particular sectors of the community and expenditures for community services and cooperative extension services.

Purchasing Power Parity (PPP) indices: Purchasing Power Parity (PPP) exchange rates, or indices, are the currency exchange rates that equalize the purchasing power of different currencies, meaning that when a given sum of money is converted into different currencies at the PPP exchange rates, it will buy the same basket of goods and services in all countries. PPP indices are the rates of currency conversion that eliminate the difference in price levels among countries. Thus, when expenditures on Gross Domestic Product (GDP) for different countries are converted into a common currency by means of PPP indices, they are expressed at the same set of international prices, so that comparisons among countries reflect only differences in the volume of goods and services purchased.

R

Regular schools: (See Elementary/secondary schools.)

Remedial education: Instruction for a student lacking the reading, writing, or mathematics skills necessary to perform college-level work at the level required by the attended institution.

Revenues: All funds received from external sources, net of refunds, and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded, as are funds received from the issuance of debt, liquidation of investments, and nonroutine sale of property.

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S

Salary: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

Salary workers: Any person who worked one or more days during the previous year and was paid on the basis of a yearly salary is considered a salary worker.

SAT: (See Scholastic Assessment Test.)

Scholastic Assessment Test (SAT): An examination administered by the Educational Testing Service (ETS) and used to predict the facility with which an individual will progress in learning college-level subjects. The SAT differs from the ACT in that it assesses students' aptitude in English, reading, and mathematics generally rather than on their curricular knowledge.

School administrators: Those staff members whose activities are concerned with directing and managing the operation of a particular school. They may be principals or assistant principals, including those who coordinate school instructional activities with those of the local education agency (LEA) and other appropriate units.

School district: An education agency at the local level that exists primarily to operate public schools or to contract for public school services. Synonyms are "local basic administrative unit" and "local education agency."

School year: The 12-month period of time denoting the beginning and ending dates for school accounting purposes, usually from July 1 through June 30.

Science: The body of related courses concerned with knowledge of the physical and biological world and with the processes of discovering and validating this knowledge.

Secondary: Grades 9–12.

Secondary school: A school that has any span of grades beginning with the next grade following an elementary or middle school (usually grade 7, 8, or 9) and ending with or below grade 12. Both junior high schools and senior high schools are included.

Service-learning: An educational activity, program, or curriculum that seeks to promote students' learning through experiences associated with volunteerism or community service.

Social studies: A group of instructional programs that describes the substantive portions of behavior, past and present activities, interactions, and organizations of people associated together for religious, benevolent, cultural, scientific, political, patriotic, or other purposes.

Socioeconomic Status (SES): The SES quartile variable used for both High School and Beyond and the National Education Longitudinal Study of 1988 Eighth Graders was built using parental education level, parental occupation, family income, and household items. Students were placed in quartiles based on their standardized composite score. By definition, one-quarter of each cohort will reside in the bottom SES quartile, even if education levels, income, and the number of persons in more prestigious occupations increase. The terms high, middle, and low SES refer to the upper, middle two, and lower quartiles of the weighted SES composite index distribution.

Special education schools: Special education schools provide educational services to students with special physical or mental needs—i.e., students with mental disabilities (such

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as mental retardation or autism); physical disabilities (such as hearing impairments); or learning disabilities (such as dyslexia). About 2 percent of schools in the Common Core of Data files are special education schools.

Specific learning disabilities: A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not apply to children who have learning problems that are primarily the result of visual, hearing, or motor disabilities; of mental retardation; of emotional disturbance; or of environmental, cultural, or economic disadvantage.

Speech or language impairments: A communication disorder such as stuttering, impaired articulation, a language impairment, or a voice impairment that adversely affects a child's educational performance.

Standard deviation: The standard deviation measures the spread of a set of data around the mean of the data. In a normal distribution, approximately 68 percent of scores fall within plus or minus one standard deviation of the mean, and 95 percent fall within plus or minus two standard deviations of the mean.

Status dropout rates: The status dropout rate is a cumulative rate that estimates the proportion of young adults who are dropouts, regardless of when they dropped out. The numerator of the status dropout rate for 1999, for example, is the number of young adults ages 16–24 years who, as of October 1999, had not completed high school and were not currently enrolled. The denominator is the total number of 16- to 24-year-olds in October 1999.

Stopout: (See Dropout.)

Subbaccalaureate degree: Award granted for the successful completion of studies at either 2-year or less-than-2-year institutions. Subbaccalaureate degrees typically include associate's degrees and certificates.

T

Technical/professional fields: A group of occupationally oriented fields of study, other than engineering and computer science, that includes agriculture and agricultural sciences, architecture, business and management, communications, education, health sciences, home economics, law, library and archival sciences, military sciences, parks and recreation, protective services, and public affairs.

Tenure-track faculty: Faculty members who were either tenured or on the tenure track at their institution.

Tuition and fees: A payment or charge for instruction or compensation for services, privileges, or the use of equipment, books, or other goods.

U

Undergraduate students: Students registered at a postsecondary education institution in a program leading to a baccalaureate degree or other formal award below the baccalaureate such as an associate's degree.

Unemployed: Civilians who had no employment but were available for work and (1) had engaged in any specific job-seeking activity within the past 4 weeks; (2) were waiting to be called back to a job from which

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they had been laid off; or (3) were waiting to report to a new wage or salary job within 30 days.

University: A postsecondary education institution that consists of a liberal arts college, a diverse graduate program, and usually two or more professional schools or faculties and that is empowered to confer degrees in various fields of study.

V

Vocational education: Organized educational activities that offer a sequence of courses that provide individuals with the academic and technical knowledge and skills needed to prepare for further education and for careers requiring less than a bachelor's degree. At the high school level, vocational education consists of occupational education, general labor market preparation, and family and consumer sciences education.

Vocational education schools: Vocational schools primarily serve students who are being trained for semi-skilled or technical occupations. They may be part of a regular district (along with academic schools) or in a vocational district (serving more than one academic school district). About 1 percent of schools in the Common Core of Data files are vocational schools.

Y

Year-round worker: One who was employed at least 50 weeks during the previous calendar year, including paid leave for illness, vacation, or other reasons.

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